



McGill Bird Observatory
15-Year Report:
2005 – 2019

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May 2021



Cover photo:

American Redstart has substantially increased in abundance at McGill Bird Observatory over time, becoming the tenth most frequently banded species overall as of 2019 (photo by Simon Duval)

Suggested citation for this report:

Gahbauer, M.A., S. Duval, and D. Davey. 2021. McGill Bird Observatory 15-Year Report: 2005-2019. Migration Research Foundation, Ste-Anne-de-Bellevue QC. 432 pp.

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1. Executive Summary

McGill Bird Observatory (MBO) was established as a pilot migration monitoring project in 2004 at McGill University's Stoneycroft Wildlife Area in Ste-Anne-de-Bellevue, Quebec. Following a successful trial in fall 2004, plans were made over winter to commit to standardized migration monitoring during both spring and fall, starting in 2005. MBO's primary objective is to collect data that can be used to contribute to the understanding of bird movements and population trends, in collaboration with the Canadian Migration Monitoring Network. MBO is also active in education, through providing hand-on training in bird banding techniques to students and other volunteers, developing online identification resources, and delivering public presentations. This report summarizes results from the first 15 years of standardized operation at MBO, from winter 2005 (beginning 1 November 2004) through fall 2019 (6 November), during which 78,083 individuals of 127 species have been banded, and nearly 1.5 million individuals of 222 species have been observed.

Winter at MBO was originally defined as October 31 to March 27; since 2014 the start date has been shifted one week later to November 7. The winter program does not have a fixed protocol, and results are highly variable in relation to weather and volunteer availability. Between 35 and 63 species have been observed annually, with a cumulative total of 97. No banding occurred in winter 2008; over the other 14 years, 4936 birds of 37 species were banded, with the annual total ranging from 32 to 800 individuals of 6 to 25 species. In descending order, the top five species banded in winter overall are American Goldfinch (1577 individuals), Dark-eyed Junco (784), Common Redpoll (644), House Finch (496), and Black-capped Chickadee (356).

The Spring Migration Monitoring Program (SMMP) covers the ten-week period from March 28 to June 5. Between 133 and 155 species have been observed annually, with a cumulative total of 199. Over 15 years, 14707 birds of 108 species have been banded in spring, with the annual total ranging from 627 to 1827 individuals of 59 to 76 species. In descending order, the top five species banded in spring overall are Red-winged Blackbird (1235 individuals), Tennessee Warbler (1203), Ruby-crowned Kinglet (1022), Cedar Waxwing (866), and White-throated Sparrow (843). Species richness and abundance both tend to peak just past mid-May.

Summer at MBO is defined as the eight-week period from June 6 to July 31. From 2005 to 2008, summer operations were opportunistic and did not follow a fixed protocol; beginning in 2009 the internationally recognized Monitoring Avian Productivity and Survivorship (MAPS) program was adopted as the basis for summer activities. Between 50 and 78 species have been observed annually, with a cumulative total of 111. Over 15 years, 1826 birds of 57 species have been banded, including 276 through nest monitoring efforts. In descending order, the top five species banded in summer overall are Tree Swallow (222), Song Sparrow (169), American Robin (142), Yellow Warbler (131), and Red-eyed Vireo (116).

The Fall Migration Monitoring Program (FMMP) covered the thirteen-week period from August 1 to October 30 from 2005 to 2014; since 2015 it has been extended to 14 weeks, ending on November 6. Between 134 and 152 species have been observed annually, with a cumulative total of 203. Over 15 years, 54405 birds of 108 species have been banded in fall, with the annual total ranging between 2774 and 6808. In descending order, the top five species banded in fall overall are Yellow-rumped Warbler (5968), White-throated Sparrow (5240), Ruby-crowned Kinglet (4578), Magnolia Warbler (3044), and American Robin (3034). Species richness usually fluctuates slightly from early August to early mid-October before tapering off to the end of the season, whereas abundance builds to a peak from late September to mid-October and then drops off sharply again.

Owl migration has been actively monitored at MBO during 13 fall seasons, including standardized coverage since 2011 over the six-week period from September 25 to November 6. In total, 2060 Northern Saw-whet Owls have been banded, along with 26 individuals of 4 other owl species. Another 53 foreign-banded Northern Saw-whet Owls have been recovered, while 60 (3%) of those banded at MBO have subsequently been recaptured

elsewhere. This rate is much higher than for other species, which to date have collectively yielded only 69 foreign recoveries of birds banded at MBO, across 25 species, and 10 captures of individuals banded elsewhere.

Appendices to this report provide detailed statistics on the SMMP and FMMP, notes on the seasonal occurrence and trends for the 222 species observed at MBO, and lists of all foreign recoveries and volunteers at MBO. Although rigorous trend analysis is beyond the scope of this report, it is encouraging that out of the 151 species that occur frequently enough to identify patterns in abundance, 55 (36%) appear to be increasing, whereas only 33 (22%) seem to be in decline, with the remainder either stable (43; 28%) or fluctuating (20; 13%).

Much of the research at MBO is focused on long-term monitoring of spring and fall migration trends, but is complemented by species-specific research in collaboration with McGill University students and faculty, as well as broader partnerships with researchers across Canada and beyond. Education is largely a by-product of core research activities, but efforts are made to make the most of opportunities provided. Banding activities allow for training of students and other volunteers in research and bird-handling techniques. All program results are publicly available on the MBO website (www.oommbo.org), and considerable effort has been invested in developing a photo-based resource to assist with advanced identification challenges, now housed at Environment and Climate Change Canada's *Piranga* website. Results of MBO research are also shared through research seminars and public presentations, including visits to schools.

The first 15 years of research at MBO have already yielded noteworthy results. Standardized monitoring over that period shows clear increasing trends in a number of species, including many raptors, thrushes, and warblers, and notable declines in others, including American Crow and multiple sparrows. Two-year cycles of abundance have become apparent for a number of species ranging from Blue Jay and Black-capped Chickadee to various sparrows. We have also documented some unexpected seasonal variation in resident species, especially a late fall influx of Mourning Doves and Northern Cardinals. Timing of migration has changed substantially for a number of species, especially in fall, with some peaking in recent years as much as three weeks earlier than in the first few years (e.g., American Redstart), and others shifting later (e.g., Tennessee Warbler and Magnolia Warbler). We have increasingly complemented our core research with auxiliary studies that allow us to learn more about some of MBO's common species, with a particular focus on molt migration of thrushes and warblers.

For the next five years, 2020-2024, the primary goals for MBO are to maintain consistent operation of existing research programs and to continue building organizational capacity for a stable future in terms of both personnel and funding. This includes cultivating a broader base of ongoing funding, and investing in training of banders to allow for stable and consistent operation of MBO's programs. Plans are underway to replace the existing banding cabin with one that is custom-designed for MBO's use, with improved lighting and layout, as well as space for research and education programs. Meanwhile, the data summaries and research opportunities highlighted in this report are potential starting points for much more in-depth analysis. Students and other researchers will be further encouraged to explore MBO's existing database, and to collaborate on new studies. We look forward to continued collaboration with McGill University faculty and partner stations in the Canadian Migration Monitoring Network, resulting in presentation of findings at ornithological conferences, and publication in peer-reviewed journals. Concurrently, we are excited to expand MBO's education efforts, including further banding workshops, development of public education efforts, and ongoing growth of online resources, including the bilingual MBO website and further expansion of advanced bird identification reference material on *Piranga*.

1.1. Sommaire exécutif

En 2004, l'Observatoire d'Oiseaux de McGill (OOM) a débuté comme projet pilote sur le Stoneycroft Wildlife Area de l'Université McGill à Sainte-Anne-de-Bellevue, Québec. Avec de bons succès à l'automne 2004, des plans ont été faits durant l'hiver de manière à s'engager dans un suivi de la migration printanière et automnale standardisé à partir de 2005. L'objectif premier de l'OOM est d'amasser des données qui peuvent être utilisées pour contribuer aux connaissances sur les migrations et les tendances de population, en collaboration avec le Réseau Canadien de Surveillance des Migrations. L'OOM possède aussi un volet éducatif qui comprend entre autres, la formation des étudiants et autres bénévoles dans les techniques de démaillage et baguage d'oiseaux. De plus, l'observatoire développe des ressources d'identification en ligne et offrent des présentations au public sur divers thèmes. Le présent rapport met en lumière les résultats des 15 premières années de suivis standardisés à l'OOM, de l'hiver 2005 (débutant le 1^{er} novembre 2004) jusqu'à l'automne 2019 (6 novembre). Durant cette période, 78 083 oiseaux de 127 espèces ont été bagués et tout près de 1,5 millions d'oiseaux de 222 espèces ont été observés.

À l'origine, l'hiver était défini comme étant la période du 31 octobre au 27 mars. Depuis 2014, la date de début a été repoussée d'une semaine soit à partir du 7 novembre. Le suivi hivernal n'a pas de protocole fixe et les résultats sont très variables en fonction de la météo et la disponibilité de bénévoles. Entre 35 et 63 espèces ont été observées annuellement pour un cumulatif de 97. Aucun baguage n'a eu lieu durant l'hiver 2008. Durant les 14 autres années, 4936 oiseaux de 37 espèces ont été bagués avec des totaux annuels allant de 32 à 800 individus de 6 à 25 espèces. En ordre décroissant, les cinq espèces les plus communément bagués, durant l'hiver, sont le Chardonneret jaune (1577 individus), le Junco ardoisé (784), le Sizerin flammé (644), le Roselin familier (496) et la Mésange à tête noire (356).

Le suivi de la migration printanière couvre la période de 10 semaines allant du 28 mars au 5 juin. Entre 133 et 155 espèces ont été observées annuellement, avec un cumulatif de 199. Durant les 15 ans, 14707 oiseaux de 108 espèces ont été bagués au printemps, avec des totaux annuels allant de 627 à 1827 individus de 59 à 76 espèces. En ordre décroissant, les cinq espèces les plus communément bagués, durant le printemps, sont le Carouge à épaulettes (1235 individus), la Paruline obscure (1203), le Roitelet à couronne rubis (1022), le Jaseur d'Amérique (866) et le Bruant à gorge blanche (843). Autant la diversité d'espèces que l'abondance ont tendance à culminer juste après la mi-mai.

L'été couvre la période de 8 semaines entre le 6 juin et le 31 juillet. De 2005 à 2008, les opérations étaient opportunistes et ne suivaient pas un protocole fixe. Débutant en 2009, nous avons adopté le protocole internationale MAPS (Monitoring Avian Productivity and Survivorship) comme base pour nos opérations d'été. Entre 50 et 78 espèces ont été observées annuellement, avec un cumulatif de 111. Durant les 15 ans, 1826 oiseaux de 57 espèces ont été bagués, incluant 276 directement au nid. En ordre décroissant, les cinq espèces les plus communément bagués, durant l'été, sont l'Hirondelle bicoloré (222), le Bruant chanteur (169), le Merle d'Amérique (142), la Paruline jaune (131) et le Viréo aux yeux rouges (116).

De 2005 à 2014, le suivi de la migration automnale couvrait la période de 13 semaines du 1^{er} août au 30 octobre. Depuis 2015, la saison a été prolongée jusqu'au 6 novembre. Entre 134 et 152 espèces ont été observées annuellement, pour un cumulatif de 203. Durant les 15 années, 54405 oiseaux de 108 espèces ont été bagués durant l'automne, avec des totaux annuels allant de 2774 à 6808. En ordre décroissant, les cinq espèces les plus communément bagués à l'automne sont la Paruline à croupion jaune (5968), le Bruant à gorge blanche (5240), le Roitelet à couronne rubis (4578), la Paruline à tête cendrée (3044) et le Merle d'Amérique (3034). La diversité d'espèces varie très peu du début août jusqu'à la mi-octobre et par la suite, elle diminue jusqu'à la fin de la saison. L'abondance, elle, augmente jusqu'à un point culminant de la fin septembre à la mi-octobre et puis, chute abruptement par la suite.

La migration des strigidés a été suivie à l'OOM durant 13 automnes, incluant un suivi standardisé depuis 2011 qui couvre la période de 6 semaines allant du 25 septembre au 6 novembre. Au total, 2060 Petites nyctales ont été bagués ainsi que 26 oiseaux de 4 autres espèces de strigidés. Ajoutons à cela 53 Petites nyctales recapturées provenant de d'autres stations alors que 60 (3%) Petites nyctales baguées à l'OOM ont été recapturées ailleurs. Ce taux de recapture est beaucoup plus élevé que pour d'autres espèces qui ont, jusqu'à ce jour, collectivement produits seulement 69

recaptures de 25 espèces d'oiseaux de l'OOM dans d'autres stations et 10 captures à l'OOM d'individus bagués ailleurs.

Les annexes de ce rapport offrent des statistiques détaillées sur les suivis de la migration printanière et automnale, des notes sur l'occurrence saisonnière et les tendances des 222 espèces observées à l'OOM, la liste des recaptures d'autres stations ainsi que la liste des bénévoles de l'OOM. Bien que le but de ce rapport n'est pas de produire des tendances de populations rigoureuses, c'est encourageant de voir que sur les 151 espèces qui sont assez commune pour identifier un patron dans l'abondance, 55 (36%) semblent en augmentation, alors que seulement 33 (22%) semblent en déclin. Les autres espèces sont soit stable (43; 28%) ou en fluctuation (20; 13%).

La majorité des recherches à l'OOM se concentre sur le suivi à long-terme des populations d'oiseaux par le suivi de la migration printanière et automnale. À celles-ci s'ajoutent des projets de recherches sur des espèces particulières en collaboration avec et des étudiants et des membres de la faculté à l'Université McGill, en plus de partenariat plus grand avec des chercheurs à travers le Canada. L'éducation est en grande partie fait en parallèle de nos activités de recherche, mais des efforts sont fait pour utiliser chaque opportunité. Les activités de baguage permettent la formation des étudiants et autres bénévoles en recherche et techniques de manipulation d'oiseaux. Les résultats de tous les programmes sont disponibles sur le site web de l'OOM (www.oommbo.org). Un effort considérable a aussi été investi dans le développement d'une ressource d'identification photographique pour aider des problématiques d'identification avancées, ressource qui est maintenant hébergé sur le site web Piranga d'Environnement et Changement Climatique Canada. Les résultats des travaux de recherche de l'OOM sont aussi partagés dans des conférences scientifiques et des présentations au public, incluant des visites dans les écoles.

Les 15 premières années de recherche à l'OOM ont déjà produit des résultats intéressants. Le suivi standardisé durant cette période montre clairement une tendance à la hausse pour certaines espèces, incluant plusieurs rapaces, grives et parulines. On note aussi des déclinés plutôt marqués chez d'autres espèces incluant la Corneille d'Amérique et plusieurs bruants. Des cycles d'abondance de deux ans sont très apparents chez un grand nombre d'espèces, du Geai bleu à la Mésange à tête noire en passant par différents bruants. Nous avons, aussi, documenté plusieurs variations saisonnières inattendues chez des espèces résidentes, en particulier, une augmentation soudaine de l'abondance à la fin de l'automne chez la Tourterelle triste et le Cardinal rouge. La période de migration s'est déplacée significativement pour certaines espèces, particulièrement à l'automne. Dans les dernières années, certaines espèces atteignent leur pic de migration jusqu'à trois semaines plus tôt que dans les premières années (Paruline flamboyante) alors que d'autres voient leur pic de migration se déplacer plus tard (Paruline obscure et Paruline à tête cendrée). Nous supplémentons de plus en plus nos recherches principales avec des projets auxiliaires qui nous permettent d'en apprendre davantage sur des espèces très communes à l'OOM, avec une emphase particulière sur le phénomène de migration de mue chez les grives et les parulines.

Durant les cinq prochaines années, l'objectif premier de l'OOM est de maintenir l'opération constante des programmes de recherche et de continuer à accroître notre capacité pour assurer un futur stable pour l'organisation, autant au niveau financier que du personnel. Pour y arriver, nous continuerons de chercher des sources de financement continues et nous investirons dans la formation de bagueurs pour assurer une stabilité et une constance dans l'opération des programmes de recherches de l'OOM. Nous travaillons présentement sur des plans pour remplacer notre cabane de baguage pour un bâtiment au design personnalisé pour l'OOM avec une meilleure luminosité ainsi que de l'espace mieux adaptée autant pour nos programmes de recherche que nos programmes éducatifs. Entre temps, les résumés des données ainsi que les opportunités de projets de recherches présentés dans ce rapport sont de bons points de départ pour des analyses plus en profondeur. Nous encouragerons les étudiants et les chercheurs à explorer la base de données de l'OOM et à collaborer sur de nouvelles études. Nous espérons que notre collaboration avec l'Université McGill et nos autres stations partenaires dans le Réseau Canadien de Surveillance des Migrations résulteront en des présentations dans des conférences ornithologiques et des publications dans des journaux scientifiques. De plus, nous sommes excités de développer une plus grande offre éducative, incluant des formations de baguage, des programmes publics et le développement de ressources en ligne comme le site internet bilingue de l'OOM et l'avancement de la ressource d'identification avancée *Piranga*.

2. Introduction

This report summarizes the first 15 full years of operation of McGill Bird Observatory (MBO). Established in 2004, MBO is located in Ste-Anne-de-Bellevue, Quebec, adjacent to the Morgan Arboretum, in the 22 hectare Stoneycroft Wildlife Area (Figure 2.1). Designated as a McGill University research site, access to the property is restricted to researchers and authorized visitors. Comprising a mix of mature deciduous forest, remnants of an apple orchard, sumac and hawthorn stands, a cattail marsh, and a hardwood swamp, the site supports a wide diversity of flora and fauna (Bardo et al. 2003).

2.1. Establishment

MBO was established in May 2004 as a pilot project to explore the potential for migration monitoring at McGill University's Stoneycroft Pond wildlife area. In part, the idea was motivated by the results of banding demonstrations held in September and October for McGill's ornithology class. Between 1995 and 2003, 247 birds comprising 34 species were banded, generally using fewer than half a dozen nets for just a couple of days each fall. Additionally, several graduate students in the Natural Resource Sciences program at McGill had taken part in Northern Saw-whet Owl banding at Innis Point Bird Observatory in Ottawa, and wanted to try setting up a monitoring site closer to home. In spring 2004, three of these students (Shawn Craik, Marcel Gahbauer, and Marie-Anne Hudson) developed the organizational framework for MBO, including its adoption as a project of the Migration Research Foundation, and development of an operational protocol consistent with the standards of the Canadian Migration Monitoring Network.

Only one brief attempt at banding was made in May 2004 while testing out a potential net lane adjacent to Stoneycroft Pond. Efforts were instead concentrated on surveying the site for the best locations to target for other nets, and preparing for a more extensive fall season. Most significantly, this involved extensive restorations to an old cabin on the property which had been used as a base for mammal research in the 1970s and early 1980s. It had been abandoned for nearly 20 years and was in rough condition inside, but still structurally sound, and through the efforts of an enthusiastic team of volunteers was transformed into the MBO banding station.

Beginning in late August 2004, one or more observers walked a standard route around the property at least twice per week, the precursor of what would become the MBO census trail. This provided further insight as to where concentrations of birds occurred regularly, and influenced the placement of the ten mist nets used for the fall 2004 pilot season. Beginning in mid-September and continuing until the end of October, banding took place on average four mornings per week. By the end of the season, 715 birds of 47 species had been banded in just 1158 net hours, and 101 species had been observed. These numbers greatly exceeded expectations, and as a result, plans were initiated to operate a full migration monitoring program beginning in 2005. MBO's first official year of operation is considered to have begun in November 2004, following the completion of the fall pilot season.

2.2. Objectives

The principal objective for MBO is research, in particular contributing to the understanding of bird movements and population trends through the consistent operation of standardized migration monitoring programs. As the only member of the Canadian Migration Monitoring Network between Innis Point Bird Observatory (175 km to the west) and l'Observatoire d'Oiseaux de Tadoussac (450 km to the northeast) and the only banding site in Quebec to operate full spring and fall seasons, MBO fills in an important geographic gap for monitoring Canada's boreal bird populations. Operating the spring and fall migration monitoring programs, as well as a MAPS (Monitoring Avian Productivity and Survivorship) site in summer also provides other opportunities to pursue research on a more local or species-specific scale.

Secondary objectives at MBO include training of volunteers and other education initiatives. Many of the volunteers at MBO are McGill students, most of them in wildlife biology or environmental biology programs. Helping out at MBO provides them an opportunity to gain practical experience in their chosen field of study,

complementing classroom learning. Those who are particularly interested have an opportunity to pursue more advanced training, up to and including qualifying for banding subpermits to pursue their own research. These opportunities are also equally available to all other volunteers. In a broader sense, education also extends to sharing MBO techniques and results with the public. This has been done through presentations to local nature clubs, visits to elementary schools, displays at community events, banding demonstrations, and perhaps most significantly, regular website and (in recent years) social media updates (see Section 6 for more details).

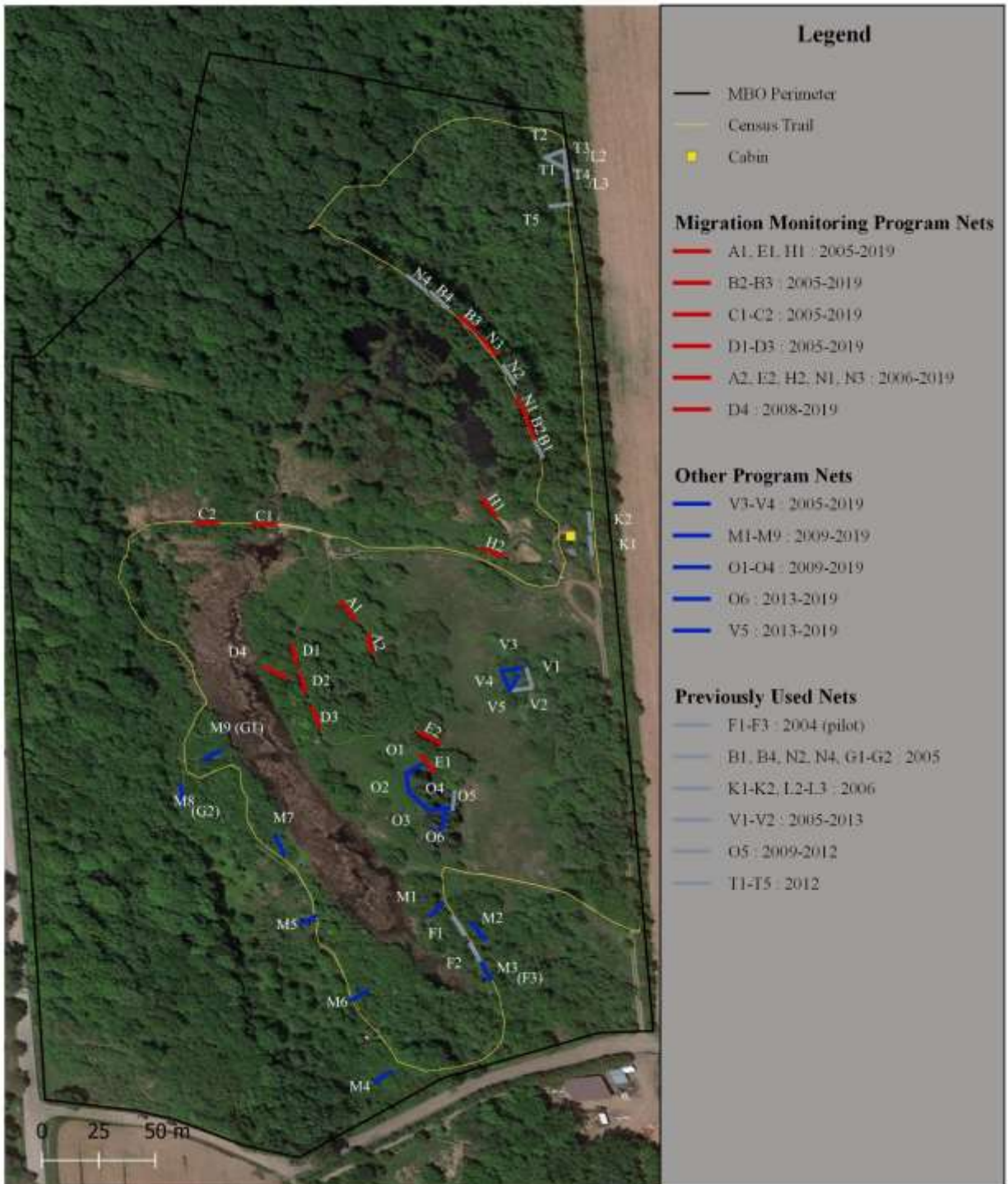


Figure 2.1: Map of McGill Bird Observatory.

3. Management and operations

3.1. Management

MBO is administrated by the Migration Research Foundation (MRF), but in practice a core of local volunteers is responsible for managing MBO according to guidelines established by MRF in partnership with the founders of MBO. Since 2013, funding has permitted for a full-time paid coordinator to oversee program coordination and execution, fundraising, and public outreach efforts.

3.1.1. Board of Directors

The MRF Board of Directors is responsible for the management of MBO, including funding, operations, and policies. Until 2006, the board comprised a President, Treasurer, and Project Director; since then the latter has been replaced with the MBO Director position. All board members serve as volunteers.

3.1.2. Funding

Expenses at MBO are primarily related to equipment for operating the banding program, providing a modest daily stipend for the banders-in-charge, covering the costs associated with publication of research, and since 2013, employing a site coordinator to manage all day-to-day operations, including the majority of banding. The MRF Board, with the assistance of other volunteers, is responsible for raising sufficient funds annually to at a minimum maintain the standardized operation of MBO's core migration monitoring programs, but preferably to cover all ongoing programs, allow for continued funding of the coordinator position, and provide support for new initiatives. MBO is particularly grateful for the substantial and ongoing funding support provided by Bird Protection Quebec, Environment and Climate Change Canada, and the Great Canadian (formerly Baillie) Birdathon organized by Birds Canada, as well as the many individual donors whose generous contributions comprise an important part of the annual budget (see section 8.1 for further details).

3.2. Personnel

There are many roles at MBO, both at an organizational level and on a daily basis on site. All perform critically important roles to the effective operation of MBO programs.

The Executive Director is a member of the MRF board, and has a broad range of administrative responsibilities. With respect to MBO specifically, the Executive Director is responsible for providing guidance regarding objectives and operations, and overseeing financial matters in conjunction with the MRF Treasurer.

The MBO Director is also a member of the MRF board, but is primarily focused on matters related to the operation of MBO. Among the MBO Director's key responsibilities are planning to ensure adequate funding and staffing, overseeing program execution, and seeking opportunities for growth.

The MBO Site Coordinator is responsible for overseeing day-to-day operations at MBO, including research, data management, site maintenance, publicity, education, and outreach.

The banders-in-charge (BICs) all hold federal banding permits, and are responsible for all activities occurring at MBO, following the general guidance of the MBO Director and the MRF board (members of which commonly also serve as BICs). Typically, the BICs coordinate all volunteers on site and undertake or supervise the banding of all birds; until the Site Coordinator role was established, they were also responsible for data entry at the end of the day. Some BICs are more specialized, and take on the role only for owl banding.

Banders-in-training (BITs) are volunteers who have already acquired experience with the basics of banding at MBO or elsewhere, and are eager to gain the experience required to qualify for a banding permit. They typically commit to participating at least twice per week during migration and under the direct supervision of the BIC, they are given opportunities to practice all the tasks that a bander needs to master.

To date there have been ten interns at MBO, six during spring and four during fall. Interns follow a loose curriculum that is adjusted by the BICs depending on the background and aptitudes of the intern, but which generally progresses from practice with identification and an introduction to research methods, to hands-on practice with extraction and banding.

Extractors are responsible for the safe and efficient removal of birds from nets. While all BICs are experienced extractors, they may get busy with other responsibilities, therefore an effort is made to ensure there are always at least one or two other extractors on site each day.

Net assistants do not have the experience required to extract birds, but may be closely observing extractors at work or even practicing extraction under their supervision. Their primary role is to assist the extractors by carrying bird bags, scouting out any priorities in the nets, and assisting with lowering and raising nets as required.

Scribes help inside the banding station by recording data for the bander, under his/her direct supervision. This role is well-suited to beginners, but is also a great opportunity for BITs to practice ageing and sexing of birds in collaboration with the BIC.

Maintenance assistants perform a vital role with keeping the trails at MBO in good condition and helping manage habitat to minimize changes from year to year. Many of these volunteers do not otherwise participate in MBO programs, but their contributions are every bit as important.

Censusers are experienced birders who are confident with identifying species by sound as well as by sight. They are responsible for walking the one-hour census trail beginning an hour after dawn, and counting all birds observed. The census serves as an important complement to the data collected through banding.

The seasonal/annual report writers are responsible for compiling, reviewing, and summarizing data in a consistent manner to provide thorough and useful summaries of MBO's research programs.

Last but not least, all participants at MBO are expected to fill the role of observers, keeping track of all birds observed on site and reporting these during the compilation of the daily totals.

3.2.1. Key personnel

While all roles described in section 3.2.1 are important, there are some which involve a greater degree of responsibility and commitment. Table 3.1 summarizes the personnel filling these roles since MBO's inception.

Table 3.1: Key personnel at MBO, 2004-2019.

| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|-----------------------------|-----------------------------------|--|--|--|---|---|
| Executive Director | Marcel Gahbauer | Marcel Gahbauer | Marcel Gahbauer | Marcel Gahbauer | Marcel Gahbauer | Marcel Gahbauer |
| Treasurer | Leslie Hunt | Leslie Hunt | Leslie Hunt | Leslie Hunt | Leslie Hunt | Leslie Hunt |
| MBO Director | n/a | n/a | n/a | Marie-Anne Hudson | Marie-Anne Hudson | Marie-Anne Hudson |
| BICs | Marcel Gahbauer | Barbara Frei Marcel Gahbauer Marie-Anne Hudson | Barbara Frei Marcel Gahbauer Marie-Anne Hudson Seabrooke Leckie | Barbara Frei Marcel Gahbauer Marie-Anne Hudson | Barbara Frei Marcel Gahbauer Marie-Anne Hudson James Junda | Simon Duval Barbara Frei Marcel Gahbauer Gay Gruner Marie-Anne Hudson |
| Saw-whet Owl banders | Joanna Coleman Marcel Gahbauer | Shawn Craik Marcel Gahbauer | n/a | Shawn Craik Marcel Gahbauer | n/a | Simon Duval Marcel Gahbauer Kristen Keyes |
| Intern | n/a | n/a | n/a | n/a | Simon Duval | Benoit Duthu |
| Seasonal reports | Marcel Gahbauer | Marcel Gahbauer | Marcel Gahbauer Marie-Anne Hudson | Barbara Frei Marcel Gahbauer Marie-Anne Hudson | Barbara Frei Marie-Anne Hudson | Marcel Gahbauer Marie-Anne Hudson |

| | 2010 | 2011 | 2012 | 2013 | 2014 |
|--------------------------------|--|---|---|--|--|
| Executive Director | Marcel Gahbauer | Marcel Gahbauer | Marcel Gahbauer | Marcel Gahbauer | Marcel Gahbauer |
| Treasurer | Leslie Hunt | Leslie Hunt | Leslie Hunt | Leslie Hunt | Leslie Hunt |
| MBO Director | Gay Gruner | Gay Gruner | Gay Gruner | Gay Gruner | Barbara Frei |
| Site Coordinator | n/a | n/a | n/a | Simon Duval | Simon Duval |
| BICs | Simon Duval Gay Gruner Barbara Frei Marie-Anne Hudson Lance Laviolette | Simon Duval Gay Gruner Barbara Frei Lance Laviolette | Simon Duval Gay Gruner Barbara Frei Lance Laviolette | Simon Duval Gay Gruner Barbara Frei Lisa Keelty Lance Laviolette | Simon Duval Gay Gruner Barbara Frei Lisa Keelty Lance Laviolette |
| Saw-whet Owl banders | Kristen Keyes Simon Duval | Bob Barnhurst Simon Duval | Bob Barnhurst Simon Duval | Nicolas Bernier Simon Duval | Nicolas Bernier |
| Interns | n/a | Matthew von Bornhoft | n/a | n/a | Luke Currin (spring) Ana Morales (fall) |
| Seasonal/annual reports | Marcel Gahbauer Marie-Anne Hudson Gay Gruner | Marcel Gahbauer | Marcel Gahbauer | Marcel Gahbauer | Marcel Gahbauer Simon Duval David Davey |

| | 2015 | 2016 | 2017 | 2018 | 2019 |
|--------------------------------|---|---|---|---|--|
| Executive Director | Marcel Gahbauer | Marcel Gahbauer | Marcel Gahbauer | Marcel Gahbauer | Marcel Gahbauer |
| Treasurer | Leslie Hunt | Leslie Hunt | Leslie Hunt | Leslie Hunt | Leslie Hunt |
| MBO Director | Barbara Frei | Barbara Frei | Barbara Frei | Barbara Frei | Barbara Frei |
| Site Coordinator | Simon Duval | Simon Duval | Simon Duval | Simon Duval | Simon Duval |
| BICs | Simon Duval Gay Gruner Lisa Keelty | Simon Duval Gay Gruner Lisa Keelty | Simon Duval Gay Gruner | Simon Duval Gay Gruner | Simon Duval Gay Gruner Ana Morales Rodger Titman Phillip Mercier |
| Saw-whet Owl banders | Nicolas Bernier | Nicolas Bernier | Nicolas Bernier | Nicolas Bernier | Ariane Chénard |
| Interns | Phillip Mercier (fall) | Frédérique Gaudreault | Angelika Aleksieva (fall) | Ariane Chénard (spring and owls) Kristen Lalla (fall) | n/a |
| Seasonal/annual reports | Marcel Gahbauer Simon Duval David Davey | Marcel Gahbauer Simon Duval David Davey | Marcel Gahbauer Simon Duval David Davey | Marcel Gahbauer Simon Duval David Davey | Marcel Gahbauer Simon Duval David Davey |

3.2.2. Volunteers

Except for the BICs, who are provided a modest stipend as compensation for their expertise and extra responsibilities, and the site coordinator (starting in 2013), all other roles at MBO are performed on a volunteer basis. In total, 732 volunteers contributed 61,300 hours at MBO during just spring and fall migration monitoring programs over the first 15 years (see Appendix I for a full list of names). Table 3.2 below summarizes the effort across migration monitoring seasons; many additional hours have been contributed in summer and winter.

Table 3.2: Volunteer effort at MBO during migration monitoring programs, 2005-2019.

| | 2005 | | 2006 | | 2007 | | 2008 | | 2009 | |
|--------------------------|--------|------|--------|------|--------|------|--------|------|--------|------|
| | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall |
| # volunteers | 31 | 78 | 54 | 73 | 40 | 73 | 61 | 86 | 69 | 73 |
| # volunteer hours | 1040 | 2160 | 1500 | 2180 | 1200 | 2400 | 1620 | 2700 | 1400 | 2200 |
| | 2010 | | 2011 | | 2012 | | 2013 | | 2014 | |
| | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall |
| # volunteers | 51 | 127 | 78 | 108 | 82 | 109 | 64 | 85 | 58 | 72 |
| # volunteer hours | 1420 | 2880 | 1500 | 2700 | 1900 | 2300 | 1450 | 2750 | 1430 | 2670 |
| | 2015 | | 2016 | | 2017 | | 2018 | | 2019 | |
| | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall |
| # volunteers | 62 | 88 | 57 | 68 | 55 | 70 | 65 | 73 | 62 | 71 |
| # volunteer hours | 1700 | 2900 | 1850 | 3050 | 1550 | 2650 | 1500 | 2600 | 1600 | 2500 |

3.3. Operations

As much as possible, the operation of MBO is intended to be consistent from year to year, regardless of the personnel involved; this is achieved through adherence to fixed protocols and attempting to maintain a relatively constant state of vegetative succession.

3.3.1. Protocols

The spring and fall seasons have since 2004 been operated according to the *McGill Bird Observatory Field Protocol for Migration Monitoring Program* (Gahbauer and Hudson 2014 and previous versions), adapted from the protocol in use at Innis Point Bird Observatory, and consistent with approaches recommended by the Canadian Migration Monitoring Network. This document covers protocols for seasonal guidelines, daily operations, data conventions, volunteer management, and more.

Since 2009, the summer program has been operated according to the MAPS protocol (DeSante et al. 2020), to be consistent with all other MAPS sites in North America. In previous years, summer operations were informal, with census taking place periodically along the usual route, and banding occurring opportunistically. Similarly, no formal protocol has been used for winter, with activities taking place when weather is suitable and volunteers are available.

At a higher level, all activities are guided by the *McGill Bird Observatory Operations Manual* (Gahbauer and Hudson 2007). This document provides guidance to the MBO Director and Banders-in-charge with respect to organizational structure, data management, health and safety, finances, equipment, and communications, to ensure consistency is maintained even if there is turnover in personnel. Activities are reviewed annually by the McGill University Animal Care Committee, and approved under AUP #5446.

3.3.2. Data conventions

As noted above, data conventions and other approaches are explained in detail in the *McGill Bird Observatory Field Protocol for Migration Monitoring Program* (Gahbauer and Hudson 2014 and previous versions). For the purpose of this report, some key definitions are provided here:

- Repeat – refers to an individual that has been recaptured within 90 days of banding or previous recapture
- Return – refers to an individual that has been recaptured >90 days after banding or previous recapture
- Daily estimated total – refers to the estimate generated at the end of each day of the total number of individuals of each species believed to be present, taking into account numbers banded or recaptured, counted on census, and incidentally observed. For seasonal and species summaries (Section 5.1, Appendices B to E), unidentified species are excluded, and species groups are merged (i.e., Alder Flycatcher and Willow Flycatcher are reported as Traill's Flycatcher, and Greater and Lesser Snow Goose are reported simply as Snow Goose). In daily species counts and seasonal summaries, 'superspecies' (e.g., Traill's Flycatcher) are counted only if none of the component species (e.g., Willow and Alder Flycatcher) have also been recorded.
- Full coverage (full net coverage) – refers to days with a number of net hours $\geq (\# \text{ regular nets} - 1) * 5$. Full coverage can therefore be achieved even if one net is temporarily unavailable (e.g., due to flooding or repair), but not on mornings when operation of all nets has been reduced by >20 minutes due to rain or other limitations.

Data from all MBO programs are now maintained in a central database that was developed over the course of 2013 and 2014 to compile the various separate records used previously. Through development of this database, all records were reviewed, and some errors previously reported in seasonal/annual reports and in the five-year report (Gahbauer 2010) were corrected; similarly, a few additional errors were fixed during preparation of this report. Thus, while there are some minor discrepancies between this report and previously published results, the current version is in all cases considered correct.

3.3.3. Site management

Site management includes taking care of the banding cabin, equipment, nest boxes, and trails, as well as attempting to maintain habitat at a relatively stable state of succession so as not to compromise the value of data for population monitoring. Guidelines for site management are provided in the *Operations Manual* and the MBO Director and Banders-in-charge are responsible for adhering to them. In practice, several aspects of site management are quite labour-intensive, especially trail maintenance and limiting encroachment of invasive vegetation in the ponds, and substantial volunteer involvement is required.

Minor site maintenance in the form of trimming vegetation has been undertaken annually, and in most years there has been at least some effort put into trail maintenance as well. The greatest effort in that regard has involved distributing dozens of tons of gravel along the census trail and net lanes over the course of several years to make conditions safer for all volunteers. There have also been a couple of substantial efforts to reduce the extent of cattails in Stoneycroft Pond, given that under original conditions there was more open water, and this can affect the suitability of the site for a variety of wetland species. Ducks Unlimited Canada originally constructed the wetlands in the 1980s, and in 2018 was engaged to restore drainage that had become clogged over the years. Wetland and trail maintenance will continue to require attention in future years.



*Part of the annual maintenance regime involves trimming vegetation along net lanes to prevent it from catching and tearing nets, and to try to maintain consistency in habitat suitability from year to year.
(Photo by Simon Duval)*

4. Seasonal programs

4.1. Winter Population Monitoring Program (WPMP)

Winter at MBO covers the 20-week period between the end of fall migration and the beginning of spring migration, i.e., November 7 to March 27 (from 2005-2014, a 21-week period beginning on October 31). Although relatively few species overwinter regularly at MBO, several of them are uncommon to absent in other seasons, thus winter provides the best opportunity to monitor them.

4.1.1. Objectives and protocol

As in other seasons, a key objective of the winter program is to collect data on bird populations that can be assessed over time. However, MBO can experience extended periods of severe winter weather, and conditions vary considerably from one winter to the next, therefore it is impossible to maintain a strict protocol with respect to temporal sampling. Nonetheless, scheduling site visits as weather permits has produced some interesting data, and the winter program also has educational value for volunteers who have become interested during the fall, but may have been overwhelmed by the diversity of species and volume of birds. The standard census trail was occasionally walked in winter in the earlier years (sometimes by snowshoe), but effort is primarily focused on banding, and incidental sightings on days that the feeders are filled. Winter banding is generally limited to a maximum of three hours at a time, and rarely occurs more than twice per week except near the beginning and end of the season when temperatures tend to be milder. Nets are set up adjacent to feeders that are stocked throughout the winter with sunflower, nyjer, and millet, as well as corn and peanuts in some years. In general, banding follows the MBO migration monitoring protocols, but net checks are much more frequent due to the colder temperatures.

4.1.2. Weather

On average, high temperatures remain well above freezing in November, and slightly above in March, but monthly averages are almost always below freezing during the core winter months of December, January, and February. Both in terms of mean daily highs and lows, January is the coldest month of the year at MBO, with February only slightly warmer. There are often prolonged cold spells during these months that severely restrict the potential for banding activities. The winters of 2014, 2015, and 2019 were especially cold, whereas 2010, 2012, and 2016 were all substantially warmer than average.

| Mean daily high | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|-------------------------|------|------|------|------|------|------|------|------|------|------|-------|------|------|------|------|---------|
| November 7 – 30 | 6.2 | 6.3 | 8.3 | 3.7 | 4.8 | 8.7 | 6.4 | 9.6 | 5.0 | 3.6 | 4.1 | 7.6 | 6.9 | 4.1 | 0.9 | 5.7 |
| December 1 – 31 | -2.7 | -2.2 | 2.4 | -3.1 | -2.1 | -2.1 | -2.7 | 1.0 | -0.1 | -4.7 | -0.4 | 4.6 | -0.8 | -5.6 | -1.4 | -1.3 |
| January 1 – 31 | -6.4 | -0.7 | -2.9 | -2.0 | -8.9 | -3.2 | -6.1 | -2.5 | -3.3 | -6.1 | -6.4 | -2.2 | -1.5 | -5.3 | -6.1 | -4.2 |
| February 1 – 28 | -1.6 | -3.2 | -6.9 | -3.4 | -2.3 | -1.9 | -3.2 | -0.7 | -3.5 | -5.1 | -10.4 | -1.4 | 0.0 | 0.1 | -3.9 | -3.2 |
| March 1 – 27 | 0.0 | 1.8 | 1.1 | 0.1 | 3.0 | 7.8 | 1.9 | 8.4 | 2.0 | -2.2 | -0.2 | 3.3 | -1.2 | 1.5 | 0.7 | 1.9 |
| Winter (Nov 7 – Mar 27) | -0.9 | 0.4 | 0.4 | -0.9 | -1.1 | 1.9 | -0.7 | 3.2 | 0.0 | -2.9 | -2.7 | 2.4 | 0.7 | -1.0 | -2.0 | -0.2 |

| Mean daily low | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|-------------------------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|------|-------|-------|---------|
| November 7 – 30 | -2.4 | -2.3 | 1.3 | -3.2 | -1.2 | 0.1 | -2.0 | 1.0 | -5.2 | -3.1 | -1.8 | -0.9 | -0.1 | -4.5 | -5.4 | -2.0 |
| December 1 – 31 | -12.1 | -9.4 | -4.8 | -9.6 | -11.2 | -8.6 | -9.0 | -6.1 | -6.9 | -12.0 | -6.5 | -1.3 | -8.2 | -12.1 | -9.4 | -8.5 |
| January 1 – 31 | -15.5 | -8.3 | -11.1 | -10.3 | -16.8 | -9.6 | -12.8 | -12.3 | -12.8 | -14.3 | -17.3 | -10.4 | -8.0 | -14.6 | -14.8 | -12.6 |
| February 1 – 28 | -11.4 | -10.4 | -14.9 | -11.9 | -11.7 | -7.5 | -11.9 | -8.8 | -10.3 | -12.7 | -19.9 | -10.7 | -7.9 | -10.0 | -13.1 | -11.5 |
| March 1 – 27 | -9.1 | -5.5 | -8.3 | -9.1 | -7.0 | -1.6 | -6.8 | -1.9 | -4.6 | -12.0 | -10.1 | -5.1 | -9.9 | -5.0 | -7.7 | -6.9 |
| Winter (Nov 7 – Mar 27) | -10.1 | -7.2 | -7.6 | -8.8 | -9.6 | -5.4 | -8.5 | -5.6 | -8.0 | -10.8 | -11.1 | -5.7 | -6.8 | -9.2 | -10.1 | -8.3 |

Snow can also have a substantial impact on the winter program, both through active snowfall being unsuitable for banding, and by heavy accumulation in some years making access challenging. Most snow usually falls between December and February, although there have been substantial amounts as early as November and as late as March in some years. Winter 2008 was exceptionally snowy, with more snowfall in each of December, February, and March than any other winter; the past three winters have all had above average snowfall. Winter 2012 was remarkable for how little snow fell, although the first three winters were also substantially below

average. In many cases, winters with above average snowfall had less rain than average, and vice versa, reflecting differences in precipitation in relation to temperature. However, some winters were drier overall (2005, 2010, and 2014), and four winters exceeded long-term averages for both rainfall and snowfall (2009, 2011, 2017, and 2019), although only slightly in most cases.

| Total rainfall | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| November 7 – 30 | 68 | 78 | 70 | 44 | 57 | 48 | 79 | 44 | 7 | 59 | 29 | 46 | 34 | 36 | 44 | 49 |
| December 1 – 31 | 75 | 12 | 80 | 7 | 61 | 61 | 52 | 96 | 65 | 6 | 44 | 77 | 47 | 13 | 84 | 52 |
| January 1 – 31 | 19 | 92 | 45 | 56 | 0 | 32 | 4 | 30 | 27 | 38 | 27 | 17 | 36 | 44 | 41 | 34 |
| February 1 – 28 | 7 | 39 | 0 | 7 | 51 | 2 | 12 | 11 | 2 | 19 | 0 | 61 | 50 | 29 | 24 | 21 |
| March 1 – 27 | 1 | 25 | 21 | 12 | 24 | 36 | 83 | 30 | 16 | 4 | 3 | 23 | 46 | 3 | 30 | 24 |
| Winter (Nov 7 – Mar 27) | 170 | 246 | 216 | 126 | 193 | 179 | 230 | 211 | 117 | 126 | 103 | 224 | 213 | 125 | 223 | 180 |

| Total snowfall | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| November 7 – 30 | 1 | 14 | 0 | 29 | 13 | 5 | 4 | 8 | 1 | 16 | 17 | 2 | 10 | 6 | 41 | 11 |
| December 1 – 31 | 50 | 68 | 31 | 113 | 97 | 55 | 71 | 20 | 89 | 76 | 49 | 50 | 64 | 61 | 15 | 61 |
| January 1 – 31 | 41 | 54 | 35 | 57 | 72 | 45 | 33 | 58 | 37 | 16 | 51 | 27 | 42 | 86 | 70 | 48 |
| February 1 – 28 | 37 | 26 | 30 | 88 | 35 | 48 | 76 | 23 | 62 | 43 | 61 | 51 | 58 | 53 | 66 | 50 |
| March 1 – 27 | 29 | 4 | 58 | 75 | 3 | 4 | 43 | 20 | 44 | 42 | 29 | 25 | 55 | 37 | 20 | 33 |
| Winter (Nov 7 – Mar 27) | 158 | 166 | 154 | 362 | 220 | 157 | 227 | 129 | 233 | 193 | 207 | 155 | 229 | 243 | 212 | 203 |

4.1.3. Results

The winter season is heavily dominated by a few species, with the top five accounting for 78% of all individuals banded: American Goldfinch (1577; 32%), Dark-eyed Junco (784; 16%), Common Redpoll (644; 13%), House Finch (496; 10%), and Black-capped Chickadee (356; 7%). In terms of observations, Canada Goose has accounted for 41% of individuals recorded, largely due to giant flocks lingering from late fall in some years. The three next most abundant winter species are European Starling (8% of observations), American Robin (6%) and American Crow (6%); another four species each account for at least 3% of winter sightings: Black-capped Chickadee, American Goldfinch, Dark-eyed Junco, and Red-winged Blackbird.

Winter results from 2005 to 2019 are summarized in Table 4.1 (note that winter is defined as starting in the preceding year, e.g., winter 2005 refers to October 31, 2004 through March 27, 2005). Extent of banding effort has varied considerably among winters, from none in 2008 to over 600 net hours in 2015; to a large degree, effort is related to weather, with no banding attempted in the snowiest winter (2008), and far below average levels of effort in the three coldest winters (2014, 2015, and 2019). Regardless of conditions, observations were made each winter, with at least 35 species observed per season, and as many as 63 in 2012, which was the warmest winter to date and supported many more lingering late fall migrants and early spring arrivals than in other years. The cumulative list of birds observed during winter is 97 species, but this includes a number of late fall or early spring migrants.

Table 4.1: Winter summary statistics 2005-2019.

| | 2005 | 2006 | 2007 | 2008 | 2009 |
|--------------------------------|----------|----------|----------|------|--------|
| # individuals (species) banded | 256 (14) | 316 (19) | 103 (11) | n/a | 32 (6) |
| # individuals (species) return | 12 (4) | 27 (5) | 7 (3) | n/a | 5 (4) |
| # individuals (species) repeat | 102 (8) | 185 (7) | 32 (7) | n/a | 1 (1) |
| # species observed | 35 | 50 | 49 | 40 | 51 |
| # net hours | 117.5 | 163.5 | 103.0 | n/a | 24.0 |
| # birds banded / 100 net hours | 217.9 | 193.3 | 100.0 | n/a | 133.3 |
| # days operating | 14 | 64 | 45 | 24 | 37 |
| # days banding | 13 | 18 | 11 | 0 | 3 |

| | 2010 | 2011 | 2012 | 2013 | 2014 |
|--------------------------------|----------|----------|----------|----------|----------|
| # individuals (species) banded | 317 (18) | 449 (19) | 380 (18) | 800 (19) | 162 (13) |
| # individuals (species) return | 17 (5) | 36 (4) | 47 (8) | 54 (11) | 17 (5) |
| # individuals (species) repeat | 136 (11) | 75 (8) | 158 (9) | 212 (14) | 64 (6) |
| # species observed | 58 | 52 | 63 | 44 | 35 |
| # net hours | 328.0 | 132.0 | 315.7 | 197.4 | 47.5 |
| # birds banded / 100 net hours | 96.6 | 340.2 | 120.4 | 405.3 | 341.1 |
| # days operating | 63 | 37 | 25 | 48 | 29 |
| # days banding | 16 | 10 | 17 | 17 | 6 |

| | 2015 | 2016 | 2017 | 2018 | 2019 | Average | Total |
|--------------------------------|----------|----------|----------|----------|----------|----------|-----------|
| # individuals (species) banded | 710 (25) | 716 (18) | 351 (16) | 166 (10) | 178 (19) | 353 (16) | 4936 (37) |
| # individuals (species) return | 36 (9) | 76 (10) | 30 (7) | 26 (7) | 26 (5) | 30 (6) | 416 (15) |
| # individuals (species) repeat | 225 (16) | 360 (14) | 162 (11) | 87 (7) | 115 (8) | 137 (9) | 1914 (23) |
| # species observed | 58 | 49 | 43 | 35 | 48 | 47 | 97 |
| # net hours | 607.5 | 224.3 | 84.8 | 71.3 | 117.8 | 181.0 | 2534.1 |
| # birds banded / 100 net hours | 116.9 | 319.3 | 414.2 | 233.0 | 151.2 | 227.3 | 194.8 |
| # days operating | 24 | 53 | 35 | 42 | 49 | 39.3 | 589 |
| # days banding | 17 | 20 | 9 | 8 | 12 | 11.8 | 177 |

4.1.4. Annual notes

Winter 2005 had below average snowfall in all months, although rainfall was well above average in November and December. Temperatures were below average each month except February. There were fewer days of operation than in any subsequent winter, but that is largely due to no observations being recorded on days when the feeders were filled but no banding was undertaken. The number of species and individuals banded were somewhat below long-term averages. American Goldfinch accounted for 44% of individuals banded, while House Finch and Black-capped Chickadee rounded out the top three for the season.

Winter 2006 was the rainiest ever at MBO, and also somewhat warmer than average. There were more days of operation than in any other winter, and the number of days banding was second only to 2016, but the number of birds banded was still slightly below the long-term average, and the number of species observed only slightly above average. American Goldfinch was again the most frequently banded species, comprising 35% of the winter total; Dark-eyed Junco and Black-capped Chickadee were also in the top three for the season.

Winter 2007 began a bit warmer and rainier than usual, but otherwise was notable mostly for being the only winter with zero snowfall in November and zero rainfall in February. However, effort was somewhat lower due to reduced bander availability, and even when banding took place, the rate of capture was well below average. Dark-eyed Junco, House Finch, and American Goldfinch each accounted for 20% of birds banded this winter.

Winter 2008 was by far the snowiest in MBO's history, with 362 cm of snow, 119 cm (49%) more snowfall than the next nearest year, 2018, and including record high snowfall amounts in three of five months. Correspondingly, temperatures were somewhat below average for most of the season, and there was far less rainfall than usual. Due to the deep snow, no banding took place and frequency of observations was also reduced; not surprisingly the number of species observed was well below average.

Winter 2009 also had far more snowfall than average over the first three months of the season, but then less than half as much as usual in February and March. Rainfall for the season was overall close to average, although it was the only winter with none in January. Temperatures were overall a bit below average, including a record cold January. Taking into consideration the weather limitations, banding effort was minimal. Common Redpoll accounted for two-thirds of individuals banded; no more than 3 individuals were banded of any other species.

Winter 2010 was fairly average with respect to snowfall, but there was less rain than average, and mean daily high temperatures were above average in all months except December, significantly so in November and March. This allowed a near-record number of days of operation, and the second-highest number of net hours across all winters, in part because the milder temperatures allowed for extended sessions on some days. The number of species observed was higher than in any previous winter. American Goldfinch returned to being the most frequently banded bird of the season, with 25% of the total, followed by Black-capped Chickadee and Dark-eyed Junco.

Winter 2011 was back to having higher than average levels of precipitation, most notably with more than three times the average amount of rainfall in March, as well as a record amount of rain in November and the second highest amount of snowfall in February. Temperatures were average or slightly below average throughout the season. Banding effort was therefore scaled back compared to the previous winter, but despite that more birds were banded than ever before, thanks mostly to a particularly productive November. For the first time, more Dark-eyed Juncos were banded in winter than any other species, accounting for one-third of the total; American Goldfinch and House Finches rounded out the top three.

Winter 2012 was by far the warmest, with mean monthly temperatures ranging from 1.7 to 6.5°C above the 15-year means, including record high mean temperatures for December and March. Not surprisingly, snowfall was lower than in any other winter, while rainfall was somewhat above average, although nearly half of the season total fell in December. While the weather was largely pleasant, it also reduced the dependence of birds on feeders, and as a result effort was somewhat scaled back for most of the winter. However, number of species and individuals banded were still above average overall, and more species were observed than in any other winter, largely due to very early spring arrivals during the sustained warm spell mid-month. Dark-eyed Junco was the most frequently banded species for a second straight winter (24% of all individuals), but with only 3 more banded than American Goldfinch; House Finch again ranked third.

Winter 2013 had less rainfall than any previous year including a record low amount in November, and just 2 mm in February, but snowfall was well above average in December, February, and March. Temperatures were fairly close to average throughout the winter. Effort was a bit above average this winter, but results were exceptional, with nearly twice as many birds banded as in the previous best year, and a near-record high capture rate. Common Redpoll dominated with 340 individuals banded (43% of the total), while both American Goldfinch (228 individuals) and House Finch (95) set new winter records. After using a square of nets (V1-V4) in all previous winters, the layout was adjusted to a triangle (V3-V5) this winter, more concentrated around the feeders.

Winter 2014 was noteworthy for being by far the coldest on record at MBO, with monthly mean high temperatures from 1.9 to 4.1°C below the 15-year means, and at record low levels December and March; it was the first of only three years with a mean high temperature in March below freezing. Before the cold fully set in, there was above average rainfall in November. Snowfall over the season was close to average. Observation and banding effort were considerably curtailed due to the severe weather, but when banding was possible, capture rates were well above average. The number of species observed tied the record low of 2005 and 2018, in large part because the prolonged cold largely prevented spring migrants from starting to arrive before the end of winter. American Goldfinch was back on top this winter with 43% of birds banded, followed by House Finch and Dark-eyed Junco.

Winter 2015 was again bitterly cold, especially from January onward; the mean daily high in February was 7.2°C below the 15-year average, and the mean daily low for the month was just a fraction above -20°C! Snowfall was remarkably close to average in every month; there was less rain than in any other winter, largely because it was so cold that nearly all precipitation in February and March fell as snow. However, a record amount of banding effort was undertaken, largely because of a pilot project to extend the fall program, which resulted in the 16 migration monitoring nets being used throughout the first week of winter. The number of birds banded was

double the long-term average, and the 25 species banded was 6 more than in the next best winter. The 58 species observed tied with 2005 for the second-highest winter total, behind 2012. The top species banded this winter was Common Redpoll (184; 26 % of the total), followed by American Robin (22%) and Dark-eyed Junco (14%).

In sharp contrast to the previous two years, winter 2016 was the second-warmest ever, with a record warm mean daily high in Deember, and above-average temperatures in all other months as well. Not surprisingly, snowfall was below average for the season, and even rainfall was generally modest, except for a record amount in February. Banding was undertaken on more days than in any other winter, although generally for short periods. Despite substantially fewer net hours than 2015, slightly more birds were banded, and there were far more repeats than in any other winter. American Goldfinch absolutely dominated the banding season, with 69% of the total; American Tree Sparrow (9%) and Dark-eyed Junco 8%) rounded out the top three.

Winter 2017 was slightly warmer, rainier, and snowier than average. Banding effort was less than half of the previous winter, but was productive, yielding the highest rate of birds banded / 100 net hours of any winter. For the seventh time, American Goldfinch was the most frequently banded bird in winter, comprising 39% of the total this year, followed by Dark-eyed Junco (29%) and House Finch (10%).

Temperatures in winter 2018 dipped back below average, snowfall was the most since 2008, and rainfall the third lowest across all years. Banding effort was only slightly less than in winter 2017, but fewer than half as many birds were banded. It was also a poor winter for observations, with the 35 species recorded matching the record low from 2005 and 2014. The top species banded was American Goldfinch again, with 39% of the season total; the next most abundant were Dark-eyed Junco (30%) and Black-capped Chickadee (11%).

Winter 2019 was the third-coldest overall, influenced heavily by extraordinarily low temperatures in November. Both rainfall and snowfall were slightly above average for the season, though the pattern of snowfall was unusual, with a record high amount in November, and record low in December. Fair conditions closer to the end of the season allowed banding effort to be somewhat higher than the previous two winters, but the capture rate was the lowest since 2015. The number of species observed rebounded to just above average after two lower winters. Again, more American Goldfinches were banded this winter than any other species, accounting for 40% of the total; they were followed by Black-capped Chickadee (20%) and Dark-eyed Junco (16%).

4.1.5. Summary

Winter conditions can be highly variable from year to year, and correspondingly the number of days suitable for banding differs considerably among years. It will therefore never be possible to adopt any standardized approaches to winter coverage, and any comparison of results over time needs to consider this limitation. Nonetheless, the efforts have yielded meaningful results, including tracking the changing patterns of abundance over the course of the season, and periodic occurrences of “winter finches”, most notably redpolls – these findings are most readily apparent through the species accounts in Appendix E. Other notable highlights from winter include MBO’s only sightings of Great Gray Owl, and documentation of winter site fidelity of several Dark-eyed Juncos and American Tree Sparrows that have returned to MBO twice or more after spending their summers farther north.

Overall, 37 species have been banded in winter. American Goldfinch accounts for 1577 (32%) of all 4936 individuals banded, and topped the list of species banded during the season in nine years. Dark-eyed Junco (784; 16%), Common Redpoll (644; 13%), House Finch (496; 10%), and Black-capped Chickadee (356; 7%) are the next most frequently banded species overall in winter. Of the 98 species observed in winter, Canada Goose has vastly outnumbered all others, with 41% of the cumulative total, ranking as the top species every winter except 2005, 2006, and 2013. The next most abundant species observed in winter are European Starling (8%), American Robin (6%), American Crow (6%), and Black-capped Chickadee (5%).

4.2. Spring Migration Monitoring Program (SMMP)

The Spring Migration Monitoring Program has been operated at MBO annually since 2005. It covers the 10-week period from March 28 to June 5; the start date was chosen to reflect the average arrival time of early migrants, while the end date corresponds with the typical departure of the latest migrants.

4.2.1. Objectives and protocol

The SMMP is designed as a standardized study to be used as a basis for long-term trend analysis of bird populations. It is operated according to the MBO migration monitoring protocol (Gahbauer and Hudson 2014), which was developed to be compatible with the aims and methods of the Canadian Migration Monitoring Network. The program involves a standardized census daily throughout the season, supplemented by banding and additional observations during the core of the season, which since 2007 has been defined as the 45-day period from April 18 through June 1. In 2005 and 2006, banding started nearly two weeks earlier on April 5, but few birds were caught until after mid-April, and cold weather often limited net hours, prompting the start of banding to be delayed until Week 4 in subsequent years. By early June, migrants become a small minority of the birds captured, so to avoid excessive capture of local breeders, banding has ended on June 1 since 2007, with census on the remaining four days of the season, to document the passage of late migrants. The 2005 season also differed by starting one week later than in other years, and due to staffing limitations while banders were being trained, banding took place on average every second day.

4.2.2. Weather

Weather changes considerably over the ten weeks of spring. With respect to mean daily high temperatures, the first two weeks are on average quite similarly cool, there are substantial increases in Week 3 and Week 4, but then Week 5 is quite similar. There tends to be a big jump again in Week 6, followed by smaller increases over the next three weeks; the final two weeks of the season have very similar mean daily high temperatures. Patterns are largely similar for mean daily low temperatures, aside from an ongoing increase in Week 10.

| Mean daily high | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| S1 (Mar 28 – Apr 3) | 10.2 | 14.2 | 9.7 | 3.9 | 10.7 | 14.0 | 7.3 | 7.0 | 6.5 | 3.8 | 4.7 | 9.1 | 6.1 | 7.6 | 5.9 | 8.0 |
| S2 (Apr 4 – 10) | 11.8 | 7.7 | 2.8 | 10.2 | 6.9 | 13.6 | 10.7 | 10.0 | 8.2 | 8.3 | 5.6 | 1.8 | 10.5 | 2.8 | 4.5 | 7.7 |
| S3 (Apr 11 – 17) | 14.1 | 15.9 | 5.0 | 10.7 | 11.7 | 12.1 | 10.8 | 18.0 | 8.7 | 12.4 | 16.4 | 11.7 | 13.7 | 5.6 | 10.8 | 11.8 |
| S4 (Apr 18 – 24) | 15.8 | 16.8 | 19.2 | 21.8 | 13.9 | 15.8 | 9.5 | 10.4 | 14.8 | 13.2 | 9.2 | 14.3 | 11.2 | 12.5 | 13.8 | 14.1 |
| S5 (Apr 25 – May 1) | 13.3 | 14.7 | 13.0 | 15.1 | 22.2 | 15.4 | 17.2 | 9.8 | 18.3 | 12.3 | 16.0 | 9.9 | 16.2 | 13.0 | 10.3 | 14.4 |
| S6 (May 2 – 8) | 14.4 | 17.1 | 18.2 | 16.4 | 17.5 | 19.2 | 13.7 | 17.2 | 26.0 | 14.6 | 25.5 | 15.8 | 13.4 | 19.5 | 16.3 | 17.7 |
| S7 (May 9 – 15) | 18.1 | 19.9 | 21.4 | 19.8 | 17.0 | 13.9 | 18.2 | 19.9 | 17.0 | 22.9 | 21.1 | 18.5 | 15.4 | 20.7 | 15.0 | 18.6 |
| S8 (May 16 – 22) | 15.3 | 13.5 | 15.7 | 16.0 | 18.6 | 24.0 | 18.9 | 24.5 | 20.8 | 20.0 | 21.4 | 19.5 | 22.1 | 20.9 | 17.8 | 19.3 |
| S9 (May 23 – 29) | 17.7 | 23.0 | 24.2 | 20.1 | 18.1 | 28.9 | 19.8 | 24.5 | 17.1 | 20.5 | 24.1 | 27.8 | 21.2 | 23.2 | 18.5 | 21.9 |
| S10 (May 30 – Jun 5) | 26.3 | 23.9 | 22.4 | 19.6 | 18.3 | 22.8 | 23.9 | 19.9 | 24.5 | 23.5 | 19.9 | 24.9 | 18.9 | 24.3 | 17.6 | 22.0 |
| Spring (Mar 28 – Jun 5) | 15.7 | 16.7 | 15.2 | 15.3 | 15.5 | 18.0 | 15.0 | 16.1 | 16.2 | 15.2 | 16.4 | 15.3 | 14.9 | 15.0 | 13.0 | 15.6 |

| Mean daily low | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| S1 (Mar 28 – Apr 3) | 1.8 | 0.7 | -1.1 | -5.3 | 2.4 | 2.6 | -1.8 | -2.7 | -2.5 | -1.4 | -4.1 | -0.6 | -0.1 | -0.6 | -2.3 | -1.0 |
| S2 (Apr 4 – 10) | 0.4 | -1.9 | -2.8 | 0.8 | -0.6 | 6.2 | -0.5 | 2.0 | -1.2 | -0.6 | -2.8 | -5.8 | 2.2 | -5.9 | -2.7 | -0.9 |
| S3 (Apr 11 – 17) | -0.2 | 3.6 | 0.0 | 0.0 | -0.7 | 2.3 | 1.4 | 5.0 | 1.1 | -0.9 | 2.8 | -0.3 | 3.5 | -1.3 | 0.6 | 1.1 |
| S4 (Apr 18 – 24) | 2.2 | 4.9 | 4.2 | 6.2 | 2.5 | 3.9 | 0.9 | 2.1 | 2.2 | 2.8 | 2.7 | 2.5 | 3.3 | 0.5 | 5.0 | 3.1 |
| S5 (Apr 25 – May 1) | 5.6 | 1.4 | 4.8 | 4.9 | 6.5 | 4.1 | 5.9 | 1.2 | 6.0 | 3.4 | 4.6 | 0.3 | 6.0 | 6.6 | 2.9 | 4.3 |
| S6 (May 2 – 8) | 4.9 | 5.3 | 4.8 | 5.2 | 7.6 | 8.5 | 6.6 | 7.5 | 10.7 | 6.0 | 10.2 | 5.2 | 4.3 | 8.1 | 5.5 | 6.7 |
| S7 (May 9 – 15) | 5.9 | 11.3 | 8.2 | 8.0 | 6.8 | 4.0 | 7.9 | 9.3 | 6.7 | 11.5 | 8.9 | 6.3 | 6.2 | 6.7 | 5.8 | 7.6 |
| S8 (May 16 – 22) | 7.0 | 8.8 | 3.8 | 6.2 | 6.5 | 9.6 | 10.3 | 11.3 | 10.1 | 9.4 | 10.2 | 7.2 | 10.3 | 7.1 | 8.1 | 8.4 |
| S9 (May 23 – 29) | 9.1 | 11.8 | 12.5 | 7.8 | 9.2 | 16.3 | 11.7 | 13.4 | 7.6 | 10.1 | 12.7 | 13.3 | 11.4 | 13.2 | 9.7 | 11.3 |
| S10 (May 30 – Jun 5) | 13.9 | 13.1 | 13.6 | 12.1 | 7.3 | 14.0 | 12.9 | 11.6 | 14.4 | 13.3 | 8.8 | 16.0 | 10.5 | 13.3 | 8.9 | 12.2 |
| Spring (Mar 28 – Jun 5) | 5.0 | 5.9 | 4.8 | 4.6 | 4.7 | 7.2 | 5.5 | 6.1 | 5.5 | 5.4 | 5.4 | 4.4 | 5.8 | 4.8 | 4.1 | 5.3 |

From 2005 through 2018, each spring had at least one week with mean daily highs at least 2 degrees Celsius below the long-term average for the period, and at least one week with mean daily highs at least 2 degrees Celsius above the long-term average. In contrast, six of ten weeks in 2019 were at least 2 degrees Celsius below the long-term average, and the season-long mean daily high temperature was nearly 2 degrees Celsius colder

than any other year. With respect to mean daily lows, there were three years (2007, 2011, and 2019) without any weeks at least 2 degrees Celsius above the long-term average. In terms of both high and low temperatures, 2010 was warmer than any other spring.

Despite the common perception of spring showers being common, there is on average slightly less rain per day in spring than fall (3.1 mm vs. 3.2 mm). The average amount of rain per week in spring ranges from a low of 16.5 mm in Week 6 to a high of 29.6 mm in Week 10; there is no particular pattern to rain within the season. Annual totals can vary considerably, from as low as 154 mm in 2007 to more than twice as much (333 mm) in the wettest spring to date, 2017.

| Total rainfall (mm) | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| S1 (Mar 28 – Apr 3) | 45 | 6 | 10 | 9 | 39 | 23 | 1 | 7 | 6 | 9 | 8 | 55 | 6 | 17 | 15 | 17.1 |
| S2 (Apr 4 – 10) | 11 | 19 | 25 | 3 | 26 | 21 | 20 | 4 | 16 | 51 | 23 | 45 | 86 | 20 | 17 | 25.8 |
| S3 (Apr 11 – 17) | 0 | 12 | 19 | 19 | 0 | 27 | 56 | 2 | 13 | 26 | 4 | 15 | 26 | 26 | 9 | 16.9 |
| S4 (Apr 18 – 24) | 45 | 63 | 1 | 3 | 18 | 4 | 25 | 52 | 9 | 12 | 35 | 21 | 27 | 1 | 55 | 24.7 |
| S5 (Apr 25 – May 1) | 71 | 5 | 16 | 32 | 24 | 9 | 27 | 10 | 1 | 55 | 1 | 10 | 55 | 51 | 39 | 27.1 |
| S6 (May 2 – 8) | 3 | 31 | 0 | 18 | 13 | 23 | 40 | 22 | 1 | 21 | 2 | 11 | 38 | 19 | 5 | 16.5 |
| S7 (May 9 – 15) | 11 | 32 | 11 | 5 | 17 | 12 | 43 | 8 | 19 | 10 | 38 | 10 | 7 | 2 | 46 | 18.1 |
| S8 (May 16 – 22) | 5 | 85 | 26 | 16 | 18 | 0 | 27 | 24 | 20 | 42 | 10 | 1 | 11 | 18 | 14 | 21.1 |
| S9 (May 23 – 29) | 18 | 2 | 16 | 2 | 28 | 0 | 36 | 32 | 66 | 13 | 31 | 3 | 21 | 11 | 23 | 20.1 |
| S10 (May 30 – Jun 5) | 6 | 39 | 30 | 52 | 10 | 43 | 0 | 28 | 25 | 25 | 20 | 38 | 58 | 29 | 11 | 29.6 |
| Spring (Mar 28 – Jun 5) | 214 | 295 | 154 | 158 | 194 | 163 | 274 | 189 | 176 | 263 | 171 | 209 | 333 | 192 | 235 | 214.7 |

Some snow has fallen at MBO in every spring except 2005 and 2010, although in three other years (2006, 2009, and 2017), it was limited to a single week. Total snowfall for the season has been 15 cm or more only three times, in 2008, 2014, and 2019.

| Total rainfall (mm) | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| S1 (Mar 28 – Apr 3) | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 1 | 0 | 19 | 1 | 0 | 6 | 2 | 1 | 2.4 |
| S2 (Apr 4 – 10) | 0 | 8 | 11 | 7 | 1 | 0 | 2 | 0 | 1 | 0 | 8 | 12 | 0 | 5 | 3 | 4.5 |
| S3 (Apr 11 – 17) | 0 | 0 | 51 | 1 | 0 | 0 | 1 | 0 | 13 | 1 | 0 | 2 | 0 | 1 | 0 | 5.8 |
| S4 (Apr 18 – 24) | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0.5 |
| S5 (Apr 25 – May 1) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 |
| Spring (Mar 28 – Jun 5) | 0 | 8 | 62 | 10 | 1 | 0 | 6 | 3 | 14 | 20 | 9 | 14 | 6 | 9 | 15 | 11.8 |

4.2.3. Results

SMMP results from 2005 to 2019 are summarized in Table 4.2, with additional detail at a weekly scale provided in Appendix B. There is a notable difference in banding totals between the first nine years (range 627 to 991; average 784) and the last six years (range 1093 to 1827; average 1276). The number of returns and repeats have also been above average every year since 2014, though not as substantially higher as the banding counts. To some degree, these results reflect that increased capacity has allowed the number of net hours has increased over time, from an average of 2679 between 2005 and 2013, versus an average of 3020 between 2014 and 2019. However, effort is corrected for through calculating the number of birds banded per 100 net hours, which has also been higher on average since 2014 (42.5) than before (30.1).

The number of species banded in spring has ranged between 61 and 69 in most years, the only exceptions being a low of 59 in 2010, and a record high of 76 in 2019; overall, 108 species have been banded during the season. The number of species banded has been at or above the 15-year average of 66 every year since 2012. The number of species observed has fluctuated more over time, ranging between 133 (in 2005) and 155 (in 2019), but with no distinct trend over time. In total, 199 species have been documented at MBO during spring.

Table 4.2: SMMP summary statistics 2005-2019.

| | 2005 | 2006 | 2007 | 2008 | 2009 | | |
|--------------------------------|----------|----------|----------|----------|----------|--|--|
| # individuals (species) banded | 650 (62) | 754 (63) | 695 (61) | 826 (64) | 815 (66) | | |
| # individuals (species) return | 20 (6) | 70 (17) | 82 (21) | 90 (16) | 99 (22) | | |
| # individuals (species) repeat | 211 (21) | 144 (23) | 103 (20) | 194 (25) | 246 (29) | | |
| # species observed | 133 | 148 | 134 | 139 | 146 | | |
| # net hours | 1575.6 | 2912.1 | 2460.0 | 2912.2 | 2956.5 | | |
| # birds banded / 100 net hours | 41.3 | 25.9 | 28.3 | 28.4 | 27.6 | | |
| # days operating | 59 | 69 | 70 | 70 | 69 | | |
| # days banding | 28 | 57 | 35 | 41 | 42 | | |
| # days with full net coverage | 17 | 28 | 26 | 28 | 30 | | |

| | 2010 | 2011 | 2012 | 2013 | 2014 | | |
|--------------------------------|----------|----------|----------|----------|-----------|--|--|
| # individuals (species) banded | 627 (59) | 906 (64) | 991 (66) | 790 (68) | 1356 (69) | | |
| # individuals (species) return | 112 (24) | 63 (17) | 103 (17) | 105 (23) | 127 (25) | | |
| # individuals (species) repeat | 160 (25) | 129 (25) | 298 (30) | 225 (32) | 295 (34) | | |
| # species observed | 138 | 140 | 143 | 145 | 141 | | |
| # net hours | 3115.4 | 2436.0 | 2818.0 | 2923.8 | 3004.8 | | |
| # birds banded / 100 net hours | 20.1 | 37.2 | 35.2 | 27.0 | 45.1 | | |
| # days operating | 70 | 70 | 70 | 70 | 68 | | |
| # days banding | 42 | 38 | 41 | 43 | 43 | | |
| # days with full net coverage | 36 | 27 | 31 | 30 | 29 | | |

| | 2015 | 2016 | 2017 | 2018 | 2019 | Average | Total |
|--------------------------------|-----------|-----------|-----------|-----------|-----------|----------|-------------|
| # individuals (species) banded | 1117 (69) | 1093 (67) | 1122 (66) | 1138 (67) | 1827 (76) | 980 (66) | 14707 (108) |
| # individuals (species) return | 98 (26) | 94 (24) | 111 (25) | 124 (27) | 99 (27) | 93 (21) | 1397 (45) |
| # individuals (species) repeat | 234 (37) | 258 (36) | 262 (39) | 302 (39) | 379 (45) | 229 (31) | 3440 (67) |
| # species observed | 147 | 139 | 142 | 148 | 155 | 143 | 199 |
| # net hours | 3079.8 | 3343.0 | 2898.5 | 2885.5 | 2908.0 | 2815.3 | 42229.1 |
| # birds banded / 100 net hours | 36.3 | 32.7 | 38.7 | 39.4 | 62.8 | 35.1 | 34.8 |
| # days operating | 70 | 70 | 70 | 70 | 70 | 69 | 1035 |
| # days banding | 43 | 44 | 40 | 42 | 39 | 41.2 | 618 |
| # days with full net coverage | 34 | 40 | 30 | 32 | 31 | 29.9 | 449 |

Figure 4.1 shows that on average, the number of species observed daily on census increases steadily from around 18 at the beginning of the season to just under 40 approaching mid-May. The average count remains around that level for roughly one week, then tapers off slowly at first, and a bit more rapidly over the final few days of the season. Over the first two-thirds of the season, the 5-year averages did not differ in any consistent way. However, over the final three weeks of spring, the mean daily species count on census has been distinctly higher in recent years, and was for the most part slightly below average in the early years. The lowest points among individual annual plots are from 2005 and 2006, when there were some gaps in coverage due to staffing limitations. To date, 2019 is the only year during which the running mean remained above 50 species for an extended period.

Figure 4.2 shows a largely similar pattern for the mean total number of species observed daily, but with a few key differences. Overall, there is a jump in numbers around the beginning of Week 4, and an offsetting sharp drop just before the end of the season; the portion with elevated counts corresponds to the 45-day period during which banding occurs, and observations are made throughout the full 6-hour daily program, rather than primarily limited to census. There is a slightly more distinct overall peak to the average count just past mid-May, a little above 60 species per day. In this plot, it is apparent that the recent years have been above average for more than half the season, from Week 4 through Week 9. Again, 2019 reached higher levels than any previous year.

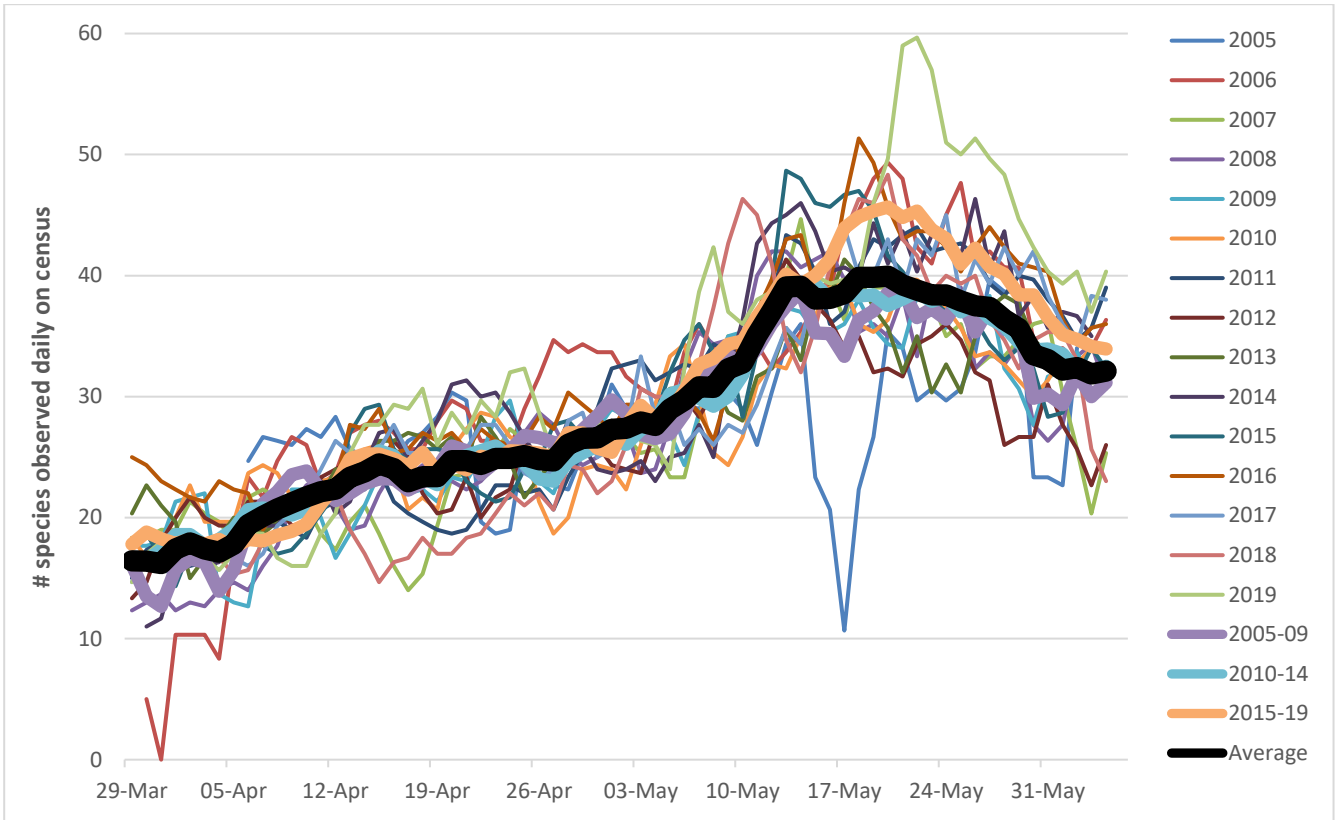


Figure 4.1: Running three-day mean of the daily species count on census throughout spring.

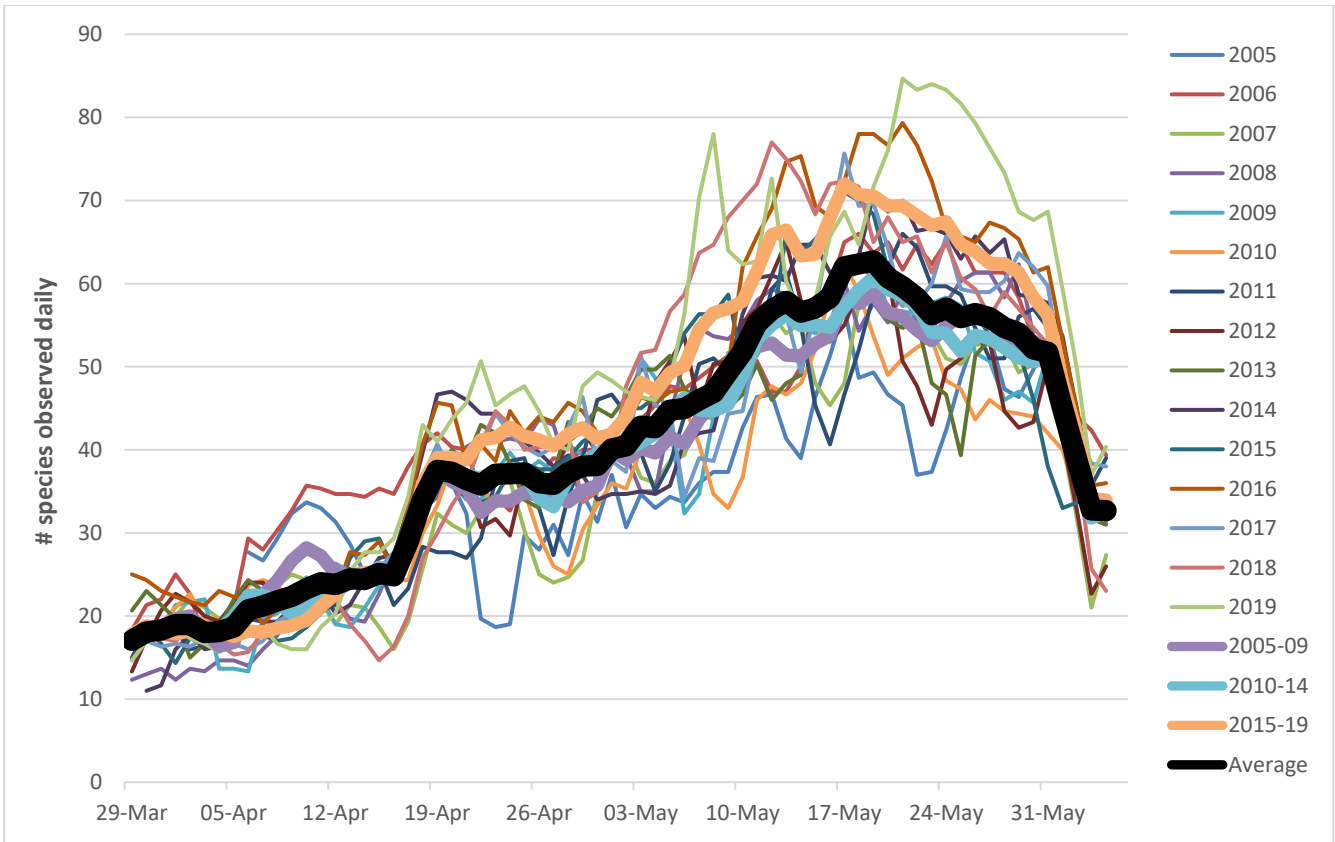


Figure 4.2: Running three-day mean of the number of species observed daily throughout spring.

Figure 4.3 summarizes the number of species banded daily throughout spring. There is considerable variability in data from year to year, especially in mid-late May. Data were collected prior to April 18 only in the first two years, and the mean count was below 10 species throughout this period. Even after April 18, the average number of species banded daily remains low for another three weeks, not increasing to above 10 until May 10. On average, the peak of diversity (13-14 species daily) spans May 17 to May 22, then declines rapidly again from May 25 onward. Diversity in the second half of May has been notably higher in recent years, with the three-day running mean for 2015-2019 rising as high as 18 species on May 20. Over the first 14 years, the three-day running mean in spring never exceeded 22 species; in 2019 it exceeded that level for a full week, from May 21 through May 27.

Figure 4.4 shows that for most of spring, the long-term average number of birds banded daily is less than 20, rising above that level only from May 9 through May 29. However, there is considerable variability, with the three-day running average exceeding 20 individuals as early as April 19 in some years. Except for 2014, when a large influx of Cedar Waxwings was banded in late April, the three-day running average in any year has exceeded 40 individuals only from May 11 onward. 2017 marked the first time that the three-day average exceeded 70 individuals; the peak of 91 on May 20 that year was shattered two years later, when it remained above 80 from May 21 through May 28, peaking at over 140 on May 24 and May 25. The exceptional mid-late May counts in 2017 and 2019 result in the 5-year average for the recent years being well above the long-term average. The plot for the early years is somewhat below the overall average throughout the majority of the season, peaking at under 30.



*Blackburnian Warbler, a rare but regular spring and fall migrant at MBO.
(Photo by Simon Duval)*

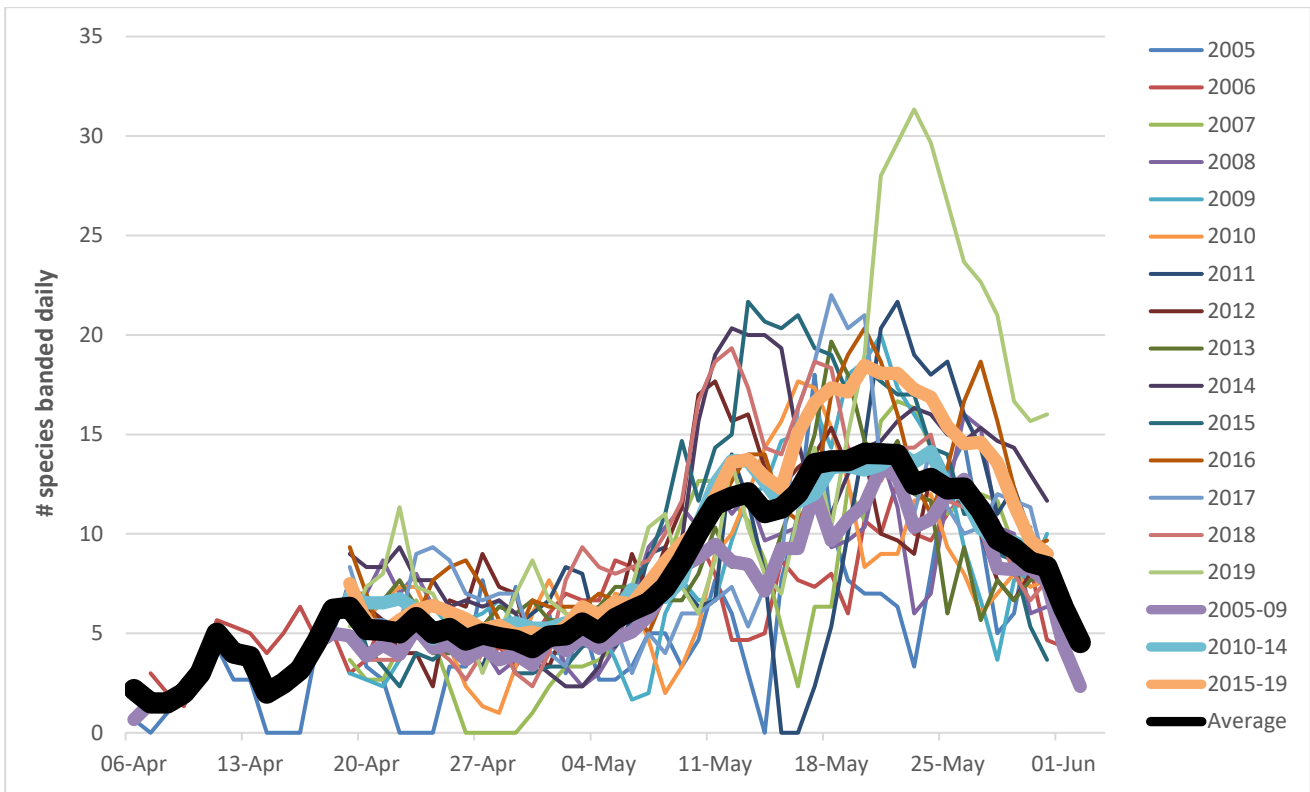


Figure 4.3: Running three-day mean of the number of species banded daily throughout spring.

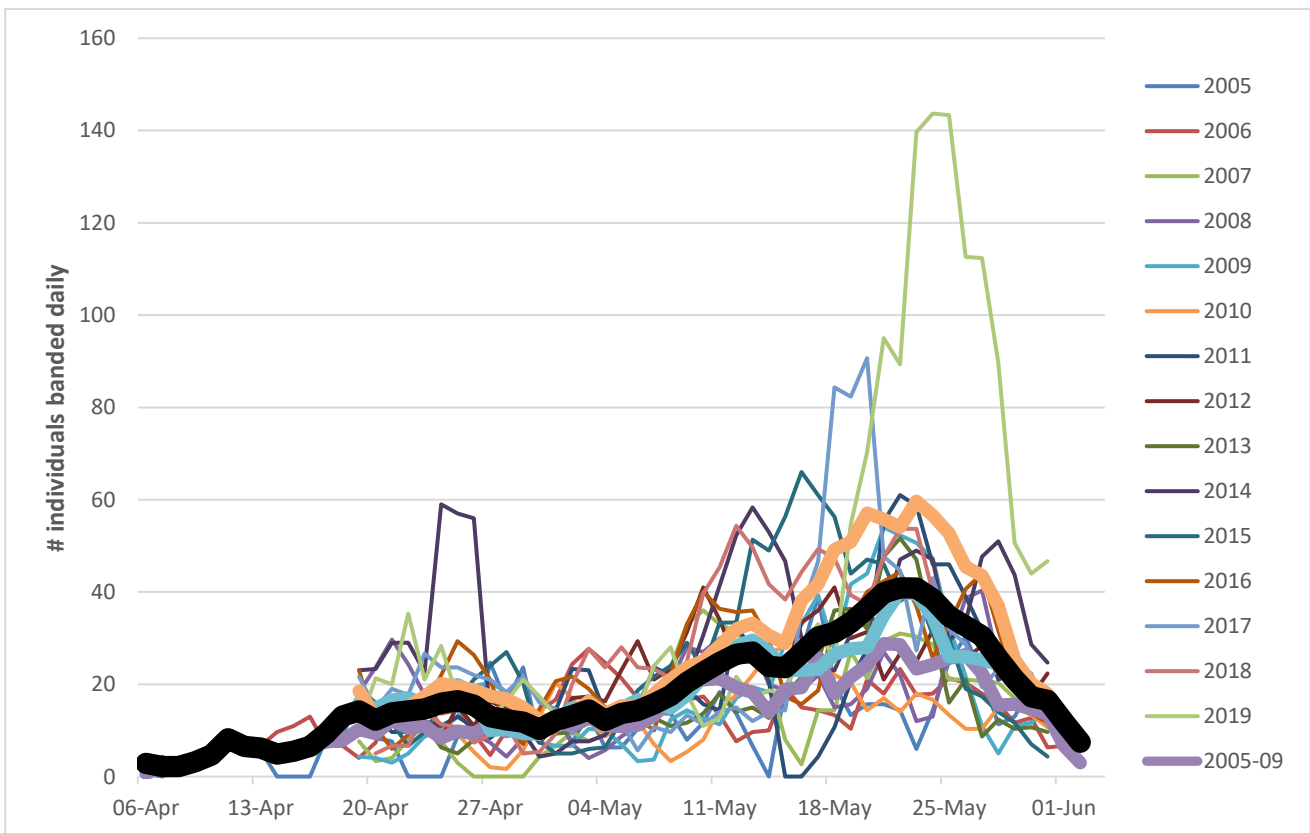


Figure 4.4: Running three-day mean of the number of individuals banded daily throughout spring.

4.2.4. Annual notes

The 2005 SMMP was a pilot season, largely consistent with the protocol used in subsequent years, but with somewhat less complete coverage, and a bit of experimentation with dates and net locations. A core set of 11 mist nets was used throughout the season (A1, B1-B4, C1-C2, D1-D3, E1), with two additional nets (F1, F3) tested out from mid-April to the end of spring. The season was initially defined as 60 days (April 5 to June 3), and April 23 was skipped due to poor weather. Census was done on all but three of the 59 days of operation, when high volume of birds in the nets precluded any volunteers from being available; banding took place on 28 of the 59 days of operation, based on bander availability and weather. Weather was somewhat erratic in spring 2005, with much higher amounts of rainfall in Weeks 1 and 5 than any other years, but much lower than average rainfall amounts in five of the eight other weeks; in terms of temperature, the beginning and end of the season were both warmer than usual, but most of May was colder than normal. The peak day of banding this spring was May 16, with 57 birds of 23 species banded; diversity of birds observed on site peaked later, with 64 species on May 27. This was the only spring season in which American Goldfinch topped the list of birds banded, with 111 individuals, almost twice as many as in any other spring. Three common species have yet to exceed the banding totals reached in this first spring season: Song Sparrow, American Goldfinch, and Rose-breasted Grosbeak. The non-random selection of suitable banding days this spring accounts for the considerably above average overall capture rate.

In 2006, the spring season was expanded to 70 days, with the first eight days and final two days of the season reserved for observations and census only. Banding took place on all but three of the remaining 60 days, but weather was often poor, with more rain than in any other spring except 2017, and resulted in some limitation of banding effort on all but 28 days. The frequency of poor conditions early in the season contributed strongly to the decision to extend the initial census-only period from 8 to 21 days in subsequent years. Fifteen nets were used this spring, including the same basic set of 11 from 2005, plus four (K1, K2, L1, L2) along the back lane on a trial basis that yielded poor results and were not used again. The peak day for banding this spring was May 21, with only 37 birds banded. Species diversity peaked on the same date, with 76 species observed, a count not reached again in any season until May 20, 2014. Red-winged Blackbird was the most frequently banded species by far, with 169 individuals, far ahead of Common Grackle in second place with 59, and Ruby-crowned Kinglet with 58. The two blackbirds were among five species setting banding records that have yet to be eclipsed, along with Blue Jay, Dark-eyed Junco, House Sparrow, and Brown-headed Cowbird.

Beginning in 2007, the spring season remained 70 days long, but the first 21 days and final 4 days of the season were reserved for census only, with banding scheduled for the core 45 days in between. The switch was particularly timely, as the 62 cm of snow that fell during Weeks 2 and 3 of the season was more than triple the total in any other spring. After very low temperatures accompanying the snow, the rest of the season fluctuated both above and below average. Effort was unusually low this spring due to four days lost to rain, and unavailability of a bander on six days in late April, the only such gap in either spring or fall after 2005. Fifteen nets were used this spring (A1, A2; B2, N1, N3, B3; C1, C2; D1, D2, D3; E1, E2; H1, H2). The busiest day of banding was May 10, with 45 individuals banded. The ten most abundant species accounted for 60% of individuals banded this spring, with Red-winged Blackbird again atop the list by a large margin with 155 individuals, compared to Ruby-crowned Kinglet in second place with 52. Four species set banding records that still stand: Downy Woodpecker, Warbling Vireo, Savannah Sparrow, and Blackpoll Warbler. The peak of diversity was earlier than in previous years, with 65 species observed on May 18.

The 2008 season followed the standard schedule established in 2007. Coverage was somewhat better, with only four banding days lost entirely to rain, and weather limiting efforts on another 13 days although overall it was a second consecutive drier than average spring. Effort expanded to using 16 nets, with the addition of D4; this same array (A1, A2; B2, N1, N3, B3; C1, C2; D1, D2, D3, D4; E1, E2; H1, H2) has continued to be used in all subsequent years. The number of individuals banded (826) was higher than any previous year, perhaps partly

reflecting expanded coverage, but possibly also influenced by persistent northwest winds in May that could have slowed down the progress of some migrants – only 2009 and 2019 had lower temperatures over the final weeks of the season; the season total in 2009 was very similar to 2008, and more individuals were banded in 2019 than any other spring. The delay in migration was seen in the banding peak of 57 individuals not occurring until May 26, and the peak of diversity (71 species) occurring surprisingly late on May 30. The top ten species banded accounted for 63% of all individuals, and Red-winged Blackbird remained in first place for a third year in a row with 114 individuals, but this time not that far ahead of Ruby-crowned Kinglet with 92. All-time spring banding records were set in 2008 for Warbling Vireo, Blue-headed Vireo, White-crowned Sparrow, and Indigo Bunting.

In 2009, weather was again generally favourable, with slightly below average rainfall, and relatively normal temperatures, aside from a record warm Week 5. Coverage was similar to 2008, with one fewer day lost entirely to rain, and 30 days of full coverage, a new high for spring. The highlight was an unprecedented abundance of Tennessee Warblers. Beginning in the third-last week of the season, 82 individuals were banded, nearly three times as many as had been banded in all four previous spring seasons combined. After being the top species banded in spring for the previous three years, Red-winged Blackbirds were unusually scarce, with 50 individuals placing them third, behind Ruby-crowned Kinglet with 73. A new single-day record for spring was set on May 20, with 67 birds banded; the peak of diversity occurred two days earlier on May 18, with 75 species observed. The ten most abundant species accounted for 58% of individuals banded this spring, and this year included seven warbler species, a record that stood until 2019. Only three modest all-time banding total highs were set in 2009, for Great Crested Flycatcher, Pine Siskin, and Northern Parula.

Spring 2010 was fairly average with respect to precipitation, but more notable for being the warmest spring on record at MBO. Mean daily high temperatures were more than 1°C above the ten-year mean in four weeks, including record levels in Weeks 2 and 9, with the latter being the warmest ever for spring at 28.9°C. Although not the driest spring, rain interfered with operations less than usual, and both net hours and coverage ended up at higher levels than any other year. Unfortunately, migration was weak this year, and despite the high level of effort, fewer birds were banded than in any other spring, and the number of species observed was lower than in any year except 2005 and 2007. Record high banding totals were set for only four species, and all have since been eclipsed. Red-winged Blackbird returned to being the top species banded this spring, followed by Cedar Waxwing and American Goldfinch; overall the top ten species banded comprised 61% of individuals this spring. The busiest day of banding was May 15 with 34 individuals; diversity peaked on May 18 with 65 species observed.

Spring 2011 contrasted sharply with 2010, as it was at the opposite temperature extreme, as it was the coldest spring to date, including two weeks (4 and 6) with mean daily temperatures at least 4°C below average. Precipitation was also particularly heavy, with small amounts of snow for each of the first four weeks, and record high levels of rainfall in three weeks (3, 6, and 7). As such, only 2005 had significantly lower net hours and coverage. Despite that, more birds were banded than in any previous spring. For only the second time, Red-winged Blackbird was pushed down to the third-most banded species of spring, behind Yellow-rumped Warbler and Tennessee Warbler. The top ten species banded this spring accounted for 62% of individuals banded. The busiest day of banding was May 22 with 102 individuals, the highest to date in spring; diversity peaked on May 21 with 69 species observed. Only Hairy Woodpecker and American Tree Sparrow were banded in greater numbers than in all other years.

Spring 2012 had the warmest Week 3 and 8 on record, and coldest Week 5, but otherwise weather was close to average. Correspondingly, both net hours and coverage were slightly above average. For a second year in a row, a new high was set for number of birds banded, this time falling just short of 1000. Red-winged Blackbird again returned to being the top species banded for the season, with the highest number since 2007. With new record counts for the season, Tennessee Warbler and Cedar Waxwing were second and third among birds banded this spring. This spring the top ten species banded accounted for 60% of individuals. The banding peak this spring

was 62 individuals on May 17, while the highest diversity was 70 species on May 12. Gray Catbird and Rusty Blackbird were the only species banded in greater numbers than in all other years.

Spring 2013 had below average rainfall in all but two weeks, but the 66 mm of rain that fell in Week 9 was more than triple the average for that period. The 13 cm of snow in Week 3 was also the second highest in a single week in any spring. Three weeks were substantially warmer than usual, including an exceptional Week 6 with a mean daily high temperature 8.3°C above the ten-year mean, a greater difference between observed and mean than in any other period of the year. However, the mean daily high temperature in Week 9 was 4.8°C colder than the ten-year mean, and the overall temperature for spring was just barely above average. Effort was comparable to 2012, but the number of birds banded was down by 20% compared to the previous year. On the other hand, more species were banded than in any previous spring, and the number of species observed was also well above average. Again Red-winged Blackbird was the most commonly banded species, followed this spring by Magnolia and Tennessee Warblers; only 57% of individuals banded were among the top ten for the season. The peak of banding was on May 22 with 94 individuals, while diversity was highest on May 17 and May 19 with 63 species observed. Pileated Woodpecker, Eastern Phoebe, Black-capped Chickadee, and Chipping Sparrow were the only four species with banding totals higher than in all other years.

Spring 2014 was another relatively rainy season, with rainfall substantially above average in four of ten weeks. The first six weeks of the season were mostly colder than average, most notably Week 1; conversely Week 7 was warmer than in any other spring. Effort was slightly above average, but the results this spring were exceptional, with over 37% more birds banded than in any previous year, and a record high capture rate. The result was driven in part by a major influx of Cedar Waxwings, with more of them banded than any species in any other spring; rounding out the top three were record numbers of Tennessee and Magnolia Warblers. The top ten species this spring accounted for 62% of all individuals banded. The busiest day of banding was April 25 with 145 individuals, the highest ever in spring; diversity peaked on May 20 with 76 species observed. In addition to Cedar Waxwing, American Robin and Baltimore Oriole banding totals from this spring have remained unsurpassed.

Spring 2015 started off cooler than usual over the first two weeks, but temperatures were substantially above average throughout the typical peak of migration from Week 6 through Week 9. It was also a fairly dry spring, with half of the weeks receiving 10 mm of rain or less. The generally favourable conditions allowed banding effort to be the third highest across all years. For the second year in a row, the number of individuals banded exceeded 1000 (1117), and the 69 species banded matched the previous year's record high. The 147 species observed was the most in spring since 2006. The number of Tennessee Warblers banded was lower than in 2014, but high enough to lead the season for the first time, followed by Magnolia Warbler and Yellow-rumped Warbler. It was the first time that the top three species were all warblers. The top ten species this spring comprised only 56% of all individuals banded, less than usual. The highest banding total was 82 individuals on May 17; diversity peaked one day later at 72 species. Yellow-bellied Sapsucker, Red-eyed Vireo, and Fox Sparrow set all-time high banding totals for the season.

The first half of spring 2016 was cooler than average overall, including a record cold Week 2, but the final two weeks of the season were considerably warmer than usual. It was an average spring with respect to rainfall, although the 100 mm of rain over the first two weeks was more than in any other year, whereas Weeks 8 and 9 were unusually dry. Banding effort was higher than in any other spring, but the number of individuals and species banded were slightly lower than in 2015, though still above average. It was an exceptional spring for White-throated Sparrow, with 138 individuals banded, followed by Tennessee Warbler and Ruby-crowned Kinglet. The top ten species banded accounted for 60% of the spring total. The spring banding peak of 59 individuals was on May 22, and diversity was highest on May 18 and 22 at 83 species, a new record high. In addition to White-throated Sparrow, all-time high banding totals were set for White-breasted Nuthatch, Bohemian Wawing, and Purple Finch.

Spring 2017 was colder than any previous year, with the first half of May notably below average. More notably, it was the wettest spring ever, with weekly record high rainfall amounts in Weeks 2 and 10, plus substantially above average amounts in Weeks 3, 5, and 6. For the third year in a row, the number of birds banded in spring was close to 1100, despite the rain causing banding effort to be the lowest since 2012. Tennessee Warbler (211) and Ruby-crowned Kinglet (147) were both banded in record numbers this spring, and White-throated Sparrow (110) was also well above average, contributing to a record-high 67% of the season total being accounted for by the top ten species. The season's highest banding count was 129 individuals on May 19, while the number of species observed peaked at 82 individuals on May 16. In addition to Ruby-crowned Kinglet and Tennessee Warbler, much more modest all-time banding records were established for three thrushes (Veery, Hermit Thrush, and Gray-cheeked Thrush), as well as Solitary Sandpiper and Brown Thrasher.

Spring 2018 was only marginally warmer than 2017, with temperatures below average throughout the first half of the season, though above average throughout the second half. Rainfall was somewhat below average, including record low amounts in Weeks 4 and 7, although enough of it fell during morning hours that the number of net hours was the lowest in six years. However, the number of birds banded was the third-highest in any spring, and the 148 species observed tied the previous high from 2006. For the third time in the past four years Tennessee Warbler was banded in larger numbers than any other species, although fewer than in 2017. Cedar Waxwing and Yellow-rumped Warbler rounded out the top three in 2018. The top ten species accounted for 66% of all birds banded. The spring banding peak was 72 individuals on May 22, while the peak of 84 individuals observed on May 13 was higher than in any previous spring, and also unusually early. Wood Thrush, Nashville Warbler, and Western Palm Warbler were banded in greater numbers than in any other spring.

Spring 2019 was by far the coldest spring on record, with the mean daily high temperature for the season 2.6°C colder than the long-term average, and weekly mean daily high temperatures more than 2°C below average in a record high six weeks. It is the only time in either spring or fall that temperatures were below average in every week of a season. Rainfall was slightly above average overall, though notably high only in Weeks 4 and 7. Banding effort was similar to the previous two years, but the number of birds banded spiked by more than 50%, to a record high of 1827. Migration was largely stalled in mid-May due to unfavourable conditions farther south; after that changed, 1053 birds were banded during the 9-day span from May 20 to 28. Some birds may have stopped over during this period that might otherwise have passed by undetected in a more steady spring migration. The number of species banded (76) was substantially more than the previous record high of 69. For only the second time, the top three species banded were all warblers, and totals were very similar (Magnolia Warbler 173, Yellow-rumped Warbler 171, and Tennessee Warbler 166). For the first time in spring, the top five species all exceeded 100 individuals banded, but the top ten comprised only 56% of birds banded. The 240 individuals banded on May 24 was a record high for spring by a wide margin, and the count of 87 species observed that day was also an all-time high. An incredible 31 species were banded in higher numbers than in any other spring.

4.2.5. Summary

The Spring Migration Monitoring Program has operated under largely the same protocol since 2005, other than some variability in level of effort over the first three years. Differences in results across years are therefore expected to primarily reflect changes in populations, although especially for species that pass through quickly as migrants, variability in weather conditions may also influence results. In particular, it is notable that the lowest banding total was in the warmest spring (2010), and the highest total by far was in the coldest spring (2019). As the number of years of data collection continues to increase, the influence of exceptional years will diminish, allowing the overall trends to become more apparent.

Of the 108 species banded in spring, the top five account for just over one-third of the total of 14,707: Red-winged Blackbird (1235; 8%), Tennessee Warbler (1203; 8%), Ruby-crowned Kinglet (1022; 7%), Cedar Waxwing (866; 6%), and White-throated Sparrow (843; 6%). To date 199 species have been observed in spring. Canada

Goose accounts for almost one-third of all spring sightings (32%); the next most abundant species for the season are Red-winged Blackbird (9%); Ring-billed Gull (6%), Snow Goose (5%), and American Crow (4%).

Over the years, the number of birds banded per 100 net hours in spring has fluctuated somewhat, but aside from an early peak in 2005 when effort was more limited, it has generally increased (Figure 4.5). Five of the six lowest capture rates were in 2010 or earlier, whereas most years since 2014 have been above average, and the six most recent years are the only ones with season totals of more than 1000 individuals banded. A polynomial fit to the annual banding rates (below) shows curve increasing since around 2010, though it is undeniably influenced by the record high result from 2019.

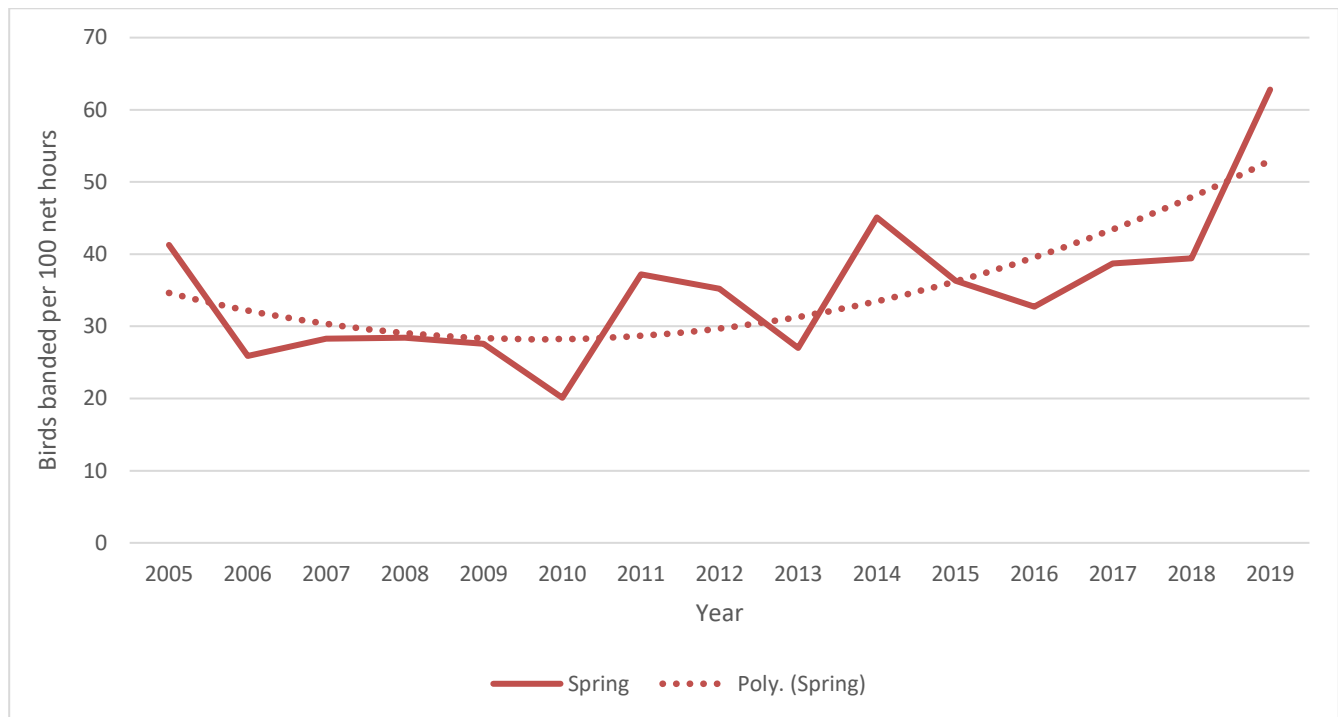


Figure 4.5: Annual spring banding capture rates from 2005 to 2019, fitted with a polynomial curve.



*Northern Parula, one of the few warblers observed in larger numbers in spring than fall.
(Photo by Simon Duval)*

4.3. Monitoring Avian Productivity and Survivorship (MAPS)

At MBO, there is an 8-week period between spring and fall migration monitoring seasons, spanning from June 6 through July 31. From 2005 through 2008, informal monitoring of the breeding bird population was conducted to some extent during this period. Beginning in 2009, this was standardized, by starting up a MAPS site as the focal point for summer monitoring.

4.3.1. Objectives and protocol

Originally, the aims of summer monitoring were simply to document the use of MBO by breeding birds to better understand how they contribute to migration monitoring numbers, and to opportunistically band juveniles to increase the potential for documenting returns (or dispersal) in subsequent years. In an effort to standardize the summer program, a MAPS station was established in 2009 as a pilot project, mostly on the opposite side of Stoneycroft Pond from the migration monitoring nets. It is operated according to guidelines provided by the Institute for Bird Populations (DeSante et al. 2020), which coordinates a network of over 500 monitoring stations across North America, all following the same protocol.

4.3.2. Weather

Temperatures vary less over the course of the summer than during any other season at MBO, and also tend to be more consistent among years. The past two years, mean July temperatures have been higher than ever before, but in both cases were offset by June temperatures that were around average or slightly below. The only year during which both June and July were substantially cooler than usual was 2009; conversely, the lone year with mean daily high temperatures far above average in both months was 2012.

There is somewhat greater variability in the amount of rainfall, with the wettest summer (2005) receiving more than twice as much precipitation as the two driest years (2016 and 2019), and no predictable pattern in terms of June or July having more rain. Because banding typically takes place less than weekly in summer, it is usually possible to select dates with conditions that are favourable for full coverage, and in that sense, weather may have a less direct effect on results than in spring or fall. However, summer conditions can have a strong influence on nesting success, which at least theoretically could be reflected in the annual banding totals, given that they tend to be strongly driven by the number of juveniles banded in July.

| Mean daily high | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| June 6 – 30 | 26.5 | 24.3 | 25.7 | 25.3 | 23.5 | 22.8 | 24.6 | 26.2 | 22.2 | 24.9 | 23.2 | 24.7 | 24.5 | 24.4 | 24.8 | 24.5 |
| July 1 – 31 | 27.3 | 27.5 | 25.1 | 26.0 | 24.2 | 27.7 | 28.5 | 28.0 | 27.2 | 25.5 | 26.5 | 27.2 | 25.5 | 29.5 | 29.0 | 27.0 |
| Summer (Jun 6 – Jul 31) | 26.9 | 26.0 | 25.4 | 25.7 | 23.9 | 25.5 | 26.8 | 27.2 | 25.0 | 25.2 | 25.1 | 26.1 | 25.1 | 27.2 | 27.3 | 25.9 |
| Mean daily low | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
| June 6 – 30 | 16.5 | 14.9 | 14.0 | 15.8 | 14.2 | 13.8 | 15.0 | 15.0 | 13.6 | 15.1 | 13.4 | 13.6 | 14.8 | 13.7 | 13.8 | 14.5 |
| July 1 – 31 | 17.1 | 17.7 | 15.7 | 16.8 | 15.9 | 18.2 | 17.6 | 16.5 | 17.2 | 16.8 | 16.7 | 16.8 | 16.1 | 18.8 | 18.1 | 17.1 |
| Summer (Jun 6 – Jul 31) | 16.8 | 16.4 | 14.9 | 16.3 | 15.1 | 16.3 | 16.4 | 15.8 | 15.6 | 16.1 | 15.2 | 15.4 | 15.5 | 16.5 | 16.2 | 15.9 |
| Total rainfall | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
| June 6 – 30 | 129 | 88 | 41 | 42 | 69 | 115 | 94 | 47 | 116 | 145 | 138 | 29 | 88 | 53 | 82 | 85 |
| July 1 – 31 | 126 | 135 | 106 | 119 | 117 | 97 | 59 | 94 | 99 | 80 | 99 | 74 | 125 | 98 | 40 | 98 |
| Summer (Jun 6 – Jul 31) | 255 | 223 | 147 | 161 | 186 | 212 | 153 | 141 | 215 | 225 | 237 | 103 | 213 | 151 | 122 | 183 |

4.3.3. Results

Summer results from 2005 to 2019 are summarized in Tables 4.3 and 4.4. The lack of a standardized protocol from 2005 to 2008 is reflected in the variability of results. In particular, banding effort and results have been much higher since implementation of the MAPS protocol in 2009, as it requires seven banding sessions over the course of the season. Conversely, the number of species observed was highest in the first three years, which had far more days of observation, although banding effort was limited. Banding at nests (primarily targeting juveniles in nest boxes, but also including a few other nests and adults), as reported in Table 4.4, has mostly been

opportunistic, and variability in results reflects effort more than numbers nesting on site. Note also that Table 4.4 includes all birds banded at nests, even though a few of these have been in late spring or early fall, but were not part of the standardized Migration Monitoring Programs.

Table 4.3: Summer summary statistics 2005-2019.

| | 2005 | 2006 | 2007 | 2008 | 2009 | | |
|--------------------------------|----------|----------|----------|----------|----------|----------|-----------|
| # individuals (species) banded | 22 (8) | 27 (11) | 5 (3) | n/a | 105 (25) | | |
| # individuals (species) return | 0 (0) | 2 (1) | 0 (0) | n/a | 12 (7) | | |
| # individuals (species) repeat | 3 (3) | 2 (2) | 0 (0) | n/a | 29 (9) | | |
| # species observed | 78 | 65 | 65 | 57 | 51 | | |
| # net hours | 34.0 | 78.4 | 2.8 | n/a | 378.0 | | |
| # birds banded / 100 net hours | 64.7 | 34.4 | 178.6 | n/a | 27.8 | | |
| # days operating | 33 | 22 | 13 | 10 | 7 | | |
| # days banding | 3 | 4 | 1 | 0 | 7 | | |
| | 2010 | 2011 | 2012 | 2013 | 2014 | | |
| # individuals (species) banded | 125 (25) | 111 (21) | 184 (31) | 137 (30) | 143 (33) | | |
| # individuals (species) return | 9 (5) | 9 (6) | 10 (5) | 17 (10) | 13 (9) | | |
| # individuals (species) repeat | 23 (11) | 17 (7) | 26 (8) | 34 (9) | 44 (13) | | |
| # species observed | 50 | 60 | 55 | 56 | 59 | | |
| # net hours | 378.0 | 378.0 | 378.0 | 378.0 | 392.0 | | |
| # birds banded / 100 net hours | 33.1 | 29.4 | 48.7 | 36.2 | 36.5 | | |
| # days operating | 9 | 7 | 8 | 7 | 7 | | |
| # days banding | 7 | 7 | 7 | 7 | 7 | | |
| | 2015 | 2016 | 2017 | 2018 | 2019 | Average | Total |
| # individuals (species) banded | 159 (31) | 138 (32) | 135 (34) | 174 (35) | 85 (34) | 111 (25) | 1550 (57) |
| # individuals (species) return | 12 (8) | 15 (8) | 14 (8) | 17 (12) | 14 (9) | 10 (6) | 144 (22) |
| # individuals (species) repeat | 42 (13) | 31 (15) | 42 (15) | 35 (13) | 21 (10) | 25 (9) | 349 (27) |
| # species observed | 57 | 66 | 64 | 56 | 60 | 60 | 111 |
| # net hours | 378.0 | 364.5 | 378.0 | 378.0 | 369.0 | 304.6 | 4264.7 |
| # birds banded / 100 net hours | 42.1 | 37.9 | 35.7 | 46.0 | 23.0 | 48.2 | 36.3 |
| # days operating | 7 | 8 | 7 | 7 | 7 | 10.6 | 159 |
| # days banding | 7 | 7 | 7 | 7 | 7 | 5.7 | 85 |

Table 4.4: Nestling summary statistics 2005-2019.

| | 2005 | 2006 | 2007 | 2008 | 2009 | | |
|--------------------------------|-------|--------|--------|--------|--------|---------|----------|
| # individuals (species) banded | 1 (1) | 6 (1) | 33 (3) | 14 (2) | 51 (2) | | |
| | 2010 | 2011 | 2012 | 2013 | 2014 | | |
| # individuals (species) banded | 0 (0) | 4 (1) | 13 (2) | 4 (1) | 0 (0) | | |
| | 2015 | 2016 | 2017 | 2018 | 2019 | Average | Total |
| # individuals (species) banded | 0 (0) | 14 (1) | 25 (1) | 43 (1) | 33 (1) | 19 (1) | 245 (17) |

Far fewer birds have been banded in summer than in any other season, but there is considerable diversity, with 57 species banded to date, out of 111 observed. The top five species banded in summer account for 42% of all individuals banded: Tree Swallow (222; 12%); Song Sparrow (169; 9%), American Robin (142; 8%), Yellow Warbler (131; 7%), and Red-eyed Vireo (116; 6%). In terms of observations, Red-winged Blackbird is by far the most dominant species in summer, comprising 12% of all sightings; the next most abundant are American Goldfinch (7%) and Song Sparrow (6%).

4.3.4. Annual notes

Summer 2005 was the rainiest to date at MBO, with far above average rainfall in both June and July. It was also unusually warm, with the highest mean June temperatures of any year. There was more observer effort in summer 2005 than any other year, due to contributions of a graduate student working on site regularly throughout the season; this resulted in by far the highest count of species for the season. However, banding was limited to just three days and yielded only modest results. Four species each accounted for 17% of the birds banded: Veery, Yellow Warbler, Song Sparrow, and Rose-breasted Grosbeak. Red-winged Blackbird, Song Sparrow, and Yellow Warbler were by far the most frequently observed species.

Summer 2006 was again unusually wet, including the rainiest July in MBO's history. Temperatures were slightly below seasonal in June, and a bit above average in July. The number of days of observation dropped by one-third from 2005 but remained at more than double the 15-year mean; the 65 species observed was also above average. Banding effort was again quite limited; Song Sparrow (10) and Tree Swallow (9) accounted for half of the birds banded. Red-winged Blackbird and American Goldfinch were the most frequently observed species, followed by Song Sparrow and Cliff Swallow.

Summer 2007 was unusually dry, largely due to rainfall in June being less than half the long-term average. Daily high temperatures in June were also warmer than usual, but July was far cooler than average, with this being the only year that the mean daily high was warmer in June than July. Observation effort declined again but the number of species observed remained above average. There was only one partial morning of banding at the nets, with Song Sparrow dominating, but this was a busy year for banding of nestlings, most of them Tree Swallows. Red-winged Blackbirds were more numerous than any other summer; the total observed was more than the second and third place species (American Goldfinch and Tree Swallow) combined.

Weather in summer 2008 was quite similar to the previous year, with a dry June and slightly above average rainfall in July, and with June slightly warmer than average and July a bit cooler. The number of days of observation and count of species recorded both declined again, and for the first and only time there was no banding in summer except for nestlings (again mostly Tree Swallows). Red-winged Blackbird numbers dropped sharply from their high in 2007, but remained higher than any other species; the next three most abundant birds this summer were American Crow, European Starling, and American Goldfinch.

Summer 2009 was notable for being the coldest ever at MBO, with an overall mean daily high temperature 2°C below the 15-year average, and a record low mean for July. However, rainfall for the season was close to average. This was the first year of operation for the MAPS program, which has continued ever since with a consistent 7 days of banding each summer, on average around nine days apart. With effort this summer limited to the MAPS days, the number of species observed dropped to the lowest to date. However, more species and individuals were banded than in any previous summer, including a record volume from the nestbox program. Overall, Red-winged Blackbird (29; 18%) and Tree Swallow (24, 15%) topped the list of species banded, followed by American Robin (11, 8%). The spike in Red-winged Blackbirds compared to other years was a direct function of an undergraduate student working on the species that summer, with banding as part of her research program. With effort focused more on banding than observation this summer, most species were tallied in relatively low numbers. Red-winged Blackbird was still the most numerous, followed by Tree Swallow and Yellow Warbler.

Summer 2010 was the first time since 2005 that there was more rain in June than July, and overall there was roughly 15% more than average. It was the second-coolest June, but warmer than usual in July. The number of species observed dropped to a new low for summer, even though there were two days of observation in addition to the MAPS banding sessions. The number of individuals banded through MAPS was higher than during the inaugural year, but this was one of only two summers without any banding of nestlings. Song Sparrow was banded more than any other species (20; 16%), while Black-capped Chickadee (14; 11%) and American Robin

(13; 10%) rounded out the top three. For the first time, Red-winged Blackbird was not the most frequently observed species over the course of summer; it dropped to fourth place behind Song Sparrow, Cedar Waxwing, and Black-capped Chickadee.

Summer 2011 featured an unusually hot and dry July, though June weather conditions were close to average. The number of species observed was the highest among the first seven years of the MAPS program, but the count of species banded was the fewest in any year of MAPS, and the number of birds captured as repeats and returns were both also below the average for the MAPS program. Song Sparrow was again banded in the highest numbers (18; 16%), followed by American Robin (14; 12%) and Red-eyed Vireo (12; 10%). Red-winged Blackbird returned to being the most abundant species observed, followed by a second-place tie between Black-capped Chickadee and Cedar Waxwing.

Summer 2012 was overall the warmest ever at MBO, although neither June nor July set a new monthly high. It was also the third-driest summer at MBO, with June rainfall particularly low, and July levels also below average. The number of species observed was slightly below average for the MAPS years, but more birds were banded this summer than any other, and the number of species banded was also higher than in any previous year, although it would be surpassed in five subsequent years. The high banding total was largely influenced by an unusually early influx of migrant Yellow Warblers in late July, accounting for 31% of birds banded this summer, and 47% of all Yellow Warblers banded in summer over ten years. However, the top three was rounded out with new record highs for Song Sparrow (26; 13%) and American Robin (18; 9%). Yellow Warbler also dominated the overall observations this summer by a wide margin over Red-winged Blackbird and Black-capped Chickadee.

Summer 2013 was both wetter and cooler than average, most notably the lowest mean daily high temperature for June in MBO's 15 years of operation. However, aside from the Yellow Warbler migration of 2012 not repeating, overall results were quite similar to last year. Song Sparrow set another new record high with 29 individuals banded (21%), followed by Gray Catbird (14; 10%) and American Robin (11; 8%). Red-winged Blackbird again returned to being the most frequently observed species of the summer, although there were barely more than Cedar Waxwings, at their highest level in summer since 2006; both were more than twice as numerous as Common Grackle in third place for the season.

Summer 2014 began with the rainiest June on record, but rainfall tapered off to below average levels in July; overall temperatures were slightly below average. Another record high was set this summer for number of species banded, though it was only the second time that no nestbox banding took place. The number of species observed was also above average for the MAPS years, and the number of individuals banded the fourth highest among all MAPS summers. The top three species banded were all in record numbers: American Robin (20; 14%), Gray Catbird (18; 13%), and American Goldfinch (13; 9%). Red-winged Blackbird was again the dominant species observed, with American Robin and Common Grackle rounding out the top three for the summer.

Summer 2015 was both cooler and wetter than average, especially in June. The number of species observed was average for the MAPS years, while the number banded was the third highest for any summer, and the count of species banded was also above average. American Robin was the top species banded for the second summer in a row (20; 13%), followed by Gray Catbird (17; 11%) and Red-eyed Vireo (15; 9%). Ring-billed Gull was counted in record abundance this summer, and outnumbered all others, followed by Cedar Waxwing and American Robin.

Temperatures in summer 2016 were very close to average, but there was less rainfall in June and for the season overall than in any other year. It was a great year for observations, with 66 species, more than any other summer except 2005. The number of birds banded was close to average for MAPS, but the number of species banded remained above 30 for the fifth year in a row. Red-eyed Vireo was banded more frequently than any other species (18; 13%), with Black-capped Chickadee (13; 9%) and Gray Catbird (11; 8%) rounding out the top three. Common Grackle, American Goldfinch, and Black-capped Chickadee were observed in the greatest numbers.

In summer 2017, both temperature and rainfall in June were very close to long-term averages, but July was cooler and wetter than usual. The number of species observed and banded were both near record highs; the number banded in MAPS was close to average, but more nestlings were banded than any year since 2009. American Robin and Black-capped Chickadee tied for the most individuals banded (12; 9%), followed closely by both Red-eyed Vireo and American Redstart (11; 8%). American Robin and Cedar Waxwing were marginally more abundant than American Goldfinch and Common Grackle, which tied for third in terms of observations.

Summer 2018 was the hottest overall, thanks primarily to record high temperatures in July. Rainfall was less than usual in June but exactly average in July. More species were banded than in any other summer, and the number of individuals banded in MAPS was just short of the record from 2012, while the count of nestlings banded was also second all-time, behind only 2009. The number of species observed dropped back to below average. The top three species banded this summer each set all-time record highs: Red-eyed Vireo (25; 14%), Baltimore Oriole (17; 10%), and American Redstart (15; 9%). Red-winged Blackbird, Red-eyed Vireo, and Cedar Waxwing were the top three species observed.

Temperatures in summer 2019 were only marginally cooler than in 2018, but it was the driest summer on record, with rainfall near average in June, but at less than half of typical levels in July. The number of species observed was average overall, while those banded was just one short of the previous year's record, but only 85 individuals were banded, fewer than in any other year of MAPS. Song Sparrow and Yellow Warbler returned to the top three for summer for the first time since 2013 and 2012 respectively, with only 7 individuals banded, each representing 8% of the season's total. Rose-breasted Grosbeak placed third (6; 7%). For the first time ever, Tree Swallow outnumbered all other species observed, followed by American Goldfinch and Cedar Waxwing.

4.3.5. Summary

Summer effort was inconsistent over the first four years, although typically there was minimal banding but quite frequent observations, especially in 2005 and 2006. On the contrary, since implementation of the MAPS protocol beginning in 2009, effort has been almost identical each year, limited to seven days of operation, and between 364 and 378 net hours of banding.

Across all years, 57 species have been banded in summer, with the top five accounting for 43% of the overall total of 1795. Tree Swallow leads the overall total (222; 12%), on the basis of targeted nestbox banding efforts. It is followed by Song Sparrow (169; 9%), American Robin (142; 8%), Yellow Warbler (131; 7%), and Red-eyed Vireos (116; 6%). Of the 111 species that have been observed in summer, the top five are Red-winged Blackbird (12%), American Goldfinch (7%), Song Sparrow (6%), Cedar Waxwing (5%), and American Robin (5%).



*Juvenile Brown Thrasher (left) and Gray Catbird (right), among the species that breed at MBO and are documented through the Monitoring Avian Productivity and Survivorship program.
(Photo by Simon Duval)*

4.4. Fall Migration Monitoring Program (FMMP)

The Fall Migration Monitoring Program has been operated at MBO annually since 2004, but the first year was a pilot season involving considerable experimentation and limited coverage, and is not included in this summary. The program covers the 14-week period from August 1 to November 6 (formerly ending October 30 until 2014); the start date represents the average arrival of early migrants, while the end date reflects the typical end of the migration period for most of the late migrants.

4.4.1. Objectives and protocol

As with the spring program, the FMMP follows the MBO migration monitoring protocol (Gahbauer and Hudson 2014), to generate data that can be used for long-term trend analysis. Unlike in spring, banding occurs daily throughout the season, weather permitting; the only exception was in 2005 when banding was limited to roughly every other day in August because of initial staffing limitations. Also as in spring, banding data are supplemented by a daily census and incidental observations to derive daily estimated totals for all species. The season was 13 weeks long for the first 10 years, but observations in early November suggested that migration was shifting later for some species, therefore since 2015 the season has been extended by one week, ending on November 6.

4.4.2. Weather

At the beginning of MBO's fall season, the weather reflects mid-summer conditions, with mean daily temperatures similar to those in July. Average temperatures decline slightly over the next three weeks, then remain nearly identical in Weeks 4 and 5. The first abrupt drop in average temperatures occurs in Week 6, then slows slightly over the following two weeks before one of the sharpest declines of the season in Week 9. Over the next four weeks, the mean daily high drops by an average of 2 degrees Celsius each week; low temperatures cool down only slightly more slowly. By the end of the season, both the mean daily high and low temperatures remain somewhat warmer than during the first two weeks of spring.

| Mean daily high | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|----------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| F1 (Aug 1 – 7) | 28.7 | 28.5 | 27.4 | 24.1 | 24.5 | 25.6 | 27.9 | 29.3 | 24.7 | 26.2 | 24.8 | 29.8 | 26.4 | 28.8 | 27.8 | 27.0 |
| F2 (Aug 8 – 14) | 28.4 | 23.4 | 26.0 | 23.5 | 27.1 | 26.4 | 26.4 | 26.0 | 24.7 | 25.8 | 24.2 | 28.0 | 25.8 | 28.2 | 25.8 | 26.0 |
| F3 (Aug 15 – 21) | 24.6 | 25.8 | 22.5 | 24.5 | 28.9 | 24.9 | 26.1 | 25.1 | 26.2 | 22.1 | 29.4 | 27.3 | 25.3 | 26.4 | 27.2 | 25.8 |
| F4 (Aug 22 – 28) | 25.8 | 21.4 | 26.1 | 25.9 | 24.0 | 23.3 | 23.3 | 28.3 | 25.1 | 26.1 | 25.1 | 26.6 | 23.0 | 27.4 | 24.6 | 25.1 |
| F5 (Aug 29 – Sep 4) | 25.2 | 20.9 | 23.9 | 27.3 | 22.4 | 29.8 | 25.7 | 26.5 | 23.6 | 26.1 | 26.0 | 24.0 | 20.3 | 26.9 | 22.9 | 24.8 |
| F6 (Sep 5 – 11) | 22.5 | 20.2 | 23.9 | 22.5 | 22.8 | 21.5 | 21.4 | 24.0 | 21.0 | 24.8 | 28.1 | 26.7 | 19.9 | 21.9 | 21.0 | 22.8 |
| F7 (Sep 12 – 18) | 24.2 | 21.1 | 19.0 | 21.1 | 20.2 | 18.2 | 19.7 | 23.6 | 18.0 | 14.9 | 24.4 | 22.7 | 26.4 | 27.4 | 20.3 | 21.4 |
| F8 (Sep 19 – 25) | 21.8 | 17.9 | 25.8 | 19.7 | 20.2 | 19.9 | 22.6 | 17.9 | 19.2 | 18.8 | 21.2 | 22.0 | 28.1 | 17.8 | 22.8 | 21.0 |
| F9 (Sep 26 – Oct 2) | 20.1 | 16.6 | 20.3 | 18.1 | 14.1 | 17.5 | 19.4 | 16.3 | 22.0 | 21.1 | 18.3 | 18.8 | 20.8 | 16.4 | 16.9 | 18.4 |
| F10 (Oct 3 – 9) | 20.9 | 17.0 | 18.9 | 14.6 | 14.3 | 14.5 | 17.6 | 16.0 | 18.0 | 16.8 | 14.2 | 19.9 | 21.4 | 15.3 | 14.5 | 16.9 |
| F11 (Oct 10 – 16) | 13.1 | 11.8 | 11.8 | 17.3 | 8.3 | 13.3 | 18.0 | 11.6 | 19.3 | 18.0 | 15.6 | 15.4 | 16.8 | 12.5 | 16.5 | 14.6 |
| F12 (Oct 17 – 23) | 9.9 | 10.1 | 20.1 | 9.0 | 8.9 | 11.1 | 12.2 | 15.2 | 14.1 | 11.2 | 10.4 | 14.0 | 18.9 | 9.4 | 12.7 | 12.5 |
| F13 (Oct 24 – 30) | 7.9 | 7.4 | 12.3 | 9.6 | 10.0 | 10.9 | 8.9 | 16.4 | 6.4 | 12.1 | 10.7 | 6.2 | 16.4 | 5.3 | 12.8 | 10.2 |
| F14 (Oct 31 – Nov 6) | 12.5 | 6.6 | 11.2 | 11.9 | 8.9 | 5.8 | 11.1 | 6.4 | 10.0 | 8.6 | 13.9 | 9.3 | 12.7 | 6.8 | 9.1 | 9.7 |
| Fall (Aug 1 – Nov 6) | 21.0 | 18.6 | 21.4 | 19.8 | 18.9 | 19.8 | 20.7 | 21.3 | 20.2 | 20.3 | 20.3 | 20.8 | 21.6 | 19.3 | 19.6 | 20.2 |

| Mean daily low | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|----------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| F1 (Aug 1 – 7) | 17.8 | 17.4 | 17.1 | 16.8 | 16.1 | 15.5 | 17.7 | 19.2 | 15.1 | 16.3 | 15.6 | 18.9 | 16.5 | 21.3 | 16.2 | 17.2 |
| F2 (Aug 8 – 14) | 19.2 | 12.4 | 15.3 | 14.6 | 16.7 | 16.9 | 17.2 | 18.2 | 16.2 | 15.8 | 15.6 | 17.6 | 16.4 | 18.7 | 16.1 | 16.5 |
| F3 (Aug 15 – 21) | 14.8 | 16.0 | 10.7 | 13.6 | 19.5 | 15.8 | 16.4 | 14.9 | 15.4 | 13.5 | 19.8 | 17.2 | 16.7 | 17.0 | 16.3 | 15.8 |
| F4 (Aug 22 – 28) | 14.2 | 11.8 | 16.0 | 13.3 | 13.9 | 14.9 | 15.0 | 17.7 | 15.4 | 16.2 | 15.6 | 17.6 | 12.3 | 17.1 | 14.0 | 15.0 |
| F5 (Aug 29 – Sep 4) | 16.3 | 12.1 | 12.2 | 16.2 | 12.3 | 19.9 | 16.6 | 14.2 | 15.8 | 17.0 | 15.9 | 14.3 | 10.6 | 17.6 | 13.4 | 15.0 |
| F6 (Sep 5 – 11) | 10.2 | 11.1 | 12.5 | 12.3 | 10.8 | 11.7 | 12.8 | 12.6 | 11.0 | 13.1 | 17.1 | 15.8 | 11.1 | 11.7 | 10.3 | 12.3 |
| F7 (Sep 12 – 18) | 16.6 | 12.6 | 7.3 | 10.5 | 9.4 | 9.5 | 10.2 | 10.2 | 9.3 | 6.0 | 15.1 | 11.6 | 15.1 | 15.8 | 9.7 | 11.3 |
| F8 (Sep 19 – 25) | 11.2 | 9.3 | 12.8 | 7.4 | 8.7 | 8.3 | 13.5 | 8.7 | 8.9 | 8.0 | 10.0 | 10.4 | 16.8 | 9.2 | 12.8 | 10.4 |
| F9 (Sep 26 – Oct 2) | 9.1 | 8.1 | 11.3 | 12.1 | 7.2 | 10.7 | 11.0 | 8.4 | 9.6 | 10.9 | 7.6 | 9.6 | 10.2 | 9.2 | 7.7 | 9.5 |
| F10 (Oct 3 – 9) | 10.9 | 5.6 | 9.5 | 3.8 | 9.3 | 6.2 | 7.6 | 7.7 | 8.6 | 8.6 | 5.3 | 7.9 | 11.9 | 6.5 | 4.7 | 7.6 |
| F11 (Oct 10 – 16) | 9.0 | 4.0 | 4.8 | 6.1 | 0.5 | 4.6 | 9.8 | 3.1 | 9.0 | 8.4 | 6.4 | 5.0 | 7.2 | 5.6 | 6.1 | 6.0 |
| F12 (Oct 17 – 23) | 3.1 | 3.6 | 8.6 | 0.5 | 0.0 | 1.4 | 6.7 | 6.6 | 5.2 | 6.2 | -0.1 | 6.7 | 7.0 | 0.7 | 4.4 | 4.0 |
| F13 (Oct 24 – 30) | 1.6 | 2.1 | 1.9 | 2.6 | 2.5 | 4.5 | 0.2 | 7.7 | -1.2 | 5.9 | 1.0 | 1.7 | 7.6 | -0.8 | 5.0 | 2.8 |
| F14 (Oct 31 – Nov 6) | 3.9 | -0.6 | 0.8 | 0.3 | 1.4 | 0.2 | -0.3 | 1.4 | 0.2 | 2.1 | 4.0 | 2.1 | 2.2 | 2.3 | 2.2 | 1.5 |
| Fall (Aug 1 – Nov 6) | 11.8 | 9.7 | 10.8 | 10.0 | 9.8 | 10.8 | 11.9 | 11.5 | 10.6 | 11.2 | 11.2 | 11.2 | 11.6 | 10.8 | 9.9 | 10.9 |

Over the 15 years of the FMMP, there has been only one year without any weeks that had mean daily highs at least 2 degrees Celsius above the long-term average for the period (2006), and one year without any mean daily highs at least 2 degrees Celsius below the long-term average for the period (2011). Overall, 2011 was the most typical year, with only one week out of 14 (Week 11) that deviated from the long-term average by more than 2 degrees Celsius; in contrast, 2017 was the most anomalous, with close to average mean daily high temperatures only during the first three weeks, then significantly colder than normal mean daily highs from Week 4 through Week 6, and substantially above average mean daily highs from Week 7 through Week 14.

Rainfall is variable throughout fall, and across years. Every week of the season has had at least one year with 3 mm of rain or less, and all weeks except Week 6 and Week 8 have had at least one year with at least 50 mm of rain. On average, the first half of August and late September to late October receive a bit more rain, but even during these periods there are many years with extended dry periods. The first and last years of the 15-year period were exceptionally wet, with the three rainiest weeks in each of those years accumulating more rain than the entirety of the driest season in 2014. There have been three other years with nearly identical low rainfall totals (2008, 2009, and 2013)

| Total rainfall (mm) | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|----------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| F1 (Aug 1 – 7) | 22 | 74 | 38 | 42 | 27 | 82 | 34 | 17 | 12 | 8 | 12 | 0 | 35 | 17 | 1 | 28.1 |
| F2 (Aug 8 – 14) | 7 | 8 | 1 | 19 | 7 | 20 | 69 | 27 | 21 | 47 | 80 | 52 | 8 | 17 | 26 | 27.3 |
| F3 (Aug 15 – 21) | 19 | 34 | 8 | 15 | 20 | 28 | 53 | 2 | 0 | 18 | 20 | 82 | 24 | 4 | 9 | 22.4 |
| F4 (Aug 22 – 28) | 12 | 38 | 22 | 1 | 18 | 9 | 68 | 1 | 17 | 1 | 1 | 3 | 10 | 26 | 17 | 16.3 |
| F5 (Aug 29 – Sep 4) | 75 | 14 | 12 | 1 | 10 | 3 | 18 | 12 | 38 | 16 | 0 | 9 | 28 | 17 | 65 | 21.1 |
| F6 (Sep 5 – 11) | 29 | 2 | 18 | 21 | 0 | 21 | 16 | 12 | 18 | 15 | 16 | 20 | 21 | 27 | 17 | 16.9 |
| F7 (Sep 12 – 18) | 36 | 12 | 8 | 17 | 4 | 24 | 39 | 37 | 39 | 22 | 52 | 3 | 0 | 0 | 7 | 20.0 |
| F8 (Sep 19 – 25) | 5 | 24 | 0 | 0 | 16 | 24 | 11 | 18 | 18 | 8 | 12 | 4 | 0 | 39 | 6 | 12.3 |
| F9 (Sep 26 – Oct 2) | 42 | 28 | 22 | 14 | 29 | 91 | 52 | 26 | 0 | 0 | 38 | 5 | 6 | 17 | 68 | 29.2 |
| F10 (Oct 3 – 9) | 71 | 10 | 17 | 12 | 43 | 23 | 3 | 18 | 19 | 49 | 7 | 18 | 48 | 19 | 16 | 24.9 |
| F11 (Oct 10 – 16) | 81 | 20 | 12 | 4 | 7 | 57 | 39 | 26 | 16 | 14 | 26 | 20 | 11 | 19 | 15 | 24.5 |
| F12 (Oct 17 – 23) | 19 | 86 | 58 | 18 | 28 | 6 | 27 | 38 | 16 | 12 | 9 | 97 | 0 | 2 | 81 | 33.1 |
| F13 (Oct 24 – 30) | 28 | 47 | 27 | 62 | 20 | 21 | 3 | 11 | 7 | 13 | 59 | 26 | 63 | 14 | 38 | 29.3 |
| F14 (Oct 31 – Nov 6) | 11 | 2 | 11 | 0 | 10 | 13 | 7 | 7 | 50 | 7 | 8 | 12 | 49 | 48 | 74 | 20.6 |
| Fall (Aug 1 – Nov 6) | 445 | 398 | 242 | 227 | 229 | 410 | 432 | 245 | 223 | 222 | 338 | 351 | 302 | 266 | 440 | 318.0 |

4.4.3. Results

FMMP results from 2005 to 2019 are summarized in Table 4.5, with additional detail at a weekly scale provided in Appendix C.

Station effort and capacity increased steadily over the first six years of the Fall Migration Monitoring Program, but has fluctuated only modestly since 2011. This is most distinctly reflected in the number of days with full net coverage, given that in the early years there were fewer volunteers trained as extractors, and for the sake of bird safety it was necessary to scale back operations during busy periods. Once the base of skilled participants was built up, net closures in later years were primarily because of rain or high winds. Hours of observation by experienced birders also increased over time, having some influence on the consistency of incidental observations, but this too has largely stabilized since around 2010-2011.

In 9 of 15 years, the number of individuals banded in fall was within 500 of the long-term average of 3627. It was lower in 2007, 2011, 2017, and 2019, ranging between 2774 and 2877. There were two exceptionally high totals, 5100 in 2008, and 6808 in 2010, both largely a result of a tremendous influx of Yellow-rumped Warblers (without them, the totals would have been 3368 and 4449, respectively, and the 15-year average would be 3354).

The number of species has mostly been more consistent, between 74 and 78 in 11 of 15 years, though spiking to between 82 and 86 in four years between 2012 and 2018. The number of species observed has been within 5 of the long-term average of 146 in 12 of 15 years, lower only in 2006 (134) and 2010 (140), and higher only in 2005

(152). The total has been above average in 5 of the past 6 years. Overall, 203 of the 222 species observed at MBO have been recorded at least once in fall.

The number of returns has generally increased over time, reflecting in part the larger pool of previously banded birds potentially available for recapture. Many fall returns are individuals previously captured during the spring program that have actually been present throughout summer and qualify as a return simply because >90 days have elapsed since previous capture. Only a few are true returns in that they are migrants from farther north stopping at MBO in multiple years.

The number of repeats in fall has varied considerably, from a low of 413 in 2006 to a high of 1089 in 2012. In relative terms, the number of repeats has been equal to 18% to 23% of the fall banding total in 11 years, lower only in 2005 (15%), 2006 (13%), and 2010 (13%), and higher only in 2012 (27%).

Table 4.5: FMMP summary statistics 2005-2019.

| | 2005 | 2006 | 2007 | 2008 | 2009 | | |
|--------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-------------|
| # individuals (species) banded | 3226 (78) | 3280 (76) | 2877 (77) | 5100 (77) | 3391 (75) | | |
| # individuals (species) return | 43 (13) | 31 (9) | 46 (12) | 32 (14) | 43 (18) | | |
| # individuals (species) repeat | 480 (42) | 413 (38) | 561 (43) | 933 (48) | 605 (39) | | |
| # species observed | 152 | 134 | 144 | 141 | 144 | | |
| # net hours | 3805.1 | 4423.1 | 5422.9 | 5607.1 | 5837.4 | | |
| # birds banded / 100 net hours | 84.8 | 74.2 | 53.1 | 91.0 | 58.1 | | |
| # days operating | 88 | 91 | 91 | 91 | 91 | | |
| # days banding | 66 | 84 | 86 | 85 | 87 | | |
| # days with full net coverage | 30 | 27 | 51 | 45 | 53 | | |
| | 2010 | 2011 | 2012 | 2013 | 2014 | | |
| # individuals (species) banded | 6808 (74) | 2792 (78) | 4064 (86) | 3341 (77) | 3818 (77) | | |
| # individuals (species) return | 44 (20) | 40 (15) | 87 (24) | 53 (18) | 61 (20) | | |
| # individuals (species) repeat | 876 (44) | 604 (45) | 1089 (52) | 759 (46) | 848 (49) | | |
| # species observed | 140 | 146 | 148 | 147 | 150 | | |
| # net hours | 6041.5 | 6393.1 | 6788.3 | 6489.3 | 6422.8 | | |
| # birds banded / 100 net hours | 112.7 | 43.7 | 59.9 | 51.5 | 59.4 | | |
| # days operating | 91 | 91 | 91 | 91 | 91 | | |
| # days banding | 87 | 85 | 91 | 87 | 88 | | |
| # days with full net coverage | 59 | 69 | 71 | 69 | 64 | | |
| | 2015 | 2016 | 2017 | 2018 | 2019 | Average | Total |
| # individuals (species) banded | 3151 (84) | 3417 (82) | 2824 (76) | 3542 (83) | 2774 (78) | 3627 (79) | 54405 (108) |
| # individuals (species) return | 66 (23) | 78 (22) | 52 (24) | 76 (20) | 55 (18) | 54 (18) | 807 (39) |
| # individuals (species) repeat | 724 (47) | 771 (49) | 591 (47) | 694 (50) | 596 (48) | 703 (46) | 10544 (76) |
| # species observed | 151 | 150 | 151 | 148 | 145 | 146 | 203 |
| # net hours | 7093.2 | 6761.5 | 6626.5 | 6508.6 | 6814.8 | 6069.0 | 91035.1 |
| # birds banded / 100 net hours | 44.4 | 50.5 | 42.6 | 54.4 | 40.7 | 61.4 | 59.8 |
| # days operating | 98 | 98 | 98 | 98 | 98 | 93.1 | 1397 |
| # days banding | 94 | 91 | 88 | 89 | 92 | 86.7 | 1300 |
| # days with full net coverage | 76 | 73 | 79 | 72 | 67 | 60.3 | 905 |

Figure 4.6 shows that on average, the number of species observed daily on census during fall peaks in early August and gradually decreases over the next two months, dropping off at a slightly more rapid rate in October. Average counts are lower in fall than spring, beginning in the 25-28 species range, and ending around 16-20 species. The five-year averages do not show much in the way of consistent patterns, other than in October the counts tended to be slightly higher in the early years, and a bit lower in recent years. The three-day running average has briefly exceeded 35 species in only three years: 2005 (twice), 2012, and 2015.

Figure 4.7 shows a largely similar pattern for the mean total number of species observed daily in fall, but with two key differences. Rather than the average count declining steadily from near the start of the season, it increases marginally over the first half of August, and then remains around a plateau of approximately 45 species until early October. At that point there is a sharper decline than shown in the census results, dropping to around 30-35 species within the span of just two weeks, and then remaining at that level for most of the rest of the season. Curiously, since the fall season was extended in 2015, there has been a rebound in species diversity over the first few days of November. In this plot, it is apparent the number of species observed daily has consistently been higher in recent years, and lowest in the early years, with the contrast most notable from late August to mid-September. The three-day running mean was always below 60 species over the first 10 years, but has exceeded that level at least once per fall since 2015.

Figure 4.8 summarizes the number of species banded daily throughout fall. There is considerable variability in data from year to year, especially in the first half of the season. Overall, the average count hovers around 13-15 species for most of August and September, then drops by roughly one-third between October 4 and 8, and thereafter declines more gradually until the end of the season. The count has tended to be slightly higher in August in recent years, offsetting below average counts during the early years; over the rest of the season the most notable deviation from the overall pattern is some higher peaks in September during the middle years. The three-day running mean has exceeded 25 species only once in 15 years, on 21 September 2005.

Figure 4.9 shows that for most of fall, the long-term average number of birds banded daily is less than 50, rising above that level only from September 22 through October 11, peaking at 91 on October 3. However, there is considerable variability, with the three-day running average exceeding 50 individuals as early as the first week of August in some years, and rarely as late as the final week of October. It has gone above 150 in only three years: 2008, 2010, and 2012. Over the second half of fall, numbers are somewhat below average in recent years, largely because this is the only five-year period that has not included an influx of Yellow-rumped Warblers.



White-crowned Sparrow (left) is among the species that has shown substantial declines in fall over the years; Yellow-throated Vireo (right) is among the few species that has been observed at MBO only once.

(Photos by Simon Duval)

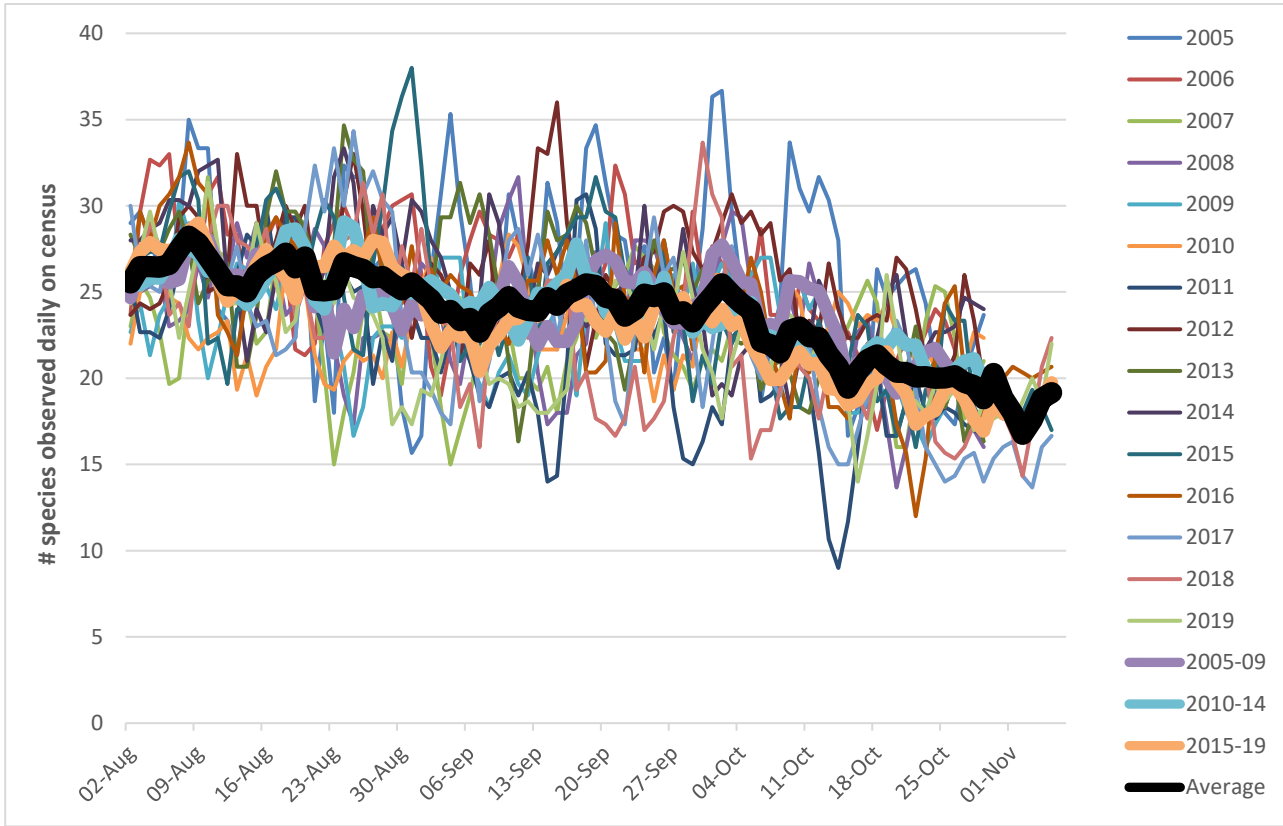


Figure 4.6: Running three-day mean of the daily species count on census throughout fall.

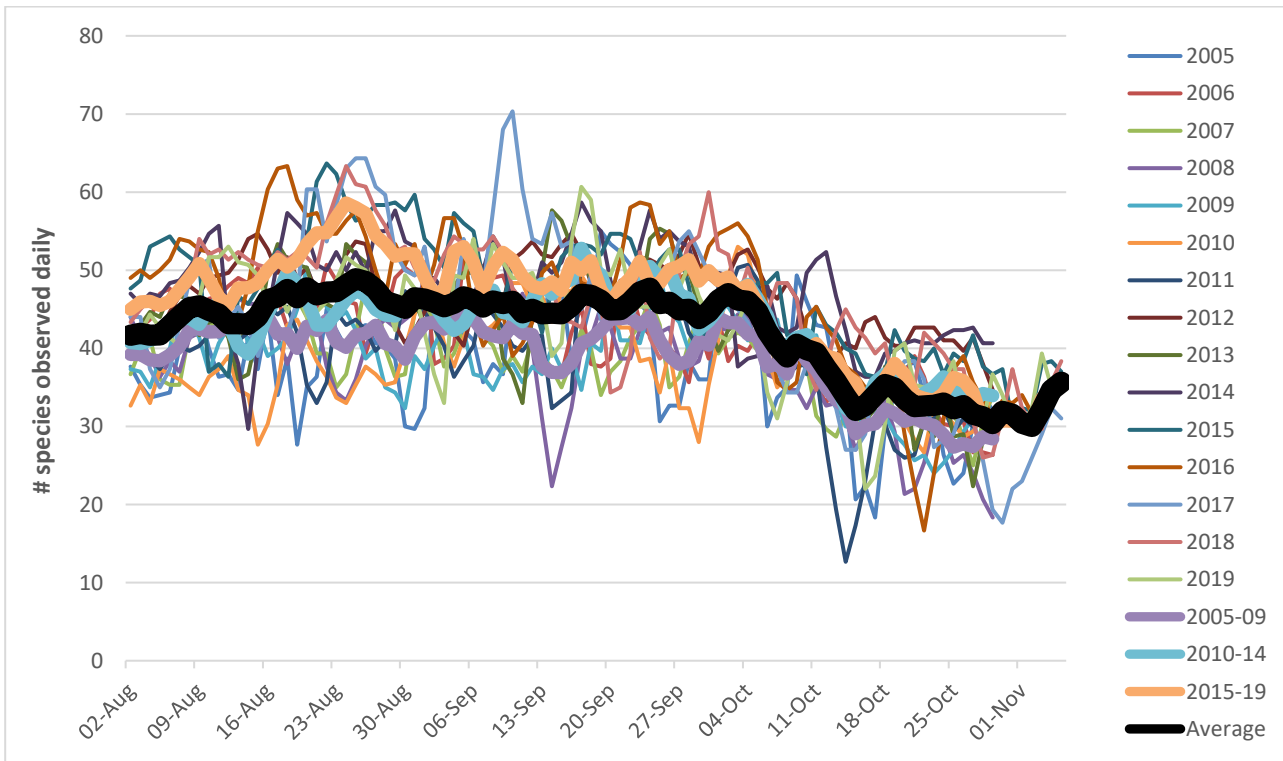


Figure 4.7: Running three-day mean of the number of species observed daily throughout fall.

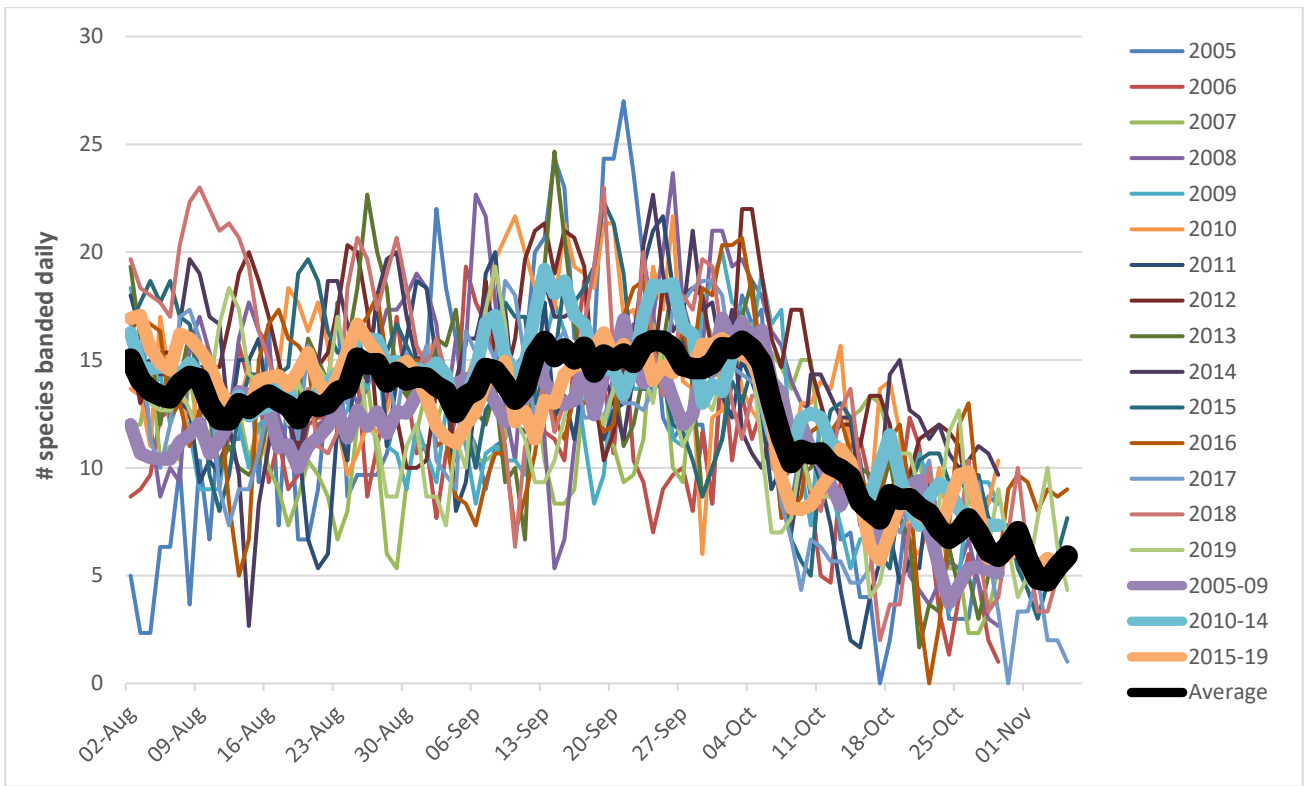


Figure 4.8: Running three-day mean of the number of species banded daily throughout fall.

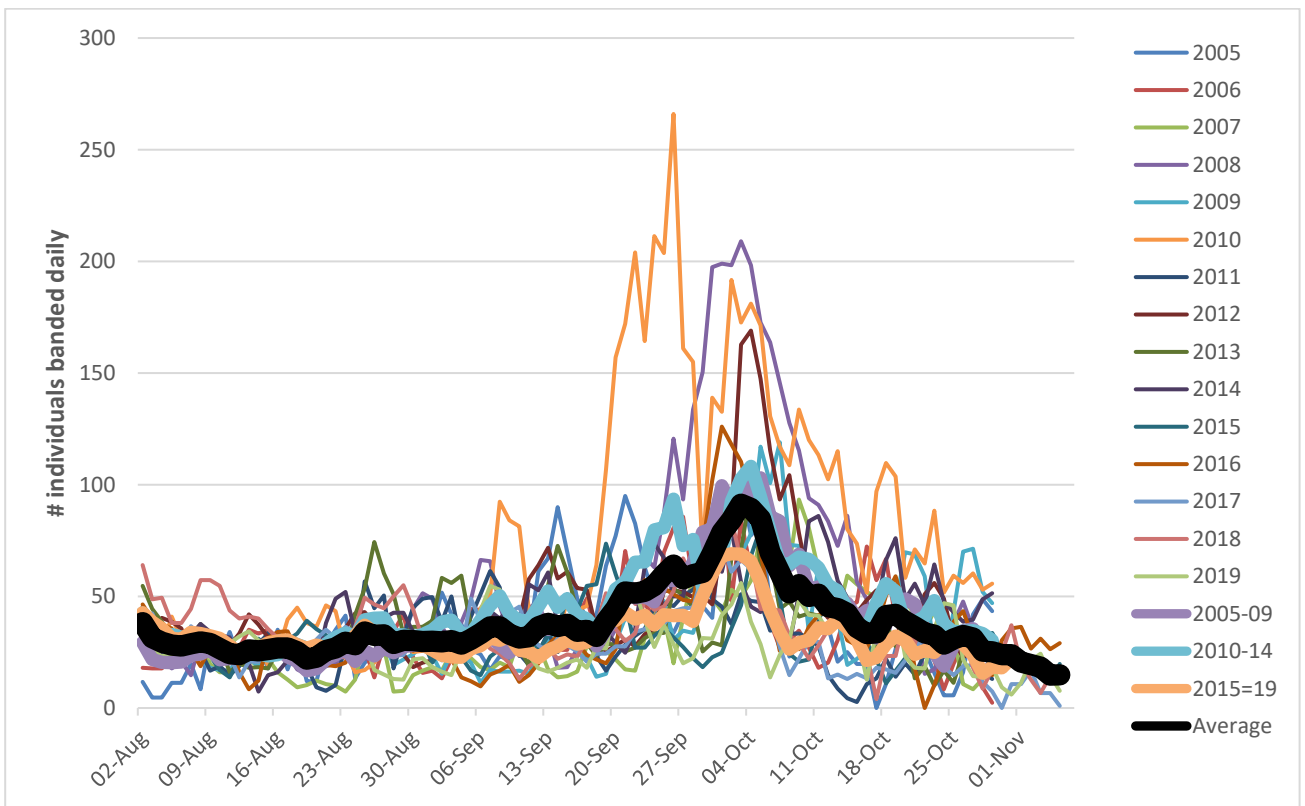


Figure 4.9: Running three-day mean of the number of individuals banded daily throughout fall

4.4.4. Annual notes

2005 marked the first full year of FMMP, and based on the previous year's pilot season, the plan was to conduct census daily from the beginning of August, but to only begin daily banding at the start of the fifth week, on August 29. However, due to the high number of birds detected right from the start of the season, an effort was made to achieve at least partial banding coverage during the first four weeks as well. In all, full coverage was achieved on 66 days, fewer than in any subsequent year. Fourteen mist nets were used for most of the season (A1; B1, B2, B3, B4; C1, C2; D1, D2, D3; E1; G1, G2; H1); the two F nets that had been used in spring 2005 were omitted due to low capture rates and distance from the banding cabin. Temperatures were above average in the first half of August and from mid-September to early October; the mean daily highs for Weeks 2, 7, and 10 were higher than in any other year. However, the final three weeks of fall were all much cooler than usual, on average more than 2°C below the ten-year mean. Fall 2005 was the wettest on record for MBO, with total rainfall almost 50% above the ten-year mean, and four weeks (5, 6, 10, and 11) with record high amounts of rain; three weeks had over 70 mm of rain, out of just seven such weeks throughout all of fall from 2005 to 2014. The daily banding total exceeded 100 individuals on 6 days, with the highest count of 132 occurring on October 2. The high count of 28 species banded in a day occurred five times (August 15, September 15, 18, 21, and 22) and marked a high that would stand for three years. The season total of 151 species observed remains the highest for any season at MBO, and includes a peak of 62 species on both September 11 and 18, the highest of any fall day until 2013. In terms of banding, sparrows were dominant, taking three of the top six places among species banded (as in 2005, 2009, and 2012). Banding totals for Nashville Warbler and Northern Parula have never since been matched. Hatch-year birds accounted for 79% of the total.

In 2006, as in all subsequent years, there was banding throughout the season, aside from weather restrictions. However, days defined as having full coverage remained relatively few given that the volunteer base was still developing, and observer effort was often relatively limited compared to later years. Fifteen primary nets were used this fall, with several changes from 2005: G1 and G2 were retired due to distance from the banding cabin; A2, E2, and H2 were added to existing productive locations within the core net area; and N1 and N3 replaced B1 and B4 due to assessment of relative capture rates among the eight B/N nets. In addition, there was experimentation for part of the season with nets K1/K2 and L1/L2, but these had limited success and were discontinued. It was again an unusually wet season, with August the fourth rainiest in Montreal over the past 65 years, and October the third rainiest over the same period; this reduced full coverage to 72 of 91 days. It was also the coolest fall season over MBO's 15 years, with the lowest mean daily high temperatures for the period in Weeks 2 and 4, and near-record cold also in Weeks 5, 6, and 8, plus temperatures at least 1°C below the ten-year mean in four other weeks. Over 100 individuals were banded on four days this fall, with a peak of 157 on September 30. The total number of species observed in fall 2006 was only 134, substantially lower than in 2005, and the lowest of any fall season; diversity peaked at 57 on two dates. Yellow-rumped Warbler vaulted into top spot among species banded with 522 individuals, more than triple the previous year's total, but there were also more Ruby-crowned Kinglets banded than in any other fall. Although Song Sparrow numbers increased, sparrows overall were less dominant than in 2005, and this was one of just three years (also 2011 and 2013) with only two sparrows among the top ten banded for fall. Record banding totals for Ruby-crowned Kinglet, Common Grackle, Baltimore Oriole, and Blackburnian Warbler still stand. Hatch-year birds accounted for 84% of all individuals banded this fall.

Nets used in 2007 were the same core group of 15 as in fall 2006, with the only change being that the only remaining 18 m long nets at A1 and D1 were permanently switched to 12 m long nets. In contrast to 2006, the fall of 2007 was the third warmest between 2005 and 2019, with record high temperatures in Week 12, and weekly mean high temperatures more than 1°C above average in six other weeks. Fall 2007 also was very different from the two previous years in that it was the first of three in a row with rainfall well below the long-term average. This allowed for more extensive coverage, but also caused the ponds on site to largely dry up, reducing the attractiveness of the habitat to wetland birds. All the same, the total number of species observed rebounded to 144, though the highest single day count was again 57. There were only three days with over 100

birds banded, with a relatively late peak of 138 on October 10. The number of Yellow-rumped Warblers banded plummeted to 68, just over 10% of the 2006 total, and warblers in general were scarce, with just two species squeaking into the bottom of the list of top ten species banded, fewer than in any other fall except 2016. However, sparrows were more prominent again, with four species in the top ten, and American Goldfinch in seventh place marked the only appearance by a finch in the top ten in fall in any year. Notable all-time banding record highs include Downy Woodpecker, Hairy Woodpecker, Least Flycatcher, House Wren, Swamp Sparrow, and Orange-crowned Warbler. Hatch-year birds represented 78% of the total banded this fall.

Sixteen nets were used in fall 2008, including the addition of D4 to the previous core set of 15 nets; this array has been used consistently in all years since. Weather was again favourable in 2008, with rainfall more than 25% below the long-term mean for the season, as well as in 8 of 13 weeks. While the first two weeks of the season were much cooler than usual, temperatures largely oscillated around average for the rest of fall. The defining element of this season was the remarkable influx of Yellow-rumped Warblers, with 1732 individuals banded, more than triple the previous high count for any species in fall. However, many other species were also unusually abundant, with 29 species setting new fall records, including 12 other warblers. Notable records that still stand after 15 years include Traill's Flycatcher, Warbling Vireo, Pine Siskin, Savannah Sparrow, Black-throated Green Warbler, and Wilson's Warbler. The daily banding total exceeded 100 birds on 14 occasions, including five 200+ bird dates between September 29 and October 5, peaking at 240 on October 2. Totals could have been even higher, but on several days nets had to be shut down temporarily to control volume as there had been no reason to anticipate needing so many qualified extractors on site. Meanwhile, a couple of weeks before the peak in migrant abundance, a new single-day record for diversity was set with 30 species banded on September 7. However, the daily estimated total peaked at 54 on September 10, the lowest for any fall season to date. For the first time, warblers accounted for half the species among the ten most frequently banded during the season. Hatch-year birds were 84% of the total banded this fall.

In 2009 there was more rain than usual in Weeks 8 and 10, affecting effort in a couple of the core weeks of the season. It was also an unusually cold fall, most notably with record low temperatures in Weeks 9, 11, and 12. Coverage this fall was the highest to date, due to a combination of decent weather for much of the season, increased volunteer capacity, and fewer days with a large number of birds triggering reduced operations. As occurred in 2007 following the peak of Yellow-rumped Warblers in 2006, there was a dramatic decline in the number banded, from 1732 in 2008 to 106 in 2009. This alone nearly accounts for the difference in season totals between the two years. The number of days with over 100 individuals banded dropped back down to 6, peaking at 166 birds on October 8. This year the biggest surprise was the abundance of Hermit Thrushes, with 86 individuals banded (all of them hatch-year birds), more than double the total from any previous fall season. Only six banding totals from 2009 still stand as records: Yellow-shafted Flicker, Blue-headed Vireo, Red-breasted Nuthatch, Song Sparrow, Red-winged Blackbird, and Black-throated Blue Warbler. As in 2007, warblers were relatively scarce, with only three species barely cracking the 100-birds banded mark. In contrast, sparrows took all three top places for the first and only time, with White-throated Sparrow (428) outnumbering Dark-eyed Junco (361) and Song Sparrow (322). Species diversity peaked unusually early, on August 21, at 56 species. Again this fall, 84% of birds banded were hatch-year individuals.

Fall 2010 was overall a bit cooler than normal, with six weeks at least 1°C below the long-term mean, but contrasting with this was the mean daily high of 29.8°C in Week 5, tied with Week 1 of 2016 as the hottest in MBO's history for fall, and almost 5°C above the mean for that period. Rainfall was 80% higher than the previous two years, including two of the five rainiest weeks in MBO's history, in Weeks 1 and 9. Despite losing some effort to rain, the number of days and hours banding reached new record highs, and fall 2010 shattered previous records with 6808 birds banded, strongly driven by record numbers of Yellow-rumped Warbler (2359), Dark-eyed Junco (509), Black-capped Chickadee (440), and American Robin (394) – all of which have yet to be eclipsed. Other species with records still standing from 2010 are Fox Sparrow, House Finch, Black-and-white Warbler, Western Palm Warbler, Canada Warbler, and Indigo Bunting. There were an unmatched 24 days with 100 or

more individuals banded, including 7 days with more than 200, peaking at 315 on September 25, which remains the single-day record for MBO. Species diversity peaked on October 3, at 55 species. The percentage of hatch-year birds banded this fall was particularly high, at 89%.

Temperatures in 2011 fluctuated around normal levels, but it was the third-wettest fall, with record high rainfall in Week 4, and far above average amounts in several other weeks in the first half of the season. Again though effort reached new highs in terms of both net hours and days with full coverage, reflecting the growth in number of experienced volunteers, which allowed full operations except when constrained by weather; this has largely remained true across subsequent years. However, banding results were incredibly meager, with the total of 2792 banded nearly 60% fewer birds than in the previous fall. There was only one day with more than 100 individuals banded, 112 on August 26. Banding totals were at or near record lows for five of the six species that have dominated the fall program overall; among them, just Magnolia Warbler was present in slightly above-average numbers. This was the only fall in which six warbler species were among the top ten banded. Chipping Sparrow, Yellow Warbler, Blackpoll Warbler were banded in greater numbers than any other year. Species diversity peaked on September 18, at 62 species. Hatch-year birds again accounted for 90% of all individuals banded this fall.

2012 was nearly as warm as 2007, with record high mean weekly temperatures in Weeks 4, and 13, and temperatures more than 1°C above the ten-year mean in another five weeks. After two unusually wet years, rainfall dropped off sharply to below average levels, with August particularly dry, and there were more days with full coverage than in any other fall. White-throated Sparrow, Ruby-crowned Kinglet, and Yellow-rumped Warbler all rebounded significantly from last year's low counts, driving the 2012 banding total to above average levels, aided also by another Black-capped Chickadee migration and an influx of Swainson's Thrushes that more than quadrupled the previous fall record for the species. Notable all-time banding records were set for White-breasted Nuthatch, Brown Creeper, Hermit Thrush, Lincoln's Sparrow, and Common Yellowthroat. There were 5 days with more than 100 individuals banded, including one day with over 200 (a peak of 241 birds on October 4). Species diversity peaked at 60 on three dates: August 14, August 25, and September 24. Hatch-year birds dropped to 80% of individuals banded this fall.

2013 was the driest fall season yet, especially the final five weeks of the season, during which rainfall overall was only 41% of the ten-year mean. For most of that period temperatures were also well above average, including record highs in Weeks 9 and 11, but the first half of the season was largely cooler than usual. It was largely an average year with respect to birds banded, although the count of Cape May Warblers more than doubled the previous high, and there were modest new records for a number of other species including Magnolia Warbler, Tennessee Warbler, and Golden-crowned Kinglet. The records for the three warblers still stand, as does the high count of Cedar Waxwings banded this fall. Although Song and White-throated Sparrow numbers were close to average, many other sparrows were scarcer than usual, and this was one of just three fall seasons with only two sparrow species among the top ten banded. There were two days with more than 100 individuals banded, peaking at 150 birds on October 3. Species diversity peaked on September 25, at 65 species, the highest ever count in fall. Hatch-year birds were 82% of the total banded this fall.

2014 was another dry fall, edging out 2013 for the record by 1 mm; there were only two weeks throughout the season with more than 25 mm of rain, compared to eight with 15 mm or less. Temperatures were at a record low in Week 7, but three of the final five weeks of fall had above average highs. The overall count of birds banded was close to the long-term mean. There were four days with more than 100 individuals banded, peaking at 121 birds on September 29. The top ten species banded this fall included three sparrows and four warblers, but the only species on that list with a record count was Red-eyed Vireo. However, seven other species reached all-time banding high totals in fall 2014: Sharp-shinned Hawk, Philadelphia Vireo, Blue Jay, Winter Wren, Gray Catbird, American Tree Sparrow, and Northern Waterthrush. Species diversity peaked at 62 species on August 19 and September 27. Hatch-year birds accounted for 79% of all individuals banded this fall, the lowest since 2007.

The seasonal weather statistics for fall 2015 were very close to the long-term means in terms of both temperature and precipitation. Temperatures fluctuated below and above average at a weekly scale, most notably reaching record highs in Week 14. The number of birds banded was the fewest since 2011, despite the addition of Week 14 for the first time. However, 84 species were banded, the second-highest count for fall across all years. Veery, Brown Thrasher, and Mourning Warbler were banded in greater numbers than any other year. For the first time there were two thrushes among the top five species banded, with American Robin and Swainson's Thrush; other dominant species were White-throated Sparrows, Ruby-crowned Kinglet, and Magnolia Warbler. For the first time ever, there were no days in fall with 100 or more birds banded. The peak count of 70 species on August 22 was five more than the previous season high set two years earlier. Of the birds banded this fall, 83% were hatch-year, the most since 2011.

Overall, weather in fall 2016 was quite similar to the long-term means for the season for a second year in a row, although slightly warmer and with a bit more rain than in 2015. The first two weeks of the season were unusually hot, whereas Week 13 was near record cold. Over half of the season's rain fell in Weeks 3 and 12, with many of the other weeks being substantially drier than average. The banding total rebounded somewhat compared to 2015, and although two fewer species were banded, the total of 82 was still above average. Species with notable all-time records for banding this fall included Golden-crowned Kinglet, White-throated Sparrow, and Northern Cardinal. This was the only fall to date with both kinglets and Black-capped Chickadee all among the top ten species banded; conversely, it was also the only fall with fewer than three warbler species in the top ten (only American Redstart and Magnolia Warbler). There were five days with a daily banding total of more than 100 individuals, all consecutively from 30 September through 4 October. For the second year in a row, a new all-time high daily species count was established for fall, with 72 species observed on August 8. Hatch-year birds accounted for 81% of the season banding total.

Fall 2017 was the warmest to date, and it was the only year during which no below-freezing temperatures were recorded before the end of fall. Curiously, temperatures were close to average for the first three weeks, then considerably below average for the next three weeks, before being substantially above average for the remaining eight weeks, including record highs in Weeks 8, 10, and 13. Rainfall for the season was only marginally below average, with one-third of it coming over the final two weeks. It was a poor fall for banding, with only slightly more individuals banded than the previous low in 2011, despite the extra contribution of Week 14; the 76 species banded was also below average, and the fewest since 2010. The only species banded in greater numbers in 2017 than all other years was Eastern Phoebe. It was another good year for kinglets though, only the third time that both species were among the top ten banded. For the first time ever, three of the top five species were warblers: Magnolia, American Redstart, and Yellow-rumped. The busiest day of fall fell just short of 100 individuals banded, with 99 on 30 September. An incredible 85 species were observed on September 9, 13 more than on any other day in fall across all 15 years. An above-average 85% of individuals banded were hatch-year individuals.

In sharp contrast to the previous year, fall 2018 was the third-coldest overall, including a record-tying low of -5C. Reversing the pattern from 2017, temperatures were near or above average for the first seven weeks of fall, including a record warm mean high in Week 7, but then far below average in all remaining weeks, including a record cold mean daily high in Week 13. It was the driest fall in four years, over 50 mm below the average rainfall for the season, and only one week with more than 40 mm of rain. The number of birds banded was the most since 2014, and ranked fifth out of 15 years; the 83 species banded was only slightly fewer than in 2012 and 2015. Seven species set new fall banding total records of >40 individuals: Red-eyed Vireo, Swainson's Thrush, Purple Finch, American Goldfinch, American Redstart, Chestnut-sided Warbler, and Rose-breasted Grosbeak. For the second time, both American Robin and Swainson's Thrush were among the top five species banded. This fall only the peak date of 3 October exceeded 100 individuals banded. The peak of diversity for the season was 70 species observed on August 23. Only 78% of individuals banded this fall were hatch-year, tying 2007 for the lowest proportion ever.

In fall 2019, weekly temperatures were close to average throughout most of the season, although overall somewhat colder than usual. There was much more rain than average, only 5 mm less than the record set in 2005; the final three weeks alone accounted for nearly 200 mm of rain, over 60% of the long-term average season total. Fewer birds were banded than in any previous year, although the number of species involved was only one below average. However, new season banding record highs were still set for five species: Yellow-bellied Flycatcher, Wood Thrush, Ovenbird, and Bay-breasted Flycatcher. For the sixth time, White-throated Sparrow and Ruby-crowned Kinglet ranked first and second for the season in terms of banding totals. For the third time in five years, there were no days with a banding total reachin 100 individuals; the highest was 88 on 18 October, the latest fall peak ever by more than one week. The highest daily estimated total of the season was 68 on species on September 17, the lowest and latest peak since 2014. An above-average 86% of individuals banded this fall were hatch-year, lower only than the proportions in 2010 and 2011.

4.4.5. Summary

The Fall Migration Monitoring Program has been operated consistently throughout MBO’s 15-year history, with the only notable change over time being the addition of a fourteenth week beginning in 2015. As fall migration is generally slower than in spring, variability in weather across years likely has less of an influence on results, and changes in numbers over time are likely to be particularly reflective of underlying population trends.

Of the 108 species banded in fall, the top five are Yellow-rumped Warbler (5968; 11%), White-throated Sparrow (5240; 10%), Ruby-crowned Kinglet (4578; 8%), Magnolia Warbler (3044; 6%), and American Robin (3034; 6%); collectively they account for just over 40% of the 54,405 individuals banded during the season. The 203 species observed in fall is more than in any other season. As in winter and spring, Canada Goose greatly outnumbers all other species, comprising 28% of all observations. Taking into consideration American Robin (12%) and Red-winged Blackbird (10%), the top three species account for half of all birds counted in fall. Common Grackle and American Crow each represent another 7% of the total.

Without exception, annual fall banding totals have fluctuated between lows in “odd” years and highs in “even” years (Figure 4.10). Typically, the differences have been within a range of 5-20%, but with notable exceptions related to the dramatic peaks in 2008 and 2010, both driven primarily by influxes of Yellow-rumped Warblers. The mechanisms behind this periodicity remain unclear, and warrant further investigation. A polynomial fit to the fall totals suggests a declining trend, but it would be more subtle if not for the two peak years.

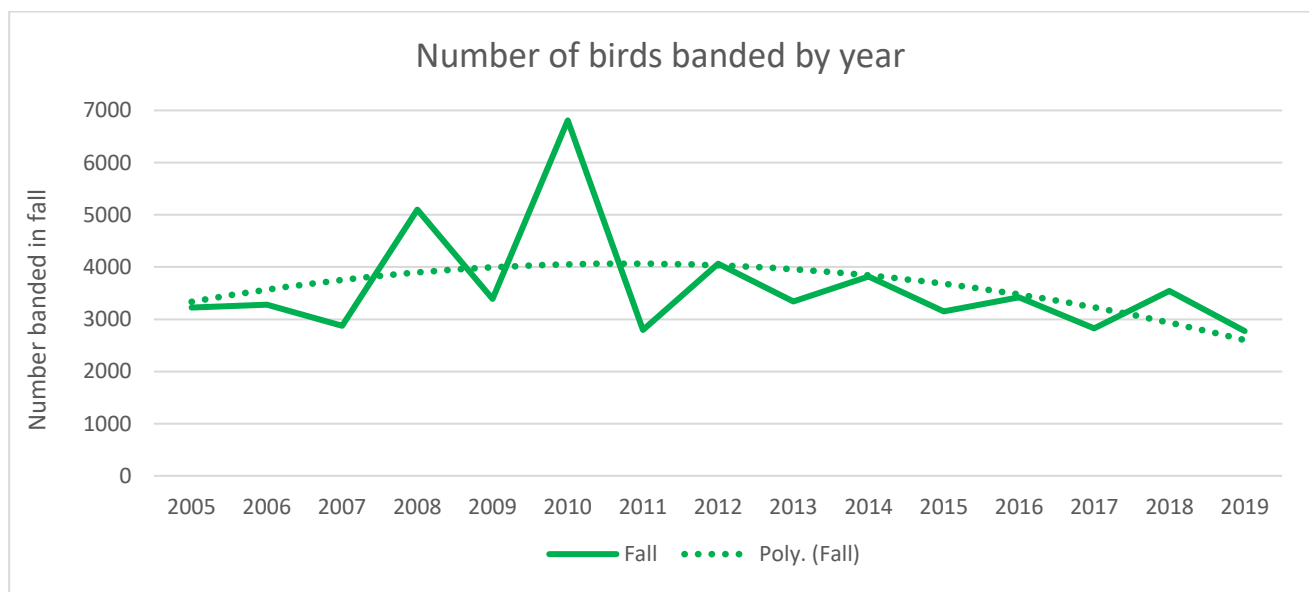


Figure 4.10: Annual fall banding totals from 2005 to 2019, fitted with a polynomial curve.

4.5. Northern Saw-whet Owl Migration Monitoring Program

Monitoring the fall migration of Northern Saw-whet Owls was the original inspiration behind establishing MBO, but during the initial pilot season in 2004 results were disappointing, whereas passerine numbers exceeded expectations. The owl program therefore became a secondary priority, and was skipped in 2006 and 2008 when resources were too limited to operate both studies effectively. However, it has been undertaken annually since 2009, and has received nightly coverage (weather permitting) over a standard six-week period (September 26 – November 6) since 2010, with supplementary effort later into November in 2007 and 2009-2012.

4.5.1. Objectives and protocol

The primary objective of this program is to contribute to knowledge of the population dynamics and movements of the Northern Saw-whet Owl. Due to the large number of saw-whet banders in eastern North America, most of them members of Project OwlNet (www.projectowl.net), the recovery rate for these owls is much higher than for any passerines, and therefore even non-standardized programs can make significant contributions. Although basic principles have been followed consistently since the start of owling at MBO (i.e., beginning 30 minutes after sunset, using an audiolure as per Whalen and Watts (1999), checking nets every 30-45 minutes, avoiding operation in rain or high winds, and collecting standard data on all owls), it was not until 2010 that effort was standardized to nightly operation (weather permitting) over the six-week period from September 26 to November 6. In contrast, owling over the first five years was considerably constrained by limitations on volunteer availability. Net locations have also changed over time, from the ridge along the back ponds (2005 and 2007) to a dedicated array of owl nets in and around the spruce/fir stand in the main meadow (2009 to present).

4.5.2. Weather

As the owl banding season fully overlaps the FMMP, the summary tables below are abbreviated versions of those presented in Section 4.4.2, other than the season averages are recalculated for this shorter period. Doing so highlights that 2006, 2009, 2010, and 2018 were all colder than average throughout most to all of the season, whereas in 2017 temperatures were substantially warmer than usual in all six weeks. Precipitation is even more variable, with the wettest year (2019) receiving more than three times as much rain during the owl banding season than in the driest year (2014).

| Mean daily high | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| F9 (Sep 26 – Oct 2) | 20.1 | 16.6 | 20.3 | 18.1 | 14.1 | 17.5 | 19.4 | 16.3 | 22.0 | 21.1 | 18.3 | 18.8 | 20.8 | 16.4 | 16.9 | 18.4 |
| F10 (Oct 3 – 9) | 20.9 | 17.0 | 18.9 | 14.6 | 14.3 | 14.5 | 17.6 | 16.0 | 18.0 | 16.8 | 14.2 | 19.9 | 21.4 | 15.3 | 14.5 | 16.9 |
| F11 (Oct 10 – 16) | 13.1 | 11.8 | 11.8 | 17.3 | 8.3 | 13.3 | 18.0 | 11.6 | 19.3 | 18.0 | 15.6 | 15.4 | 16.8 | 12.5 | 16.5 | 14.6 |
| F12 (Oct 17 – 23) | 9.9 | 10.1 | 20.1 | 9.0 | 8.9 | 11.1 | 12.2 | 15.2 | 14.1 | 11.2 | 10.4 | 14.0 | 18.9 | 9.4 | 12.7 | 12.5 |
| F13 (Oct 24 – 30) | 7.9 | 7.4 | 12.3 | 9.6 | 10.0 | 10.9 | 8.9 | 16.4 | 6.4 | 12.1 | 10.7 | 6.2 | 16.4 | 5.3 | 12.8 | 10.2 |
| F14 (Oct 31 – Nov 6) | 12.5 | 6.6 | 11.2 | 11.9 | 8.9 | 5.8 | 11.1 | 6.4 | 10.0 | 8.6 | 13.9 | 9.3 | 12.7 | 6.8 | 9.1 | 9.7 |
| Owling (Sep 26 – Nov 6) | 14.1 | 11.6 | 15.8 | 13.4 | 10.8 | 12.2 | 14.5 | 13.7 | 15.0 | 14.6 | 13.9 | 13.9 | 17.8 | 11.0 | 13.8 | 13.7 |
| Mean daily low | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
| F9 (Sep 26 – Oct 2) | 9.1 | 8.1 | 11.3 | 12.1 | 7.2 | 10.7 | 11.0 | 8.4 | 9.6 | 10.9 | 7.6 | 9.6 | 10.2 | 9.2 | 7.7 | 9.5 |
| F10 (Oct 3 – 9) | 10.9 | 5.6 | 9.5 | 3.8 | 9.3 | 6.2 | 7.6 | 7.7 | 8.6 | 8.6 | 5.3 | 7.9 | 11.9 | 6.5 | 4.7 | 7.6 |
| F11 (Oct 10 – 16) | 9.0 | 4.0 | 4.8 | 6.1 | 0.5 | 4.6 | 9.8 | 3.1 | 9.0 | 8.4 | 6.4 | 5.0 | 7.2 | 5.6 | 6.1 | 6.0 |
| F12 (Oct 17 – 23) | 3.1 | 3.6 | 8.6 | 0.5 | 0.0 | 1.4 | 6.7 | 6.6 | 5.2 | 6.2 | -0.1 | 6.7 | 7.0 | 0.7 | 4.4 | 4.0 |
| F13 (Oct 24 – 30) | 1.6 | 2.1 | 1.9 | 2.6 | 2.5 | 4.5 | 0.2 | 7.7 | -1.2 | 5.9 | 1.0 | 1.7 | 7.6 | -0.8 | 5.0 | 2.8 |
| F14 (Oct 31 – Nov 6) | 3.9 | -0.6 | 0.8 | 0.3 | 1.4 | 0.2 | -0.3 | 1.4 | 0.2 | 2.1 | 4.0 | 2.1 | 2.2 | 2.3 | 2.2 | 1.5 |
| Owling (Sep 26 – Nov 6) | 6.3 | 3.8 | 6.2 | 4.2 | 3.5 | 4.6 | 5.8 | 5.8 | 5.2 | 7.0 | 4.0 | 5.5 | 7.7 | 3.9 | 5.0 | 5.2 |
| Total rainfall (mm) | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
| F9 (Sep 26 – Oct 2) | 42 | 28 | 22 | 14 | 29 | 91 | 52 | 26 | 0 | 0 | 38 | 5 | 6 | 17 | 68 | 29.2 |
| F10 (Oct 3 – 9) | 71 | 10 | 17 | 12 | 43 | 23 | 3 | 18 | 19 | 49 | 7 | 18 | 48 | 19 | 16 | 24.9 |
| F11 (Oct 10 – 16) | 81 | 20 | 12 | 4 | 7 | 57 | 39 | 26 | 16 | 14 | 26 | 20 | 11 | 19 | 15 | 24.5 |
| F12 (Oct 17 – 23) | 19 | 86 | 58 | 18 | 28 | 6 | 27 | 38 | 16 | 12 | 9 | 97 | 0 | 2 | 81 | 33.1 |
| F13 (Oct 24 – 30) | 28 | 47 | 27 | 62 | 20 | 21 | 3 | 11 | 7 | 13 | 59 | 26 | 63 | 14 | 38 | 29.3 |
| F14 (Oct 31 – Nov 6) | 11 | 2 | 11 | 0 | 10 | 13 | 7 | 7 | 50 | 7 | 8 | 12 | 49 | 48 | 74 | 20.6 |
| Owling (Sep 26 – Nov 6) | 252 | 193 | 147 | 110 | 137 | 211 | 131 | 126 | 108 | 95 | 147 | 178 | 177 | 119 | 292 | 161.5 |

4.5.3. Results

Owl program results from 2005 to 2019 are summarized in Table 4.6. The number of owls banded per fall has ranged from 15 to 273, but much of this variability is driven by differences in effort; the rate of owls banded per 100 net hours has only varied from 4.4 to 13.7. In most years only one or two species have been banded, but in 2012 all five owl species banded to date occurred in one season.

Unlike all other species banded at MBO, Northern Saw-whet Owls have a fairly high recapture rate. Of the 2081 individuals banded at MBO between 2005 and 2019 (including 21 as part of the FMMP, not included in Table 4.6), 60 (3%) have been subsequently reported from elsewhere. Conversely, 55 owls banded at other sites have been captured at MBO (including 2 in the 2004 pilot season, not included in Table 4-6). Details are provided in Appendix F.

Table 4.6: Owl banding summary statistics 2005-2019.

| | 2005 | 2006 | 2007 | 2008 | 2009 | | |
|---------------------------------|---------|---------|---------|---------|---------|-----------|----------|
| # individuals (species) banded | 17 (1) | n/a | 15 (1) | n/a | 78 (2) | | |
| # individuals (species) return | 0 (0) | n/a | 0 (0) | n/a | 0 (0) | | |
| # individuals (species) repeat | 0 (0) | n/a | 0 (0) | n/a | 6 (1) | | |
| # individuals (species) foreign | 0 (0) | n/a | 0 (0) | n/a | 2 (1) | | |
| # net hours | 230.6 | n/a | 308.3 | n/a | 698.0 | | |
| # birds banded / 100 net hours | 7.4 | n/a | 4.9 | n/a | 11.2 | | |
| # nights banding | 8 | 0 | 11 | 0 | 28 | | |
| | 2010 | 2011 | 2012 | 2013 | 2014 | | |
| # individuals (species) banded | 125 (2) | 197 (1) | 259 (5) | 176 (3) | 158 (2) | | |
| # individuals (species) return | 0 (0) | 2 (1) | 0 (0) | 1 (1) | 0 (0) | | |
| # individuals (species) repeat | 3 (1) | 7 (1) | 19 (2) | 21 (1) | 29 (2) | | |
| # individuals (species) foreign | 2 (1) | 9 (1) | 2 (1) | 17 (1) | 4 (1) | | |
| # net hours | 1290.9 | 2588.5 | 4652.4 | 1968.3 | 1382.5 | | |
| # birds banded / 100 net hours | 9.7 | 7.6 | 5.6 | 8.9 | 11.4 | | |
| # nights banding | 35 | 44 | 51 | 34 | 32 | | |
| | 2015 | 2016 | 2017 | 2018 | 2019 | Average | Total |
| # individuals (species) banded | 273 (2) | 196 (3) | 213 (2) | 222 (3) | 157 (2) | 160 (2.2) | 2086 (5) |
| # individuals (species) return | 0 (0) | 1 (1) | 1 (1) | 1 (1) | 1 (1) | 0.5 (0.5) | 7 (2) |
| # individuals (species) repeat | 27 (2) | 10 (1) | 30 (1) | 32 (2) | 33 (1) | 17 (1.2) | 217 (2) |
| # individuals (species) foreign | 3 (1) | 1 (1) | 7 (1) | 1 (1) | 5 (1) | 4 (1) | 53 (1) |
| # net hours | 1993.8 | 3784.5 | 3637.1 | 3396.1 | 3601.5 | 2271.7 | 29532.5 |
| # birds banded / 100 net hours | 13.7 | 5.2 | 5.9 | 6.5 | 4.4 | 7.9 | 7.1 |
| # nights banding | 36 | 35 | 32 | 33 | 33 | 27.5 | 412 |

4.5.4. Annual notes

Owl banding in 2005 occurred on eight nights between September 24 and October 29, using eight nets (B1-B4 and N1-N4) connected end-to-end on the ridge along the back ponds. The audiolure was placed between nets B2 and N1, i.e., one-quarter of the way along the array, and nets were typically opened for 3.5 to 4 hours per night. Only 17 Northern Saw-whet Owls were banded, with a peak of six on October 20. 53% of owls banded were hatch-year individuals.

Owl banding was skipped in 2006 due to lack of availability of a qualified bander-in-charge.

In 2007, effort expanded to 11 nights but shifted somewhat later, from September 30 to November 9. The nets and audiolure were placed as in 2005, and were on average operated for close to 3.5 hours per night. Results were the poorest of any year, with just 15 Northern Saw-whet Owls banded, and a capture rate of only 4.9 per 100 net hours. The peak of 4 owls was on October 7. As in 2005, 53% of owls banded were hatch-year individuals.

Owl banding was again omitted in 2008, in part due to the limited value demonstrated by the trial seasons in 2005 and 2007 (as well as a previous pilot effort in 2004 that yielded similar numbers).

A decision was made to resume owl banding in fall 2009, but to try a different location within MBO in an attempt to improve capture rates. Five new nets (O1-O5) were installed around and through the mixed spruce-fir grove on the southwest side of the meadow; combined with existing songbird nets E1 and E2, these formed a roughly circular array around the audiolure, placed near the south end of E1; this set of nets continued to be used in all subsequent years. Effort was also expanded this fall, with 28 nights of coverage between September 24 and November 17, and nets operated for an average of 3.5 hours per night. The capture rate nearly doubled the average at the old location, and the total of 78 owls banded (including 2 Eastern Screech-Owls) was more than in all previous years combined, including the 2004 pilot season. The difference in sites was highlighted by the peak of 17 owls banded on October 13 – as many in one night as in the best complete previous season. 76% of owls banded were hatch-year individuals.

2010 marked the first year in which an effort was made to operate nightly over a six-week period corresponding to the final five weeks of the Fall Migration Monitoring Program, plus an additional week beyond (i.e., September 26 to November 6); this core period has been maintained ever since, though from 2010 through 2012 select dates beyond November 6 were also included. In 2010, owling extended from September 25 to November 14, and nightly effort was stretched out to an average of 5 to 5.5 hours. After using standard songbird mist nets (30 mm mesh) for owling in all previous years, the five core owl nets (O1-O5) were switched to 60 mm mesh this fall, which is better suited for capturing small owls; this practice continued in all future years. Although hourly capture rate dropped slightly from 2009, another new record was set for number of owls banded at 125, again including 2 Eastern Screech-Owls. The peak of 18 owls banded was on October 11. 73% of owls banded were hatch-year individuals.

Banding effort doubled in 2011, although only nine extra nights were added to the schedule. This reflected an attempt to explore late night migration, with an average of over eight hours per night. It was also another long banding season, extending from September 26 to November 15. Another new record high was set for the number of owls banded, at 197, but the hourly capture rate was lower than in the previous two years, and only Northern Saw-whet Owls were banded this fall. The number of foreign banded birds captured (9) was more than double the previous four years of owling combined. A new single-night record of 30 owls banded was set on October 22. The frequency of hatch-year owls banded dropped to 48%, the lowest to date.

Owling effort peaked in 2012, with a record 51 nights of operation from September 26 to November 22, again averaging over eight hours nightly. An additional four nets (T1-T4) were operated this fall at the northeast corner of MBO, with an audiolure targeting Boreal Owls. In early November, 4 Boreal Owls were banded; also banded this fall at MBO for the first time were Barred Owl (1) and Long-eared Owl (2), plus there were record numbers of Eastern Screech-Owl (3) and Northern Saw-whet Owl (249). However, the number of foreign recaptures dropped back down to just two this fall, and the number of owls banded per 100 net hours was actually well below average, driven down by the low capture rate at the four new nets. For the second year in a row, 30 owls were banded on the busiest night of the season, which this fall was on October 16. The record number of Northern Saw-whet Owls was driven by a very productive breeding season, with hatch-year individuals accounting for 80% of individuals banded, more than any other year.

In 2013, effort was scaled back to a core six-week season running from September 26 to November 6, and focus returned to just the basic set of seven O and E nets surrounding the Northern Saw-whet Owl audiolure (although net O5 on the exterior of the spruce-fir grove was replaced with O6 among the trees). Nightly effort remained around eight hours on average, and capture rate rebounded, although the number of owls banded was lower than in the previous two years that had greater effort. As usual, almost all birds banded were Northern Saw-whet Owls, but one Long-eared Owl and one Eastern Screech-Owl were also banded. However, this season was most noteworthy for the record number of foreign recaptures – the 17 individuals this fall account for almost one-third of all individuals across 13 years of operation. The peak night of the season was October 8, with 20 owls banded. The percentage of hatch-year owls dropped to 20%, by far the lowest in any year.

Owling in 2014 covered the same dates as in 2013, September 26 to November 6, and mean nightly effort remained around eight hours. However, there was again some experimentation with nets. On half of the nights the standard array of seven nets (O and E) was used at MBO; on alternating nights, a new set of 4 nets (Z1-Z4) was used within the adjacent Morgan Arboretum. The intent was to explore whether there was potential for banding in the Arboretum, to more easily facilitate future education programs focused on the owls. While overall capture rates were quite similar between the two sites, the number of owls banded at the Arboretum was considerably lower due to the smaller number of nets, and given the more limited potential for expansion there, it was concluded that maintaining future operations at the standard owl nets at MBO would be best. Overall capture rate was higher than in previous years, but perhaps in part a function of reduced net hours due to the use of the alternate site. The number of repeat captures was also higher than in any other year, but foreign recaptures dropped considerably from the record high in 2013. The busiest nights of 2014 were October 10 and 11, with 15 owls banded each night. The frequency of hatch-year owls rebounded to 78% of individuals banded.

The 2015 owling season again covered six weeks from September 26 through November 6, with an average of nearly eight hours of effort nightly, weather permitting as always. The standard seven nets at MBO were used throughout the season. It was the best year ever, with both the total number of Northern Saw-whet Owls (272) and the capture rate higher than in any other year, and in each case more than 50% above long-term averages. A single Eastern Screech-Owl was the only other species banded. The peak night this fall was October 17, with 25 owls banded, part of an unmatched weekly total of 107. There were only two nights during the season that zero owls were captured. Hatch-year owls accounted for 55% of individuals banded.

Owling in 2016 took place during the standard six-week period at both the standard seven nets for Northern Saw-whet Owls, and at a secondary array of seven nets at the northeast corner of the property, targeting Long-eared Owls with an audiolure of a male hooting. Banding effort averaged just under eight hours per night of operation. The number of Northern Saw-whet Owls banded (194) was above average, but capture rate dropped to the second-lowest rate ever, largely a function of very little success at the secondary nets. Despite the targeted effort, no Long-eared Owls were banded, but two Eastern Screech-Owls were banded. The peak night of 19 owls banded was unusually early, on October 6. Hatch-year birds comprised 64% of this year's total.

Owling coverage in 2017 was the same as in 2016, with the seven traditional nets targeting Northern Saw-whet Owls, the secondary group of seven nets aimed at Long-eared Owls, and an average of nearly eight hours of banding on all nights of suitable weather between September 26 and November 6. The 211 Northern Saw-whet Owls banded represented the fourth highest total of any season, though only 37% were hatch-year individuals, the second-lowest proportion ever. As in 2016, two Eastern Screech-Owls were banded, but no Long-eared Owls were captured. The peak of 25 owls came on October 10.

Owling effort in 2018 was again largely the same as the previous two years, other than the average nightly duration of banding was reduced to around 7.5 hours. For the fourth consecutive year, the number of Northern Saw-whet Owls banded was well above average, at 219. Again two Eastern Screech-Owls were banded, and this year one Long-eared Owl was finally banded in the third year of focused effort for this species. The peak of 19

owls banded on October 4 was earlier than in any other fall. 75% of Northern Saw-whet Owls banded were hatch-year individuals, the highest proportion since 2014.

In 2019, owling effort was again very similar to over the previous three years, including targeting of Long-eared Owl at the secondary net array, but with the mean nightly effort closer to eight hours again. It was a rather quiet year, with the 156 Northern Saw-whet Owls banded representing the lowest total since 2010, and supplemented by just one Eastern Screech-Owl. Despite the below average season total, the high count of 29 owls banded on October 20 was the second-busiest night in MBO's history. Only 35% of Northern Saw-whet Owls banded were hatch-year individuals, the lowest rate aside from 2013.

4.5.5. Summary

The owl banding program at MBO has gone through three major phases. From 2005 to 2009, the program only operated every other year, and with relatively limited effort. Over the next three years, effort expanded dramatically through experimentation with additional nets and dates. Since 2013, a standard 6-week approach has been followed, although net effort has roughly doubled since 2016 because of the addition of a second set of nets targeting Long-eared Owl. Although efforts have not yet been standardized for long enough to clearly identify trends, it is evident that numbers tend to vary less from year to year than at other Northern Saw-whet Owl banding stations farther south, where there is a pronounced four-year periodicity to numbers, corresponding to peaks in the vole cycle. This suggests that a large proportion of the regional population migrates at least as far as southern Quebec in most years, but that movements farther into the United States are more pronounced in years when the population is at its peak.

To date, six owl species have been observed at MBO during the fall owl banding program, with all except Great Horned Owl banded at least once. Northern Saw-whet Owl accounts for 99% of all owls banded, with Eastern Screech-Owl the only other species that has averaged more than one individual per year.



*The five owl species banded at MBO, in order of decreasing size from left to right:
Barred, Long-eared, Boreal, Eastern Screech, and Northern Saw-whet Owls.
(Photos by Nicolas Bernier and Simon Duval)*

5. Birds of MBO







5.1. Species observed at MBO

Over the 15 years covered in this report (31 October 2004 – 6 November 2019), 222 bird species were observed at MBO, 125 (56%) of them annually. 127 of these species have been banded, 69 (54%) of them at least once each year. During this 15-year period, 78,083 individuals were banded, 7% in winter, 19% in spring, 2% in summer, and 72% in fall.

| | Winter | Spring | Summer | Fall | Total |
|---------------------------|---------|---------|--------|-----------|-----------|
| Species observed annually | 19 | 98 | 27 | 105 | 125 |
| Species observed total | 97 | 199 | 112 | 203 | 222 |
| Individuals observed | 138,845 | 453,215 | 19,104 | 1,058,687 | 1,669,851 |
| Species banded | 40 | 108 | 60 | 111 | 127 |
| Individuals banded | 5046 | 14,713 | 1826 | 56,498 | 78,083 |

The following 22 subsections, mostly at the scale of bird families or other groups of taxonomically or ecologically similar species, provide greater detail in three ways:

- 1) A table similar to the one above, reporting the total number of species and individuals in each group observed by season, and the number of species that occur regularly enough to be detected annually.
- 2) A chart illustrating the relative abundance of each species throughout the year, at a monthly scale in winter and summer, and at a weekly scale in spring and fall (see Appendix A for specific dates associated with each week during migration). Within each period, the average abundance of a species over 15 years is presented according to the criteria in the legend below. A legend to the four-letter codes is provided in Appendix H.

| | | |
|----------------------|---|---|
| Rare |  | Generally occurring in at most three years |
| Uncommon |  | Generally occurring in at least four years, but with a mean daily count <1 |
| Fairly common |  | Generally occurring in at least four years, and with a mean daily count between 1 and 4.9 |
| Common |  | Generally occurring in most years, and with a mean daily count between 5 and 9.9 |
| Very common |  | Generally occurring in most years, and with a mean daily count between 10 and 49.9 |
| Abundant |  | Occurring in all years, and with a mean daily count >50 |

- 3) For selected species in each group, plots showing how the number of individuals observed (dashed lines), and banded (if applicable, solid lines) varies over the course of spring and fall, showing mean values for the early years (2005-2009), middle years (2010-2014) and most recent years (2015-2019) of the 15-year period summarized in this report. These are generally presented only for the most abundant species in each group

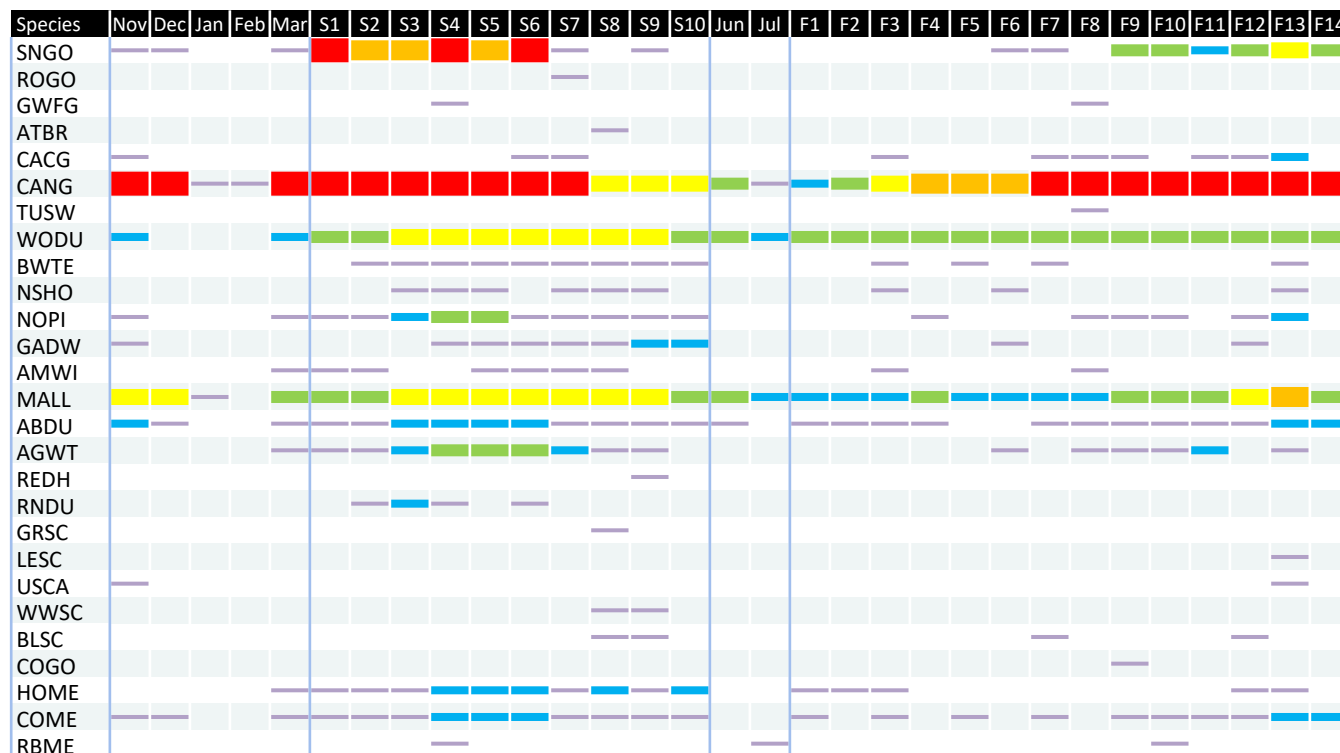
Each of the species group accounts is accompanied by brief text sections that summarize key aspects of the tables and figures, emphasizing patterns of seasonal occurrence and trends over time. More detailed accounts for each individual species are provided in Appendix E.

5.1.1. Waterfowl (geese, swans, and ducks)

| | Winter | Spring | Summer | Fall | Total |
|--|---------------|----------------|------------|----------------|----------------|
| Species observed annually (% of total) | 1 (5.3%) | 5 (5.1%) | 0 (0.0%) | 4 (3.8%) | 6 (4.8%) |
| Species observed total (% of total) | 13 (13.4%) | 23 (11.6%) | 5 (4.5%) | 20 (9.9%) | 26 (11.8%) |
| Individuals observed (% of total) | 60760 (43.8%) | 189549 (41.8%) | 328 (1.7%) | 305817 (28.9%) | 556454 (33.3%) |
| Species banded (% of total) | 0 (0.0%) | 1 (0.9%) | 0 (0.0%) | 1 (0.9%) | 1 (0.8%) |
| Individuals banded (% of total) | 0 (0.0%) | 1 (0.0%) | 0 (0.0%) | 3 (0.0%) | 4 (0.0%) |

Overview: Over 15 years, 26 species of waterfowl have been observed at MBO, but only 6 occur annually. That short list includes Canada Goose, which outnumbers all other species, accounting for 32% of all birds counted in spring, and 28% in fall. Snow Goose is the second most numerous species in spring overall, but it is relatively scarce in fall. Mallard and Wood Duck are by far the most numerous other waterfowl observed. At the opposite extreme, 4 waterfowl species have been observed just once: Ross’s Goose, Redhead, Lesser Scaup, and Common Goldeneye. Only Wood Duck has been banded, although Mallard has also been caught, but released unbanded. Of the species observed, over half have only been seen flying overhead (Snow Goose, Ross’s Goose, Greater White-fronted Goose, Brant, Cackling Goose, Tundra Swan, Redhead, Greater Scaup, Lesser Scaup, White-winged Scoter, Black Scoter, Common Goldeneye, Common Merganser, and Red-breasted Merganser).

Seasonal occurrence: Waterfowl have been observed at MBO at all times of year, but are scarcest in January and February, when only Canada Goose and Mallard have occasionally been present. Overall, diversity and abundance for most waterfowl is highest in spring; only Canada Goose is routinely more abundant in fall. Three species breed at MBO regularly (Canada Goose, Wood Duck, and Mallard), and an additional two have nested successfully at least once (Gadwall and Hooded Merganser).



Trends: Among the common waterfowl species (Figure 5.1), Canada Goose was more abundant in spring in the early years, whereas Green-winged Teal was notably less common in that period than ever since. In fall, Canada Goose and Wood Duck both increased in the middle years, but then declined to below average levels in recent years; Mallard in late fall dropped off even more dramatically in recent years. Green-winged Teal is more erratic in fall, but in recent years has peaked mid-season, earlier than it was ever observed in previous years.

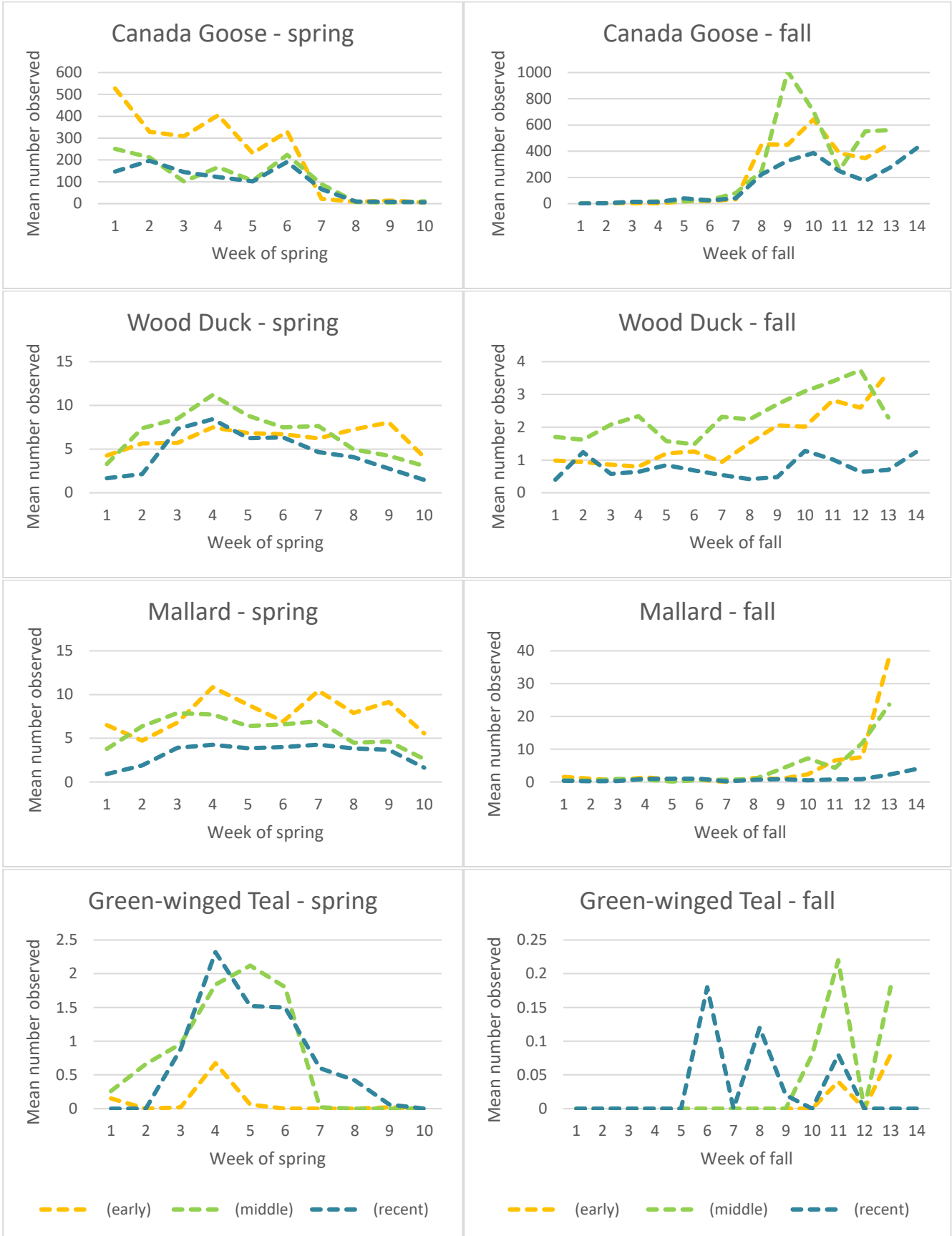


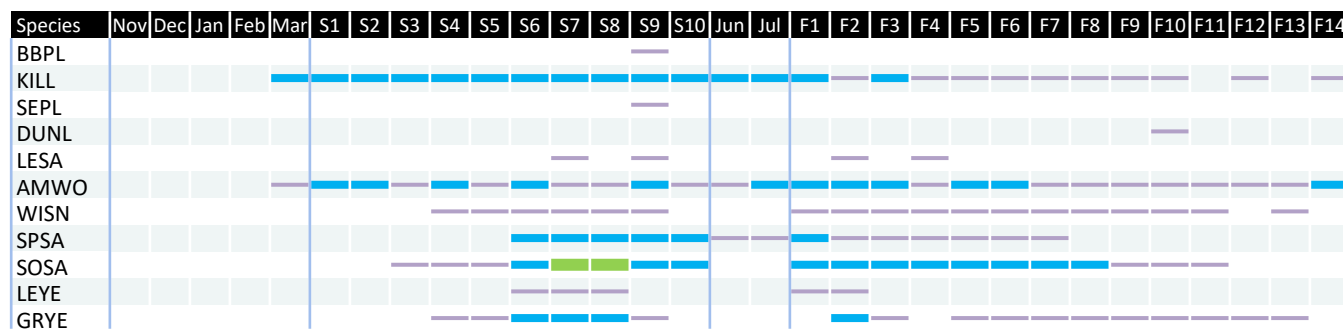
Figure 5.1: Five-year averages (early, 2005-2009; middle, 2010-2014; recent, 2015-2019) of mean daily estimated total observations (dashed lines) for Canada Goose, Mallard, Wood Duck, and Green-winged Teal.

5.1.2. Shorebirds

| | Winter | Spring | Summer | Fall | Total |
|--|-----------|-------------|-----------|------------|-------------|
| Species observed annually (% of total) | 0 (0.0%) | 2 (2.0%) | 0 (0.0%) | 1 (1.0%) | 3 (2.4%) |
| Species observed total (% of total) | 2 (2.1%) | 10 (5.0%) | 3 (2.7%) | 9 (4.4%) | 11 (5.0%) |
| Individuals observed (% of total) | 20 (0.0%) | 1239 (0.3%) | 27 (0.1%) | 459 (0.0%) | 1745 (0.1%) |
| Species banded (% of total) | 0 (0.0%) | 2 (1.9%) | 1 (1.7%) | 1 (0.9%) | 2 (1.6%) |
| Individuals banded (% of total) | 0 (0.0%) | 10 (0.1%) | 2 (0.1%) | 4 (0.0%) | 16 (0.0%) |

Overview: There is limited habitat for most shorebirds at MBO, with only Killdeer, Spotted Sandpiper, and Solitary Sandpiper observed annually. Among the other eight shorebird species that have been recorded, three have been observed only once, flying overhead: Black-bellied Plover on 26 May 2012; Semipalmated Plover on 28 May 2006; and Dunlin on 8 October 2005. Only American Woodcock and Solitary sandpiper have been banded.

Seasonal occurrence: The earliest shorebirds to arrive at MBO annually are Killdeer and American Woodcock, sometimes as early as March. They also linger the longest in fall, occasionally as late as early November. Most other species tend to be observed in the second half of spring, or in early to mid-fall. Although scarce in all seasons, shorebirds are somewhat more numerous in spring. American Woodcock is the only shorebird known to have nested at MBO, confirmed in 2015, 2016, and 2019, but possibly annually since 2015. Killdeer and Spotted Sandpiper have also been observed in summer, and the latter may have nested, but it has not been confirmed.



Trends: Although modest, there tend to be two peaks of abundance for Killdeer in spring, in Week 4 and Week 6, with a distinct drop in between; in recent years there has also been a third peak in Week 8 that is even higher than the others (Figure 5.2). In fall, there were small peaks of abundance around late September in the early and middle years; in recent years, numbers have been higher in August, but Killdeer has been nearly absent the rest of the season.

Spotted Sandpiper has been significantly more abundant in spring in recent years, also peaking earlier (in Week 7) than ever before. In fall, Spotted Sandpiper tends to be scarce, especially after the first week of August, although both in the early and recent years there were a few sightings around mid-September as well. The pattern was notably different in the middle years, with sightings peaking in Weeks 2 and 3, but none thereafter.

Solitary Sandpiper has been largely consistent over the years in spring, especially up to Week 6, and again over the final two weeks of the season. Weeks 7 and 8 were also similar in the early and middle years, but in recent years there has been a higher and sharper peak in Week 7. In fall, Solitary Sandpiper followed a very similar pattern in the early and recent years, peaking in Week 5 and gradually declining over the next month. Similar to Spotted Sandpiper, it was unusually abundant in Weeks 2 and 3 during the middle years.



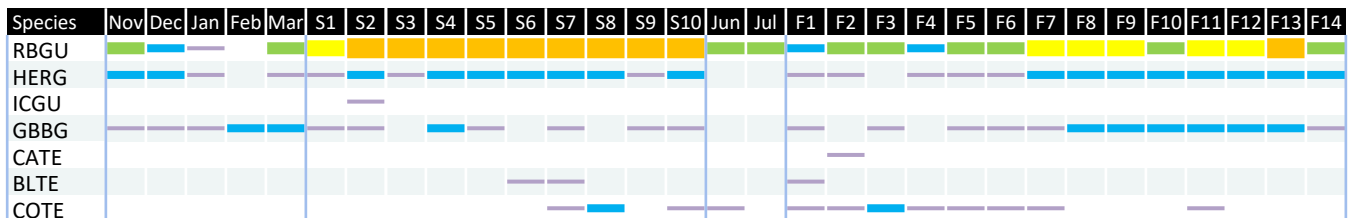
Figure 5.2: Five-year averages (early, 2005-2009; middle, 2010-2014; recent, 2015-2019) of mean daily estimated total observations (dashed lines) for Killdeer, Spotted Sandpiper, and Solitary Sandpiper.

5.1.3. Gulls and terns

| | Winter | Spring | Summer | Fall | Total |
|--|------------|--------------|------------|-------------|--------------|
| Species observed annually (% of total) | 1 (5.3%) | 1 (1.0%) | 0 (0.0%) | 3 (2.9%) | 3 (2.4%) |
| Species observed total (% of total) | 3 (3.1%) | 6 (3.0%) | 2 (1.8%) | 6 (3.0%) | 7 (3.2%) |
| Individuals observed (% of total) | 987 (0.7%) | 27253 (6.0%) | 443 (2.3%) | 7677 (0.7%) | 36360 (2.2%) |
| Species banded (% of total) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) |
| Individuals banded (% of total) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) |

Overview: Ring-billed Gull is the only commonly seen gull or tern at MBO, although Herring Gull and Great Black-backed Gull are also observed annually. All 7 species on the list have only ever been seen flying overhead, or in the case of Ring-billed Gull and Herring Gull, occasionally foraging on the farm field east of MBO, especially after it has been ploughed in fall. Two species have only been detected once: Iceland Gull on 7 April 2005, and Caspian Tern on 13 August 2006.

Seasonal occurrence: Gulls have been observed at MBO throughout the year, although they are notably less common from December through February. Overall numbers are primarily driven by Ring-billed Gull, which is among the most abundant species at MBO through most of spring, but reaches a similar level of abundance in fall only in Week 13.



Trends: Ring-billed Gull is the only gull or tern observed frequently enough to allow for a meaningful plot of occurrence (Figure 5.3). In spring, numbers always build to a small first peak in Week 4, then drop off for a couple of weeks before increasing again. In the early years, there was a slightly higher second peak in Week 7; in the middle years it occurred at the same time but was more pronounced; and in recent years there has been a notably higher peak that does not occur until Weeks 8 and 9. In fall, Ring-billed Gull is typically scarce for the first two months, although in the middle years a fair number were observed from Week 7 to Week 9. In the early years, there was a modest peak in Week 12; in the middle years numbers spiked dramatically in Week 13, which at the time was the last week of the season. However, in recent years abundance has stayed low throughout fall.

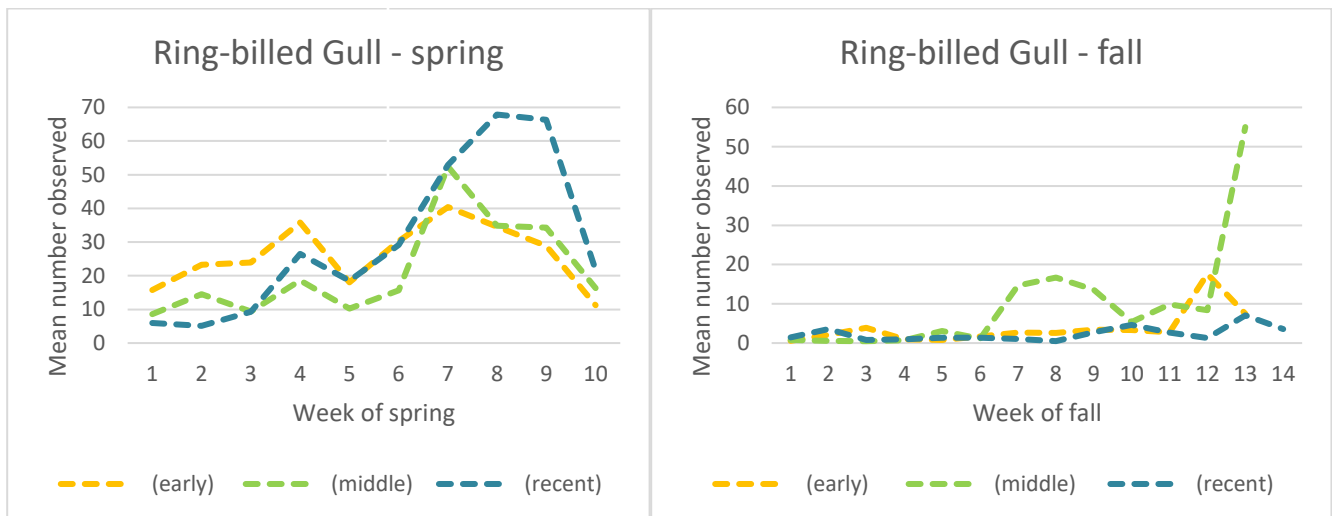


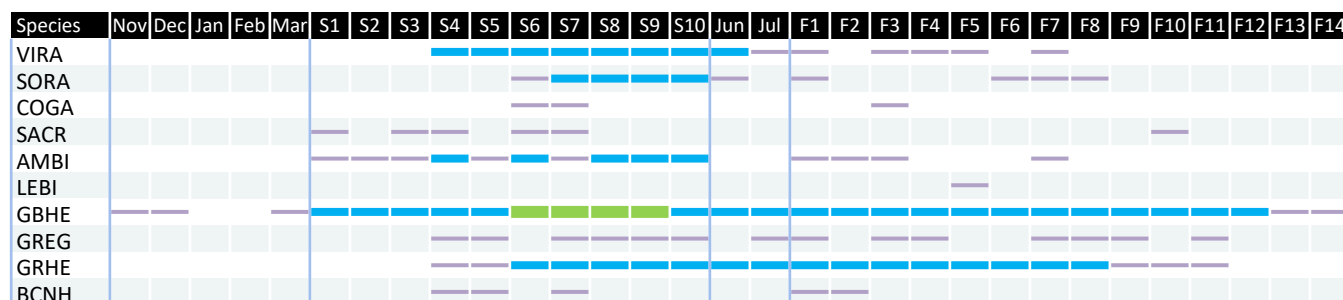
Figure 5.3: Five-year averages (early, 2005-2009; middle, 2010-2014; recent, 2015-2019) of mean daily estimated total observations (dashed lines) for Ring-billed Gull

5.1.4. Herons, rails, and cranes

| | Winter | Spring | Summer | Fall | Total |
|--|----------|-------------|------------|------------|-------------|
| Species observed annually (% of total) | 0 (0.0%) | 3 (3.1%) | 0 (0.0%) | 2 (1.9%) | 4 (3.2%) |
| Species observed total (% of total) | 1 (1.0%) | 9 (4.5%) | 5 (4.5%) | 10 (4.9%) | 10 (4.5%) |
| Individuals observed (% of total) | 6 (0.0%) | 1491 (0.3%) | 178 (0.9%) | 813 (0.1%) | 2488 (0.1%) |
| Species banded (% of total) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 1 (0.9%) | 1 (0.8%) |
| Individuals banded (% of total) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 1 (0.0%) | 1 (0.0%) |

Overview: Although 10 species in this group have been observed at MBO, one has been detected a single time (Least Bittern on 4 September 2005), and another has only ever been seen flying overhead (Sandhill Crane). Only Virginia Rail, American Bittern, Great Blue Heron, and Green Heron have been observed annually.

Seasonal occurrence: Great Blue Heron has been observed rarely in early and late winter, but the majority of observations of herons, rails, and cranes are between late April and early October. Virginia Rail, Sora, and Green Heron are the only species known to have bred at MBO, but none of them do so every year. Great Blue Heron and Great Egret have also been observed in summer, but are visitors from colonies elsewhere.



Trends: In the early years, Great Blue Heron numbers increased throughout most of spring, but since the middle years, abundance has tended to stay around a low plateau from Week 4 onward (Figure 5.4). In fall, abundance typically declines gradually over the course of the entire season, though in the middle years there was a two-week rebound to higher levels in the middle of the season. Numbers have declined somewhat over time, especially in spring.

Both in spring and fall, Green Heron has become scarcer over time. In spring, the primary difference is between the middle and recent years; in fall, the decline occurred earlier, with observations in the middle and recent years both at similarly low levels compared to the early years.

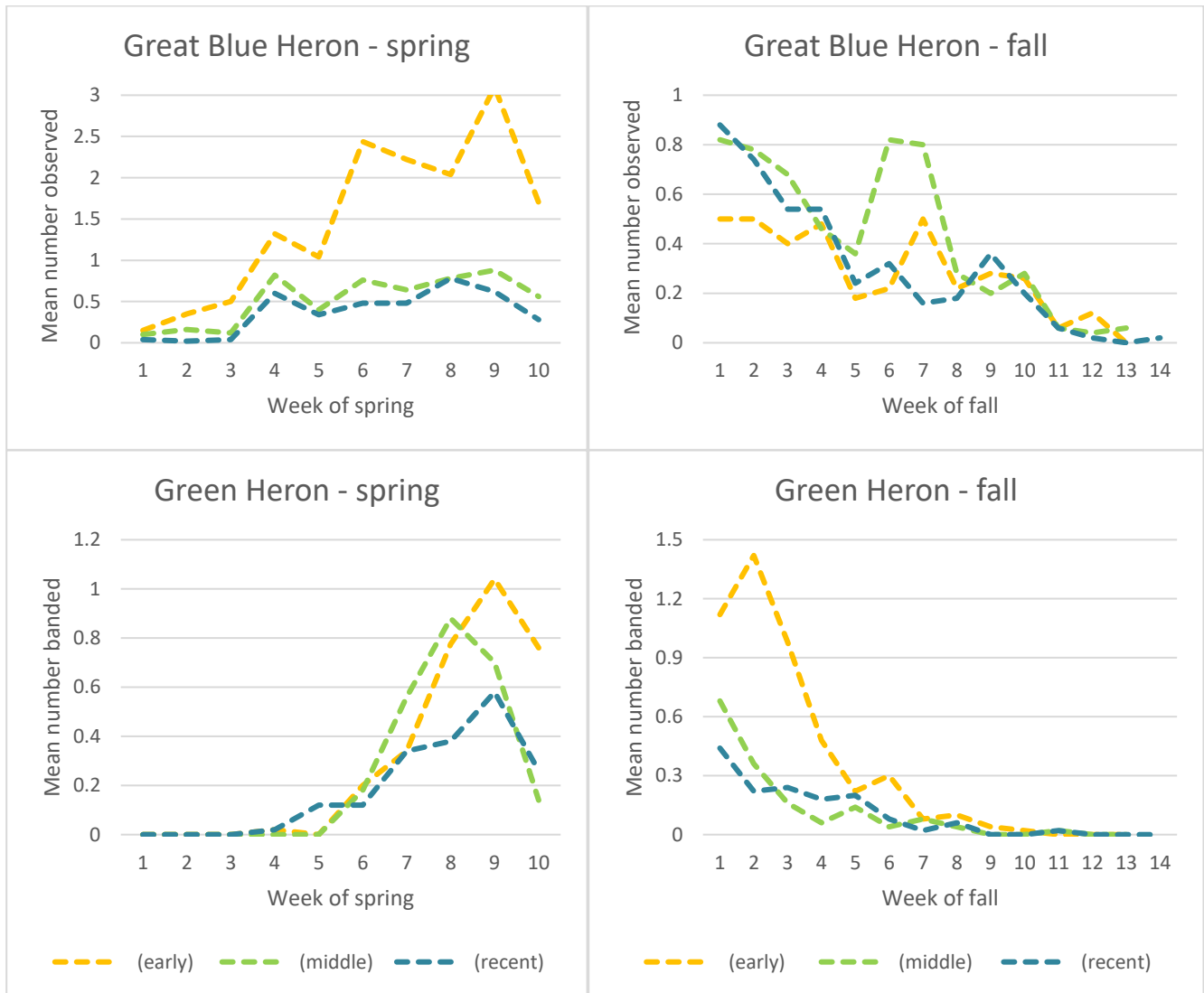


Figure 5.4: Five-year averages (early, 2005-2009; middle, 2010-2014; recent, 2015-2019) of mean daily estimated total observations (dashed lines) for Great Blue Heron and Green Heron.



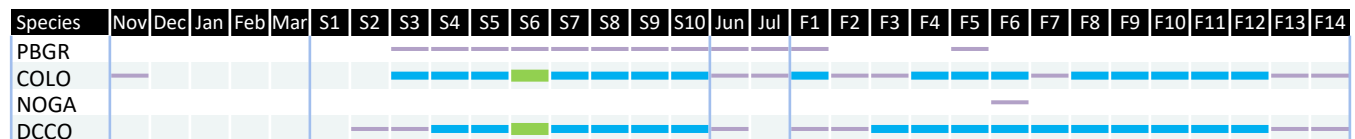
Green Heron (left) is the only heron species that has been banded at MBO; Great Blue Heron (right) is the most commonly observed species at MBO, typically seen in the back pond, though on this occasion standing on a volunteer's car. (Photos by Simon Duval and Marc Boisvert)

5.1.5. Other waterbirds (loons, grebes, cormorants, gannet)

| | Winter | Spring | Summer | Fall | Total |
|--|----------|------------|-----------|------------|-------------|
| Species observed annually (% of total) | 0 (0.0%) | 2 (2.0%) | 0 (0.0%) | 1 (1.0%) | 2 (1.6%) |
| Species observed total (% of total) | 1 (1.0%) | 3 (1.5%) | 3 (2.7%) | 4 (2.0%) | 4 (1.8%) |
| Individuals observed (% of total) | 1 (0.0%) | 936 (0.2%) | 11 (0.1%) | 411 (0.0%) | 1359 (0.1%) |
| Species banded (% of total) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) |
| Individuals banded (% of total) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) |

Overview: This is a small group, comprising only two regularly occurring species (Common Loon and Double-crested Cormorant), one that is generally rare (Pied-billed Grebe), and a remarkable rarity that passed over MBO once (Northern Gannet, on 7 September 2008). Pied-billed Grebe has used Stoneycroft Pond, but the other species have only been seen flying overhead.

Seasonal occurrence: Other waterbirds generally are observed first around mid-April and continue through the end of spring, with only occasional summer records. In fall, observations tend to pick up around mid-August and continue until mid-October in most years, sometimes as late as early November. Pied-billed Grebe nested at MBO in 2005, but not since.



Trends: Both in spring and fall, the pattern of occurrence for Common Loon was similar in the early and middle years, and substantially different in recent years (Figure 5.5). In spring, abundance used to increase gradually from Week 4 to Week 7, and taper off after that; in recent years there has instead been a much sharper increase to a peak in Week 6, with numbers remaining higher than in the past throughout the rest of spring. The opposite is the case in fall, when there were distinct peaks in Week 9 or 10 in the early and middle years, but in recent years numbers have fluctuated at a low level from Week 4 onward.

The plots for Double-crested Cormorant show considerable variability in both spring and fall. This is likely a reflection of the fact that flocks are in the region throughout most of both seasons, but they fly over MBO irregularly. Nonetheless, it is perhaps noteworthy that both in spring and fall, the peaks have been highest in recent years, and the spring peak corresponds to that of Common Loon.

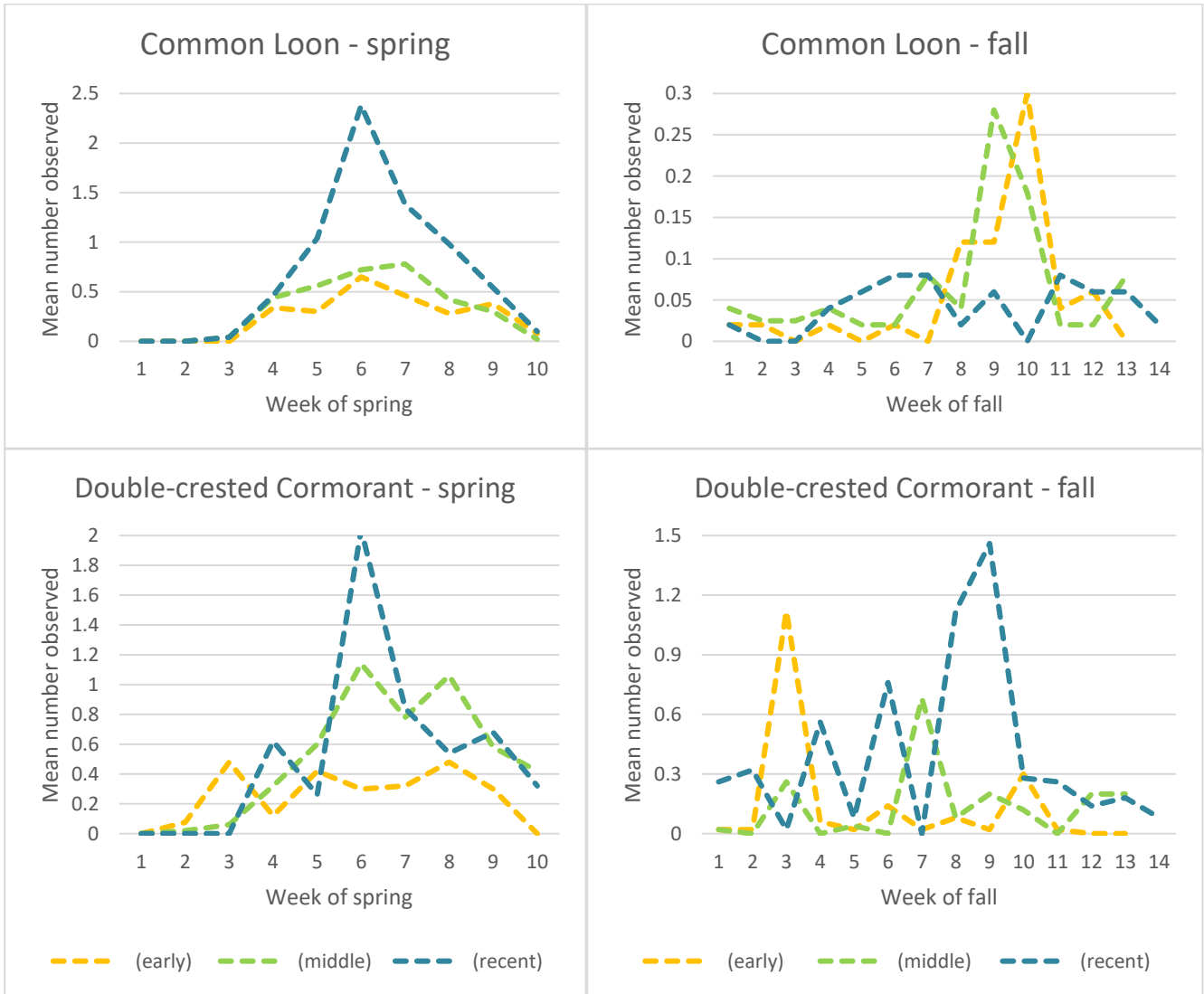


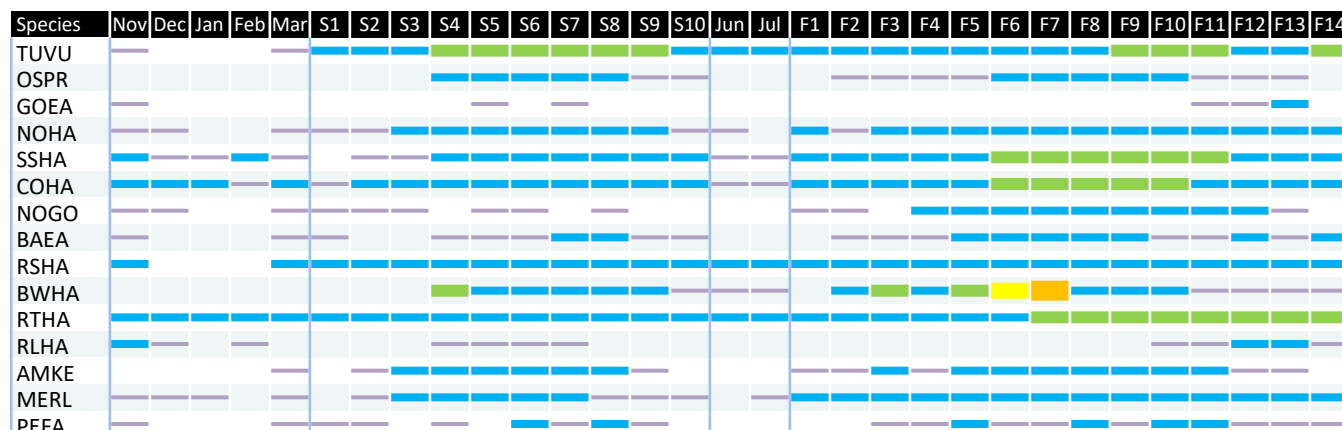
Figure 5.5: Five-year averages (early, 2005-2009; middle, 2010-2014; recent, 2015-2019) of mean daily estimated total observations (dashed lines) for Common Loon and Double-crested Cormorant.

5.1.6. Diurnal raptors

| | Winter | Spring | Summer | Fall | Total |
|--|------------|-------------|------------|-------------|--------------|
| Species observed annually (% of total) | 1 (5.3%) | 8 (8.2%) | 0 (0.0%) | 11 (10.5%) | 11 (8.8%) |
| Species observed total (% of total) | 13 (13.4%) | 15 (7.5%) | 8 (7.2%) | 15 (7.4%) | 15 (6.8%) |
| Individuals observed (% of total) | 339 (0.2%) | 3087 (0.7%) | 102 (0.5%) | 9659 (0.9%) | 13187 (0.8%) |
| Species banded (% of total) | 0 (0.0%) | 3 (2.8%) | 0 (0.0%) | 4 (3.6%) | 6 (4.7%) |
| Individuals banded (% of total) | 0 (0.0%) | 8 (0.1%) | 0 (0.0%) | 110 (0.2%) | 118 (0.2%) |

Overview: 15 species of diurnal raptor have been observed at MBO, with all of them except Golden Eagle, Northern Goshawk, Bald Eagle, and Rough-legged Hawk recorded annually. Only 6 species have been banded, 4 of them just once each (Red-shouldered Hawk, Broad-winged Hawk, American Kestrel, and Merlin). For 5 species, all sightings have been of them flying overhead (Osprey, Bald Eagle, Northern Harrier, Rough-legged Hawk, and Golden Eagle).

Seasonal occurrence: Diurnal raptors occur at MBO year-round, but are most abundant as spring and fall migrants. Although 13 species have been recorded at some point during winter, only Red-tailed Hawk has been observed annually. Similarly, eight species have at least some summer records, but none of them in all 15 years. Broad-winged Hawk for two weeks in mid-September is the only species to exceed mean daily counts of 5 individuals. Turkey Vulture is the only diurnal raptor with nesting attempts confirmed at MBO, but Sharp-shinned Hawk, Cooper’s Hawk, Red-shouldered Hawk, Red-tailed Hawk, and American Kestrel at minimum nest adjacent to MBO in some years, and perhaps on site.



Trends: Figure 5.6 highlights three species that have increased at MBO over time. For Turkey Vulture, the biggest jump was between the early and middle years, in both spring and fall. In spring, the relatively steady numbers from Week 4 through Week 9 in the middle and recent years may reflect regular sightings of a nesting pair in many of those years, rather than a more general increase in abundance. In fall, a peak in Week 9 appeared for the first time in the middle years, and became higher in recent years when it shifted one week later; in recent years, there have also been somewhat elevated numbers throughout the first two months of fall.

In the early years, Northern Harrier built to a Week 5 peak and then dropped off sharply again; since then the main peak has advanced to Week 4, with a secondary one in Week 6 in the middle years, and spanning Week 6 and 7 in recent years. In fall, numbers fluctuate more, with a loose increasing trend over the course of the season, overall becoming slightly more abundant over the years.

Broad-winged Hawk is the most consistently predictable raptor migrant, always peaking sharply in Week 4 of spring and generally with a smaller secondary peak in Week 6. Fall numbers generally increase sharply in Week 6 and rise a bit farther in Week 7 before quickly dropping back to near zero; numbers in the middle and recent years have been far higher than in the early years, but this likely is at least partly a function of greater observer awareness and focus over time on the optimal conditions for fall migration.

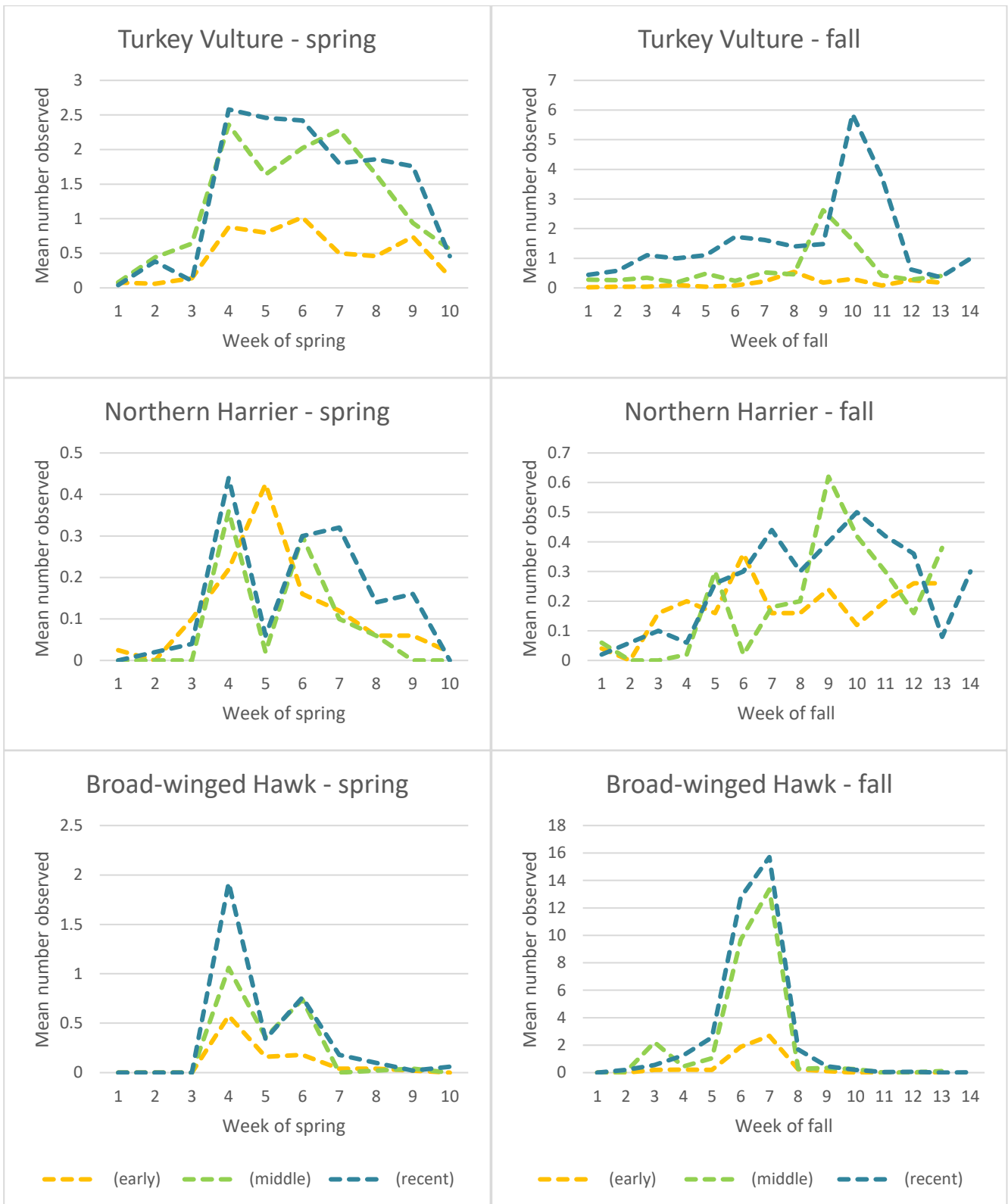


Figure 5.6: Five-year averages (early, 2005-2009; middle, 2010-2014; recent, 2015-2019) of mean daily estimated total observations (dashed lines) for Turkey Vulture, Northern Harrier and Broad-winged Hawk.

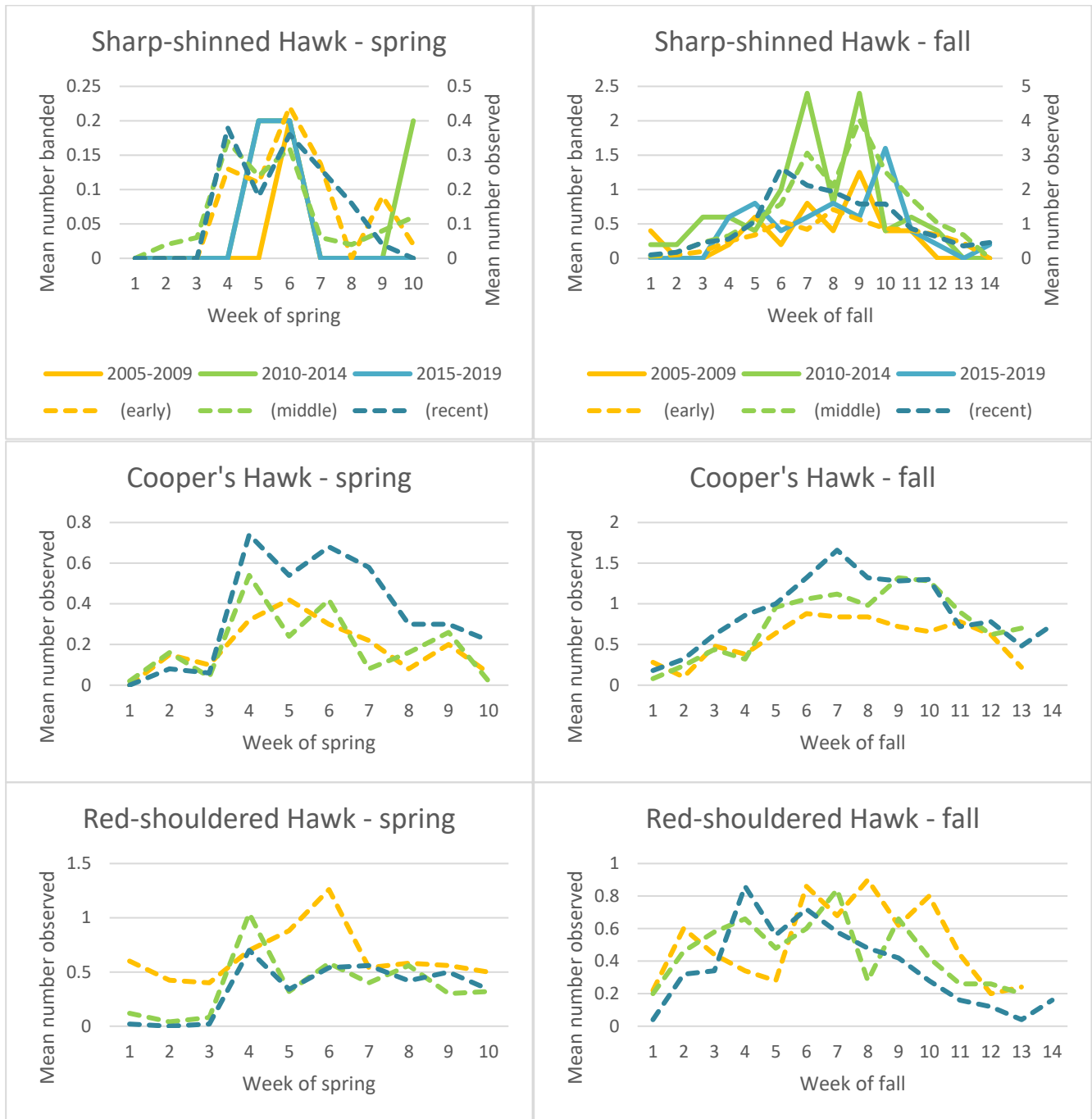


Figure 5.7: Five-year averages of weekly banding totals (solid lines) and mean daily estimated total observations (dashed lines) for Sharp-shinned Hawk, Cooper's Hawk, and Red-shouldered Hawk.

Of three species that often breed in the vicinity of MBO, Cooper's Hawk has been increasing in abundance over the years, Red-shouldered Hawk has declined, and Sharp-shinned Hawk appears to have been most numerous in the middle years, especially in fall. All three species tend to have somewhat modest and variable peaks spanning the middle portions of both spring and fall.

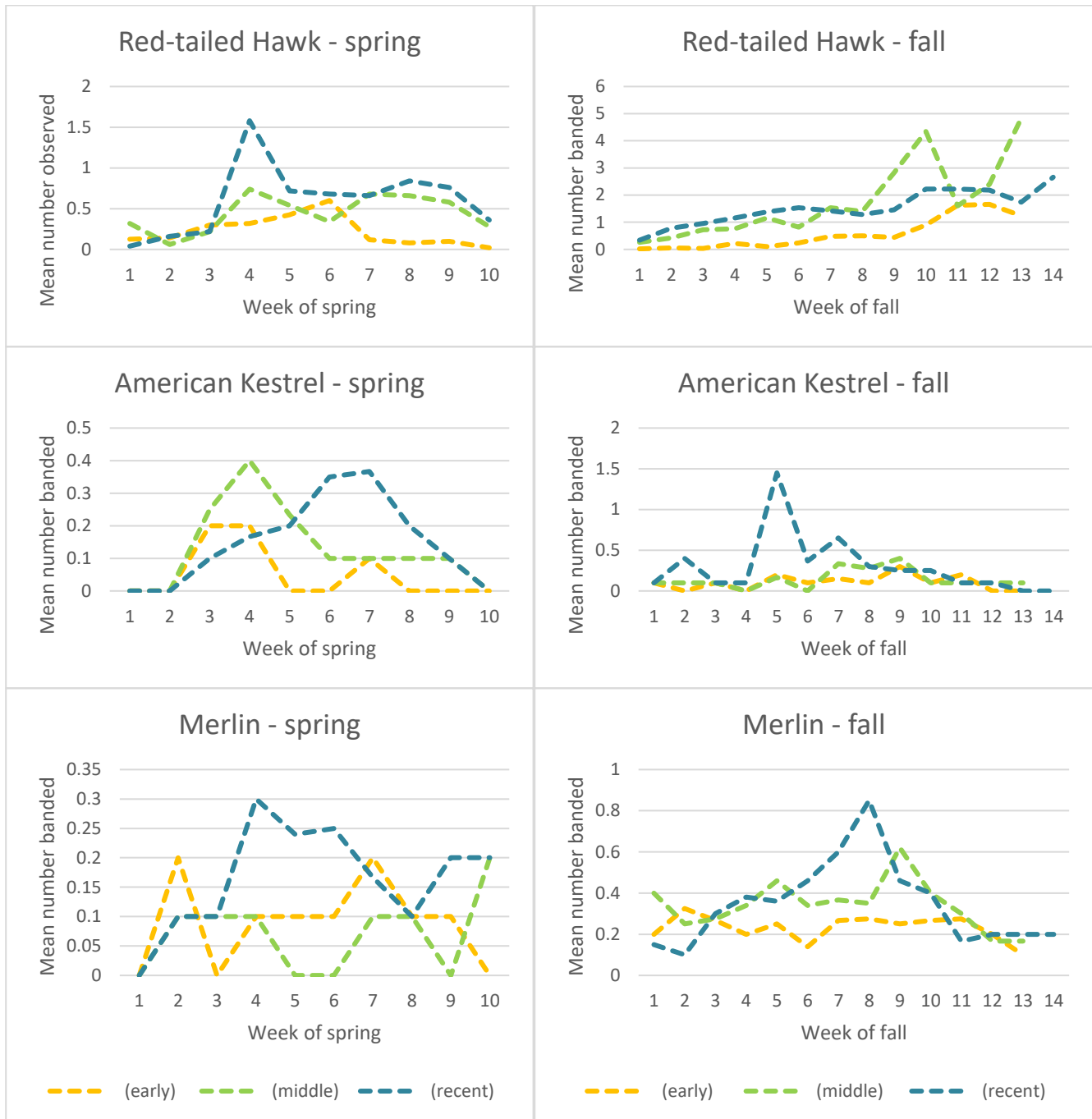


Figure 5.8: Five-year averages (early, 2005-2009; middle, 2010-2014; recent, 2015-2019) of mean daily estimated total observations (dashed lines) for Red-tailed Hawk, American Kestrel, and Merlin.

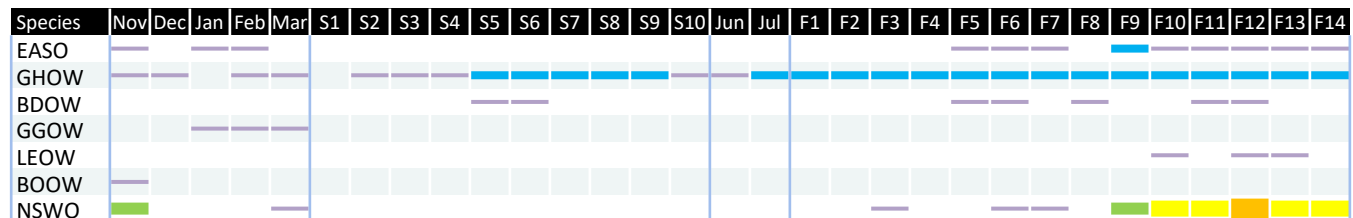
Red-tailed Hawk, American Kestrel, and Merlin have all increased in abundance at MBO over the years. Red-tailed Hawk and Merlin both have reached new peaks in Week 4 of spring in recent years; American Kestrel is peaking in Weeks 6 and 7 in recent years, compared to Weeks 3 and 4 earlier. In fall, Red-tailed Hawk tends to increase throughout fall; only in the middle years there were spikes in Week 10 and Week 13. American Kestrel has peaked sharply in Week 5 in recent years, but was formerly quite scarce throughout most of fall. Merlin occurrence in fall was quite steady in the early years, began to peak more notably in Week 9 in the middle years, and in recent years has reached a higher peak one week earlier, in Week 8.

5.1.7. Owls

| | Winter | Spring | Summer | Fall | Total |
|--|------------|-----------|----------|-------------|-------------|
| Species observed annually (% of total) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) |
| Species observed total (% of total) | 4 (4.1%) | 2 (1.0%) | 1 (0.9%) | 5 (2.5%) | 6 (2.7%) |
| Individuals observed (% of total) | 29 (0.0%) | 97 (0.0%) | 8 (0.0%) | 469 (0.0%) | 603 (0.0%) |
| Species banded (% of total) | 3 (7.5%) | 0 (0.0%) | 0 (0.0%) | 4 (3.6%) | 5 (3.9%) |
| Individuals banded (% of total) | 110 (2.2%) | 0 (0.0%) | 0 (0.0%) | 1997 (3.5%) | 2107 (2.7%) |

Overview: None of the 7 owl species observed at MBO have been recorded every year, though Great Horned Owl was missed only in 2008 and Northern Saw-whet Owl only in 2006 and 2008, and are by far the most regularly occurring owls. Targeted nocturnal owl banding in 13 of 15 years (see Section 4.5) has been responsible for the majority of owl records, although all species except Boreal Owl have also been observed during daylight hours at least once. All species except Great Horned Owl and Great Gray Owl have been banded, but Northern Saw-whet Owl accounts for 99% of all owls banded. Winter banding records in the summary table above pertain to individuals banded beyond the end of the standard owl banding season.

Seasonal occurrence: Eastern Screech, Great Horned, and Barred Owls are resident in the area; others are migrants or (in the case of Great Gray Owl) occasional winter visitors. The resident species noted above likely nest adjacent to MBO in the Morgan Arboretum.



Trends: In the early years, Great Horned Owl was very rare throughout spring and fall. In the middle years, it became slightly more common in mid-spring and throughout most of fall (Figure 5.9). Spring observations became substantially more frequent in recent years, especially in the second half of spring; fall observations have also continued to increase considerably in recent years, with detections now routinely occurring throughout the season, although tapering off a bit toward the end.

Northern Saw-whet Owl has only rarely been detected within the first eight weeks of fall, largely because it is primarily observed at night, and the owl banding season begins in Week 9. For this species, the observations plotted represent diurnal records, which are a small fraction of the total; the banding totals therefore are more representative. Numbers were low in the early years, but may reflect use of initial net locations that were far less productive than the one used since 2010. Both in the middle and recent years, there has been a broad overall peak from Week 10 to Week 12, but in recent years numbers have tapered off more gradually over the final two weeks of the season.

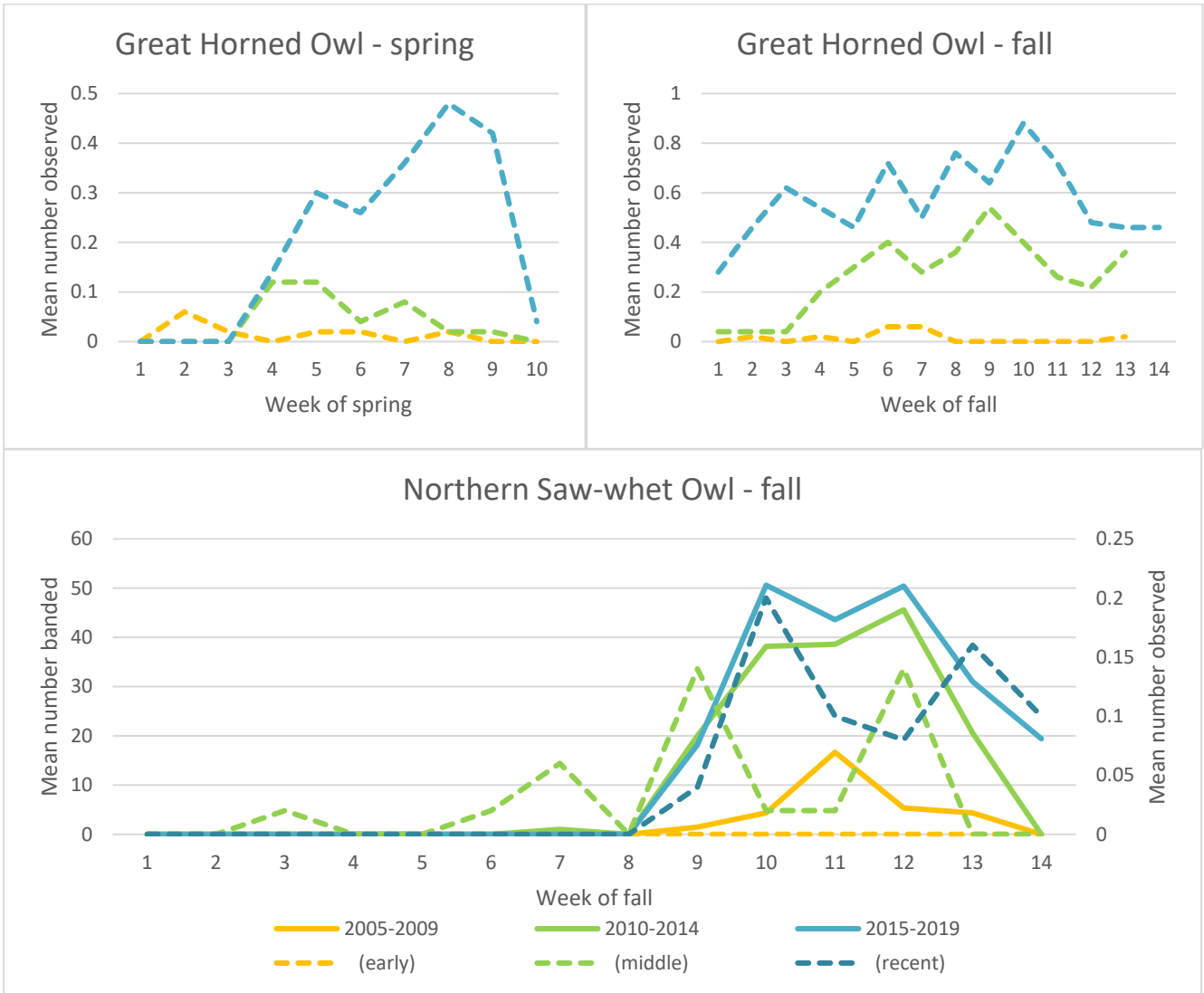


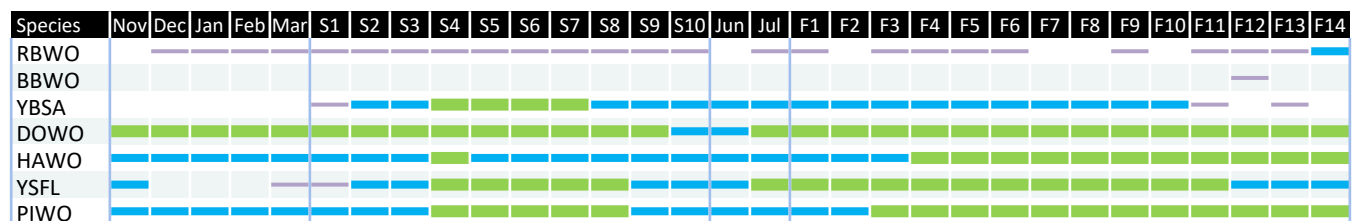
Figure 5.9: Five-year averages of weekly banding totals (solid lines) and mean daily estimated total observations (dashed lines) for Great Horned Owl and Northern Saw-whet Owl.

5.1.8. Woodpeckers

| | Winter | Spring | Summer | Fall | Total |
|--|-------------|-------------|------------|--------------|--------------|
| Species observed annually (% of total) | 3 (15.8%) | 5 (5.1%) | 3 (11.1%) | 5 (4.8%) | 5 (4.0%) |
| Species observed total (% of total) | 5 (5.2%) | 6 (3.0%) | 6 (5.4%) | 7 (3.4%) | 7 (3.2%) |
| Individuals observed (% of total) | 1270 (0.9%) | 5419 (1.2%) | 565 (3.0%) | 10671 (1.0%) | 17925 (1.1%) |
| Species banded (% of total) | 3 (7.5%) | 5 (4.6%) | 4 (6.7%) | 6 (5.4%) | 6 (4.7%) |
| Individuals banded (% of total) | 35 (0.7%) | 121 (0.8%) | 74 (4.1%) | 328 (0.6%) | 558 (0.7%) |

Overview: 7 woodpecker species have been observed at MBO, but Black-backed Woodpecker has been seen only once, on 19 October 2019, and Red-bellied Woodpecker has only been seen annually since 2012. All except Black-backed Woodpecker have been banded. Downy Woodpecker is consistently the most common species at MBO, accounting for 58% of all woodpeckers banded at MBO.

Seasonal occurrence: Downy, Hairy, and Pileated Woodpeckers are present throughout the year, though generally observed less frequently in winter. Yellow-bellied Sapsucker and Northern (Yellow-shafted) Flicker are migrants, usually present from April through October. Red-bellied Woodpecker has recently expanded into the area and appears to be a year-round resident in the adjacent Morgan Arboretum, although observed less regularly at MBO. All 6 of those species have bred at or immediately adjacent to MBO.



Trends: Among the three resident woodpeckers Pileated Woodpecker has steadily increased in abundance in spring over the years, whereas Downy Woodpecker and Hairy Woodpecker have remained quite consistent over time (Figure 5.10). All of them are banded sufficiently infrequently that banding patterns are less distinct.

In fall, the majority of Downy Woodpeckers are banded in the first two weeks, primarily local juveniles. In contrast, observations are fairly consistent throughout the season; numbers were modestly lower in the middle years. In the early and middle years, Hairy Woodpecker observations increased mid-fall and remained elevated to the end of the season, but in recent years they have remained at a fairly stable lower level of abundance throughout fall. Similarly, Pileated Woodpecker abundance has been more stable throughout fall in recent years than previously.

Figure 5.11 summarizes patterns for the two regularly occurring migrant woodpeckers. Yellow-bellied Sapsucker was somewhat less common in spring in the middle years. Curiously, it tends to peak in abundance mid-spring, but is more frequently banded late in the season. In fall, the highest numbers typically occur in Week 1, reflecting local birds that appear to disperse soon thereafter. In the early years there was a substantial secondary peak of migrants in late September to early October, but more recently there has tended to be only a modest movement closer to mid-September.

Yellow-shafted Flicker peaks broadly between Week 4 and Week 6 in spring, tending a bit later in recent years; overall abundance has changed little over time. In fall, numbers have always peaked around mid-late September, but more substantially so in the middle years than otherwise. Disproportionately more individuals are banded a few weeks prior to the peak of observations.



Figure 5.10: Five-year averages of weekly banding totals (solid lines) and mean daily estimated total observations (dashed lines) for Downy Woodpecker, Hairy Woodpecker, and Pileated Woodpecker.

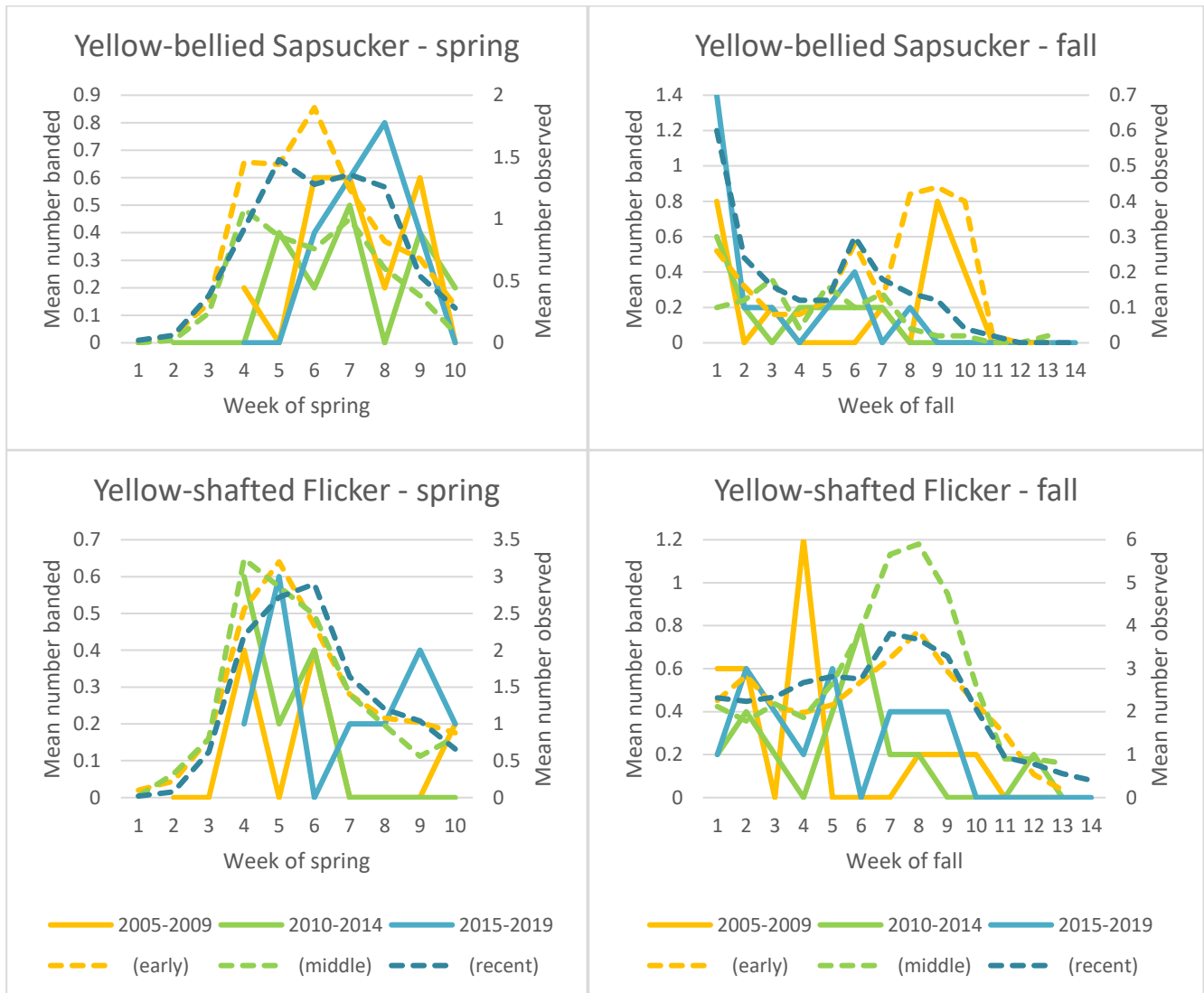


Figure 5.11: Five-year averages of weekly banding totals (solid lines) and mean daily estimated total observations (dashed lines) for Yellow-bellied Sapsucker and Yellow-shafted Flicker.



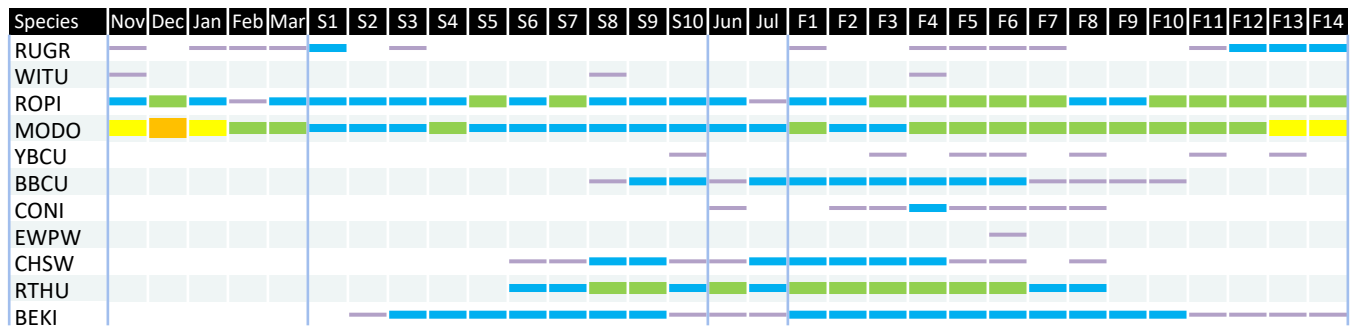
Red-bellied Woodpecker (left) and Pileated Woodpecker (right), two of the infrequently banded woodpeckers at MBO. (Photos by Simon Duval)

5.1.9. Other non-passerines

| | Winter | Spring | Summer | Fall | Total |
|--|-------------|-------------|------------|-------------|--------------|
| Species observed annually (% of total) | 1 (5.3%) | 4 (4.1%) | 1 (3.7%) | 5 (4.8%) | 6 (4.8%) |
| Species observed total (% of total) | 4 (4.1%) | 9 (4.5%) | 7 (6.3%) | 11 (5.4%) | 11 (5.0%) |
| Individuals observed (% of total) | 3570 (2.6%) | 2218 (0.5%) | 283 (1.5%) | 8450 (0.8%) | 14521 (0.9%) |
| Species banded (% of total) | 1 (2.5%) | 4 (3.7%) | 2 (3.3%) | 4 (3.6%) | 5 (3.9%) |
| Individuals banded (% of total) | 59 (1.2%) | 17 (0.1%) | 2 (0.1%) | 159 (0.3%) | 237 (0.3%) |

Overview: Of the 11 species in this taxonomically varied group, Eastern Whip-poor-will has only been observed once (on 9 September 2019), and four others have been recorded less than annually: Ruffed Grouse, Wild Turkey, Yellow-billed Cuckoo, and Common Nighthawk. Until recently, only 3 species had been banded, with Mourning Dove accounting for the majority of records, and the two cuckoos comprising the remainder. However, Belted Kingfisher was banded for the first time in 2019, and banding of Ruby-throated Hummingbird (requiring specialized training and equipment) began in 2018.

Seasonal occurrence: Rock Pigeon and Mourning Dove are observed throughout the year, while Ruffed Grouse is likely present in the adjacent Morgan Arboretum year-round but has mostly been seen at MBO from late fall to early spring. Similarly, Wild Turkey has become established in the area in recent years, though to date there have been only a few scattered sightings at MBO. Belted Kingfisher sightings extend from early April to as late as the beginning of November; the other species (Yellow-billed Cuckoo, Black-billed Cuckoo, Common Nighthawk, Chimney Swift, and Ruby-throated Hummingbird) generally occur only from early May to mid-September. There is evidence of local breeding for only Mourning Dove, Black-billed Cuckoo, and Ruby-throated Hummingbird.



Trends: Only 3 species in this group occur regularly enough to plot patterns of occurrence (Figure 5.12); Rock Pigeon has also been observed year-round, but sightings tend to be irregular in all seasons. In both spring and fall, Mourning Dove has declined over time. In spring, there was a distinct peak in Week 4 in the early years, with numbers gradually tapering off thereafter; in the middle and recent years, abundance has fluctuated around a much lower level throughout the season. In fall, Mourning Dove has always been uncommon in the first half of the season, but began to increase notably between Weeks 8 and 11; in recent years, the increase has started only in Week 13.

In spring, Ruby-throated Hummingbird numbers were very similar in the early and middle years, but consistently higher in recent years from Week 7 onward. In fall, overall abundance has varied less, but migration appears to be shifting later, from Weeks 2-3 in the early years to Weeks 3-4 in the middle years, and Weeks 4-5 in recent years.

Belted Kingfisher has had a more distinct spring peak from Weeks 4 to 6 in recent years than previously. In fall, the species fluctuated around a low level in the early years, but has peaked more distinctly since then, in Week 2 in the middle years, then Week 3 in recent years.

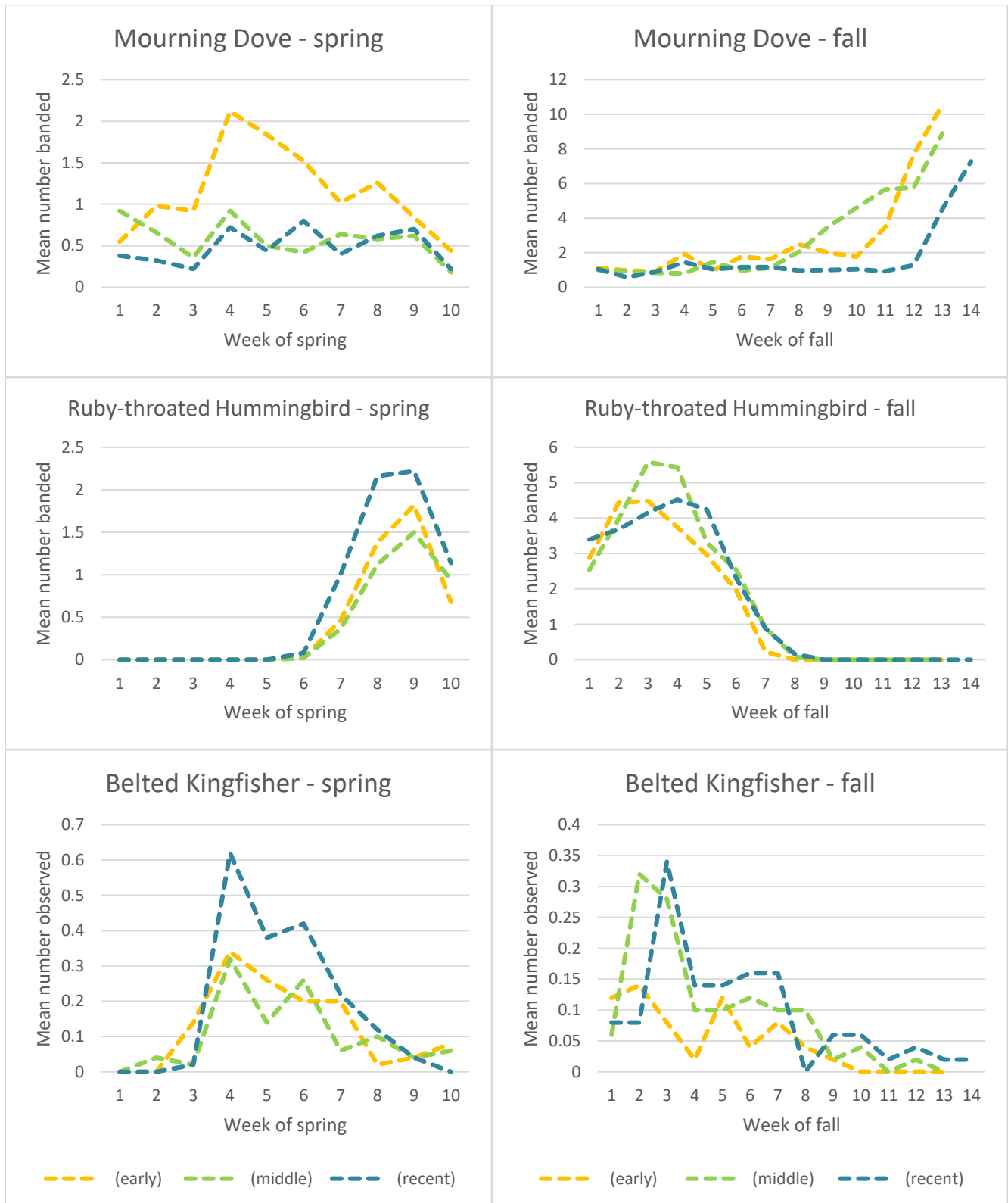


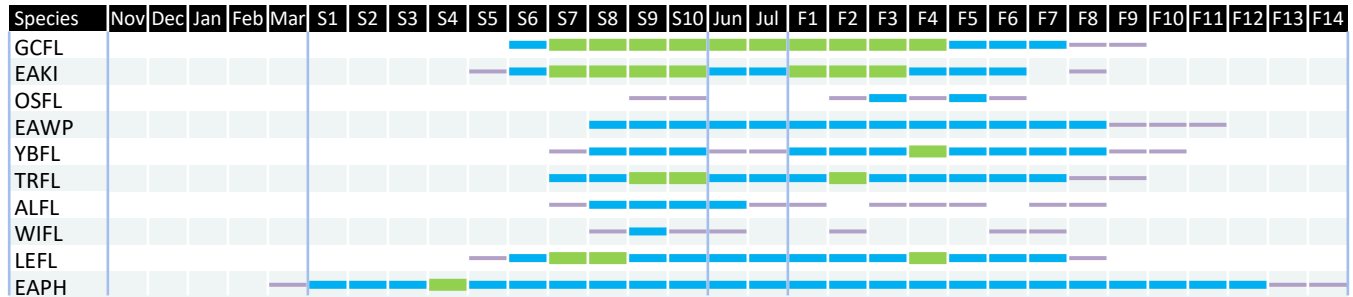
Figure 5.12: Five-year averages (early, 2005-2009; middle, 2010-2014; recent, 2015-2019) of mean daily estimated total observations (dashed lines) for Mourning Dove, Ruby-throated Hummingbird, and Belted Kingfisher

5.1.10. Flycatchers

| | Winter | Spring | Summer | Fall | Total |
|--|----------|-------------|------------|-------------|-------------|
| Species observed annually (% of total) | 0 (0.0%) | 5 (5.1%) | 1 (3.7%) | 6 (5.7%) | 7 (5.6%) |
| Species observed total (% of total) | 1 (1.0%) | 9 (4.5%) | 8 (7.2%) | 9 (4.4%) | 9 (4.1%) |
| Individuals observed (% of total) | 1 (0.0%) | 3812 (0.8%) | 534 (2.8%) | 3804 (0.4%) | 8151 (0.5%) |
| Species banded (% of total) | 0 (0.0%) | 8 (7.4%) | 6 (10.0%) | 7 (6.3%) | 8 (6.3%) |
| Individuals banded (% of total) | 0 (0.0%) | 527 (3.6%) | 62 (3.4%) | 846 (1.5%) | 1435 (1.8%) |

Overview: Of the nine flycatcher species observed at MBO, all except Olive-sided Flycatcher and Willow Flycatcher are recorded every year. None of them are particularly abundant, but Great Crested Flycatcher and Eastern Kingbird are reasonably regular summer residents, while Trail’s Flycatcher can be fairly numerous during the peak of its migration. Migrants tend to move through quickly, with few records of stopovers.

Seasonal occurrence: Eastern Phoebe is both the earliest flycatcher to arrive in spring and the last to leave in fall, with sightings extending from late March to early November in some years. Most other flycatchers are relatively late spring migrants, and very rarely are observed beyond the middle of the fall season. Great Crested Flycatcher and Eastern Phoebe nest at MBO in most years; others that have nested at least occasionally are Eastern Wood-Pewee, Eastern Kingbird, and Alder Flycatcher.



Trends: Among the four flycatchers that have most frequently nested at MBO (Figure 5.13), Eastern Wood-Pewee is the only one that has been distinctly more numerous in recent years, especially in fall. Great Crested Flycatcher and Eastern Phoebe have been staying common longer in fall in recent years, with Great Crested Flycatcher shifting its peak one week later, and now much more regularly observed in Weeks 5 and 6 than before, and Eastern Phoebe beginning to extend into Week 12. However, in spring both Eastern Kingbird and Eastern Phoebe have been somewhat less common in recent years.

The three regularly occurring flycatchers that are primarily or exclusively migrants (Figure 5.14) all have distinct peaks to migration in both spring and fall. In spring, both Yellow-bellied Flycatcher and Least Flycatcher have been especially numerous in recent years. Yellow-bellied Flycatcher extended its peak into Week 10 for the first time in recent years; Least Flycatcher has peaked in Week 8 in both the early and recent years, but was one week earlier in the middle years. Trail’s Flycatcher peaked in Week 10 in the early years, but has been one week earlier ever since, and also has been much more abundant in the middle and recent years. In fall, the patterns for all three species have remained relatively similar over time, although the peak of Yellow-bellied Flycatcher has been higher in recent years, and Trail’s Flycatcher is starting to extend into Week 6 in recent years. Yellow-bellied Flycatcher and Least Flycatcher both tend to peak in Week 4, whereas Trail’s Flycatcher are already on the decline by that point, after a peak in Week 2 in the early and middle years, and Week 3 in recent years.

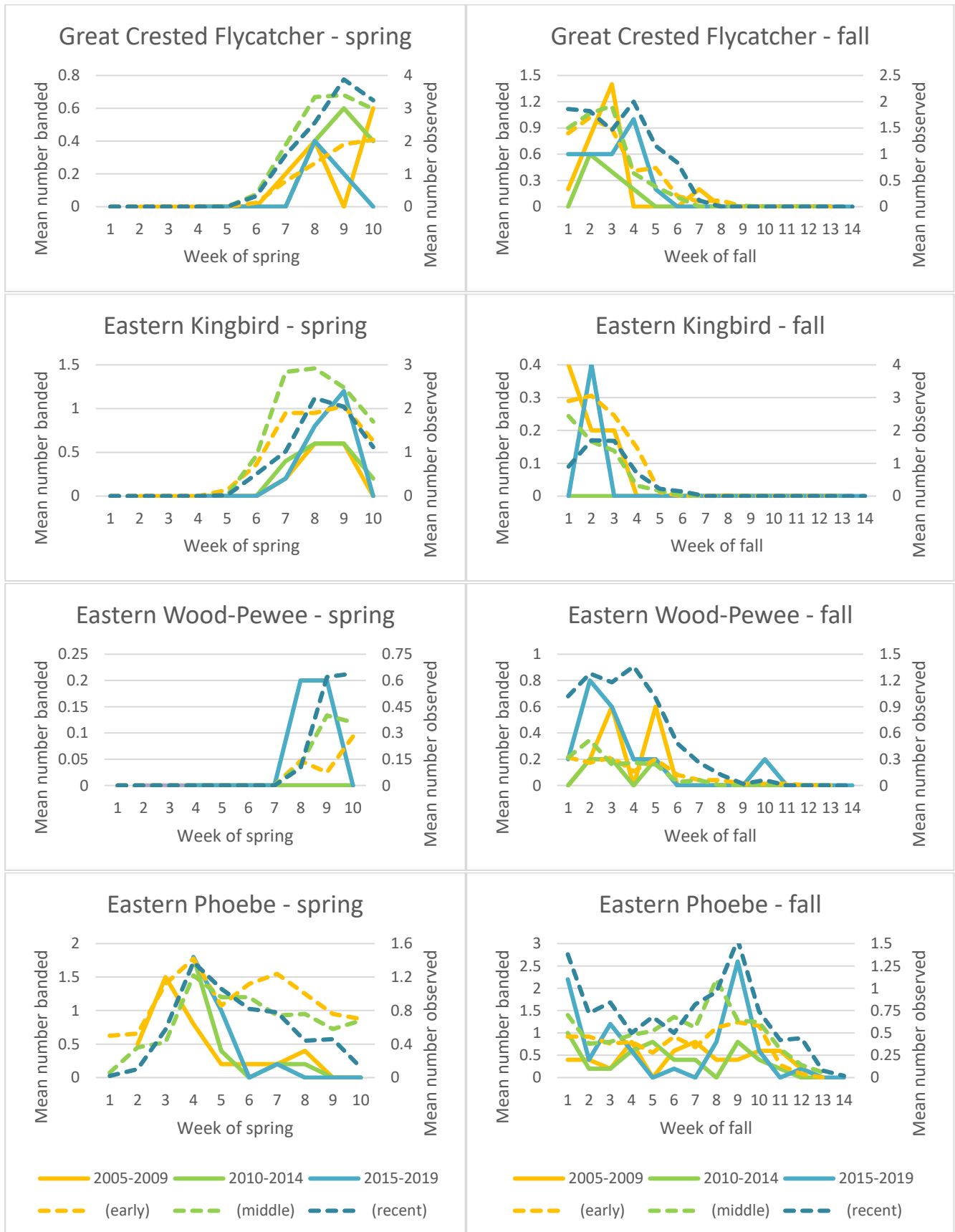


Figure 5.13: Five-year averages of weekly banding totals (solid lines) and mean daily estimated total observations (dashed lines) for Great Crested Flycatcher, Eastern Kingbird, Eastern Wood-Pewee, and Eastern Phoebe

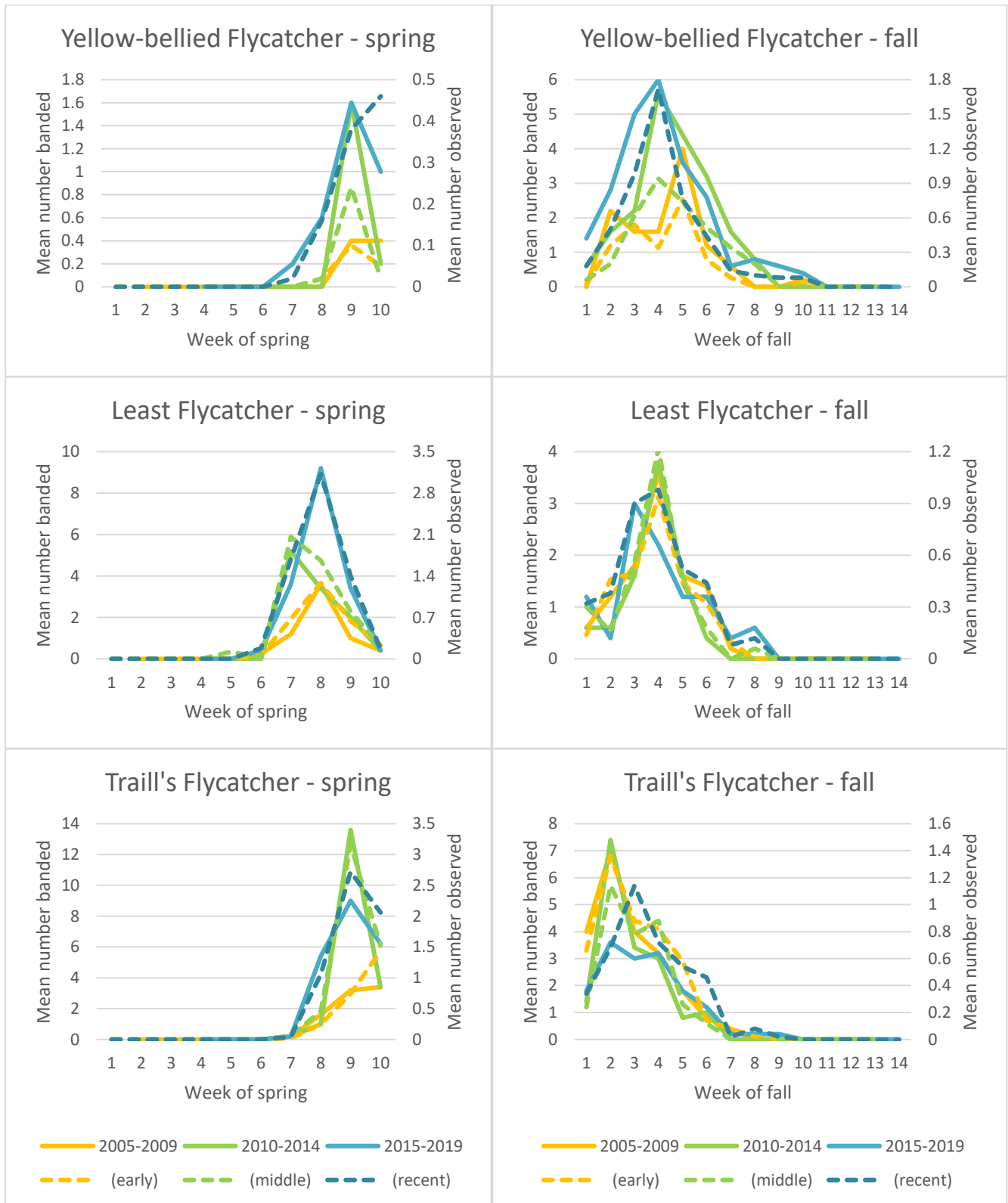


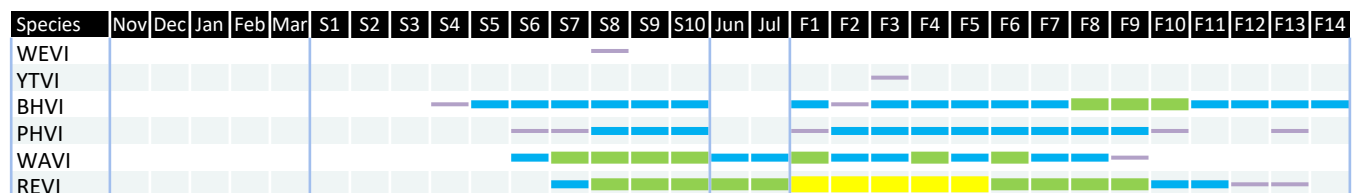
Figure 5.14: Five-year averages of weekly banding totals (solid lines) and mean daily estimated total observations (dashed lines) for Yellow-bellied Flycatcher, Least Flycatcher, and Traill's Flycatcher

5.1.11. Vireos

| | Winter | Spring | Summer | Fall | Total |
|--|----------|-------------|------------|-------------|-------------|
| Species observed annually (% of total) | 0 (0.0%) | 3 (3.1%) | 2 (7.4%) | 4 (3.8%) | 4 (3.2%) |
| Species observed total (% of total) | 0 (0.0%) | 5 (2.5%) | 2 (1.8%) | 5 (2.5%) | 6 (2.7%) |
| Individuals observed (% of total) | 0 (0.0%) | 2448 (0.5%) | 565 (3.0%) | 6296 (0.6%) | 9309 (0.6%) |
| Species banded (% of total) | 0 (0.0%) | 4 (3.7%) | 2 (3.3%) | 5 (4.5%) | 5 (3.9%) |
| Individuals banded (% of total) | 0 (0.0%) | 147 (1.0%) | 153 (8.4%) | 1746 (3.1%) | 2046 (2.6%) |

Overview: Although 6 vireo species have been observed at MBO, two of them are represented by a single record each – White-eyed Vireo on 21 May 2015, and Yellow-throated Vireo on 16 August 2016. The remaining four species all occur annually, though Philadelphia Vireo is generally quite scarce. At the opposite extreme, Red-eyed Vireo ranks 15th among all species banded at MBO.

Seasonal occurrence: Blue-headed Vireos arrive before the end of April in some years and have been observed as late as the first week of November. Otherwise though, most vireo records at MBO are from May through September, with only Warbling and Red-eyed Vireos present as breeding species. All species except Warbling Vireo are considerably more abundant in fall than spring.



Trends: The three most common vireos at MBO have all become increasingly numerous in spring over time, but patterns in fall are more complicated (Figure 5.15).

In spring, Red-eyed Vireo has maintained a distinct peak in Week 9 across all periods, but with numbers observed and banded increasing sharply from early to middle to recent years. For Warbling Vireo, the increase was greatest between the early and middle years; curiously the peak in banding has been distinctly earlier than for observations, especially in recent years. For Blue-headed Vireo, numbers dipped a bit in the middle years, then rebounded to new highs in recent years; over the past five years the peak has also advanced slightly.

The fall pattern is least clear for Warbling Vireo, likely a function of its relative scarcity. The spikes in banding patterns are not meaningful given the small numbers, but it is noteworthy that the number observed has increased substantially over the three time periods, and there is an increasingly distinct mid-season peak in migration, developing around Week 6 in the middle years, and extending to span Weeks 6 and 7 in recent years.

As in spring, Blue-headed Vireo numbers were somewhat lower during the middle years, but have rebounded. The overall number observed in recent years is slightly higher than in the early years, largely because the peak is tapering off more slowly, with far more being observed in Week 11 than in the past. Curiously, the number banded has not increased nearly as much.

The fall banding peak for Red-eyed Vireo between Weeks 5 and 7 has remained fairly consistent over time. The most notable change has been in the number observed over the first five weeks of fall. In the early years, Red-eyed Vireo occurred in fairly low numbers in August, building to a slight peak in Week 5; by the middle years, the starting point was on average nearly twice as many individuals, and in recent years, that count has increased by even more, consistent with the significant jump in numbers recorded by the MAPS program over the past five years.

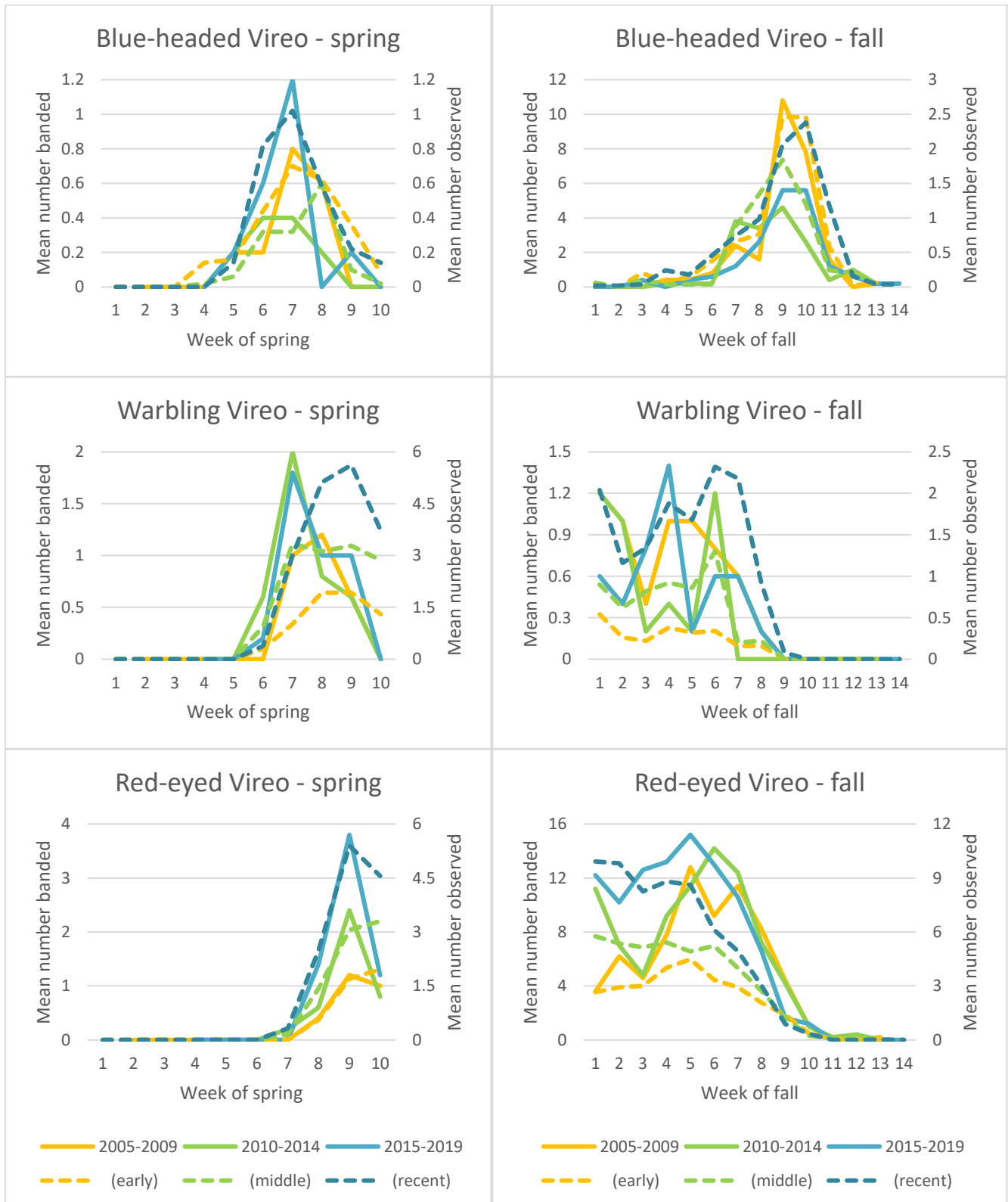


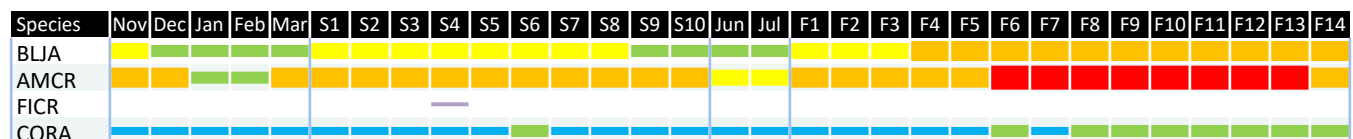
Figure 5.15: Five-year averages of weekly banding totals (solid lines) and mean daily estimated total observations (dashed lines) for Blue-headed Vireo, Warbling Vireo, and Red-eyed Vireo

5.1.12. Corvids

| | Winter | Spring | Summer | Fall | Total |
|--|--------------|--------------|-------------|---------------|---------------|
| Species observed annually (% of total) | 2 (10.5%) | 3 (3.1%) | 2 (7.4%) | 3 (2.9%) | 3 (2.4%) |
| Species observed total (% of total) | 3 (3.1%) | 4 (2.0%) | 3 (2.7%) | 3 (1.5%) | 4 (1.8%) |
| Individuals observed (% of total) | 11438 (8.2%) | 23285 (5.1%) | 1276 (6.7%) | 102900 (9.7%) | 138899 (8.3%) |
| Species banded (% of total) | 1 (2.5%) | 1 (0.9%) | 1 (1.7%) | 1 (0.9%) | 1 (0.8%) |
| Individuals banded (% of total) | 25 (0.5%) | 33 (0.2%) | 3 (0.2%) | 450 (0.8%) | 511 (0.7%) |

Overview: Of the 4 corvid species recorded at MBO, Fish Crow has only been spotted once (on 20 April 2012), whereas Blue Jay, American Crow, and Common Raven are regular year-round residents, with Blue Jay and American Crow in particular accounting for a substantial proportion of birds observed in all seasons. Blue Jay is the only corvid that has been banded.

Seasonal occurrence: Although the three regularly-occurring corvids are all present at MBO throughout the years, all of them tend to be observed in the greatest numbers from around mid-September to the end of October; sightings are generally scarcest in January and February. Blue Jay breeds at MBO, while the other two nest nearby and are seen at MBO throughout summer.



Trends: Trends vary among the three regularly occurring corvids, with Common Raven steadily increasing over time, American Crow decreasing concurrently, and Blue Jay numbers trending upward in spring, but in fall peaking in the middle years then tapering off again over the past five years (Figure 5.16).

Blue Jays are banded too seldom in spring for the plotted results to be meaningful. However, observations are much more numerous and show patterns better. Numbers were very similar through most of spring during the early and middle years, except for a sharp peak in Week 6 exclusive to the middle years. Over the most recent five-year period, numbers have been steadier throughout spring, and generally higher than in previous periods, except slightly lower than the middle years in Weeks 6 and 10. In fall, numbers banded and observed have consistently peaked in the second half of September (Weeks 7 to 9), but that peak was notably higher and broader in the middle years.

For American Crow, the pattern over the first half of spring has been consistent across the years, with a slight decline over the first three weeks, followed by a dramatic jump in Week 4 and then again a slight drop in Week 5. As with a number of other species, the spike at this time is likely to largely be a function of the increase in observer effort from a one-hour daily census over the first three weeks to a 6-hour observation period once banding begins at the start of Week 4. Similarly, the apparent drop in Week 10 may simply reflect that fewer are observed over the final four days of the season when effort again drops down to census only. In the early years, numbers built quite steadily over the course of fall, and to a lesser extent this continued through the middle years. In recent years though, numbers have increased only slightly by mid-late fall, accounting for the overall significant drop in season totals.

A largely opposite trend is apparent for Common Raven. Both in spring and fall, abundance increased from the early to middle years, and even more substantially in the recent years. Although resident in the area, observations are somewhat higher around the middle of spring, and from September onward in fall.

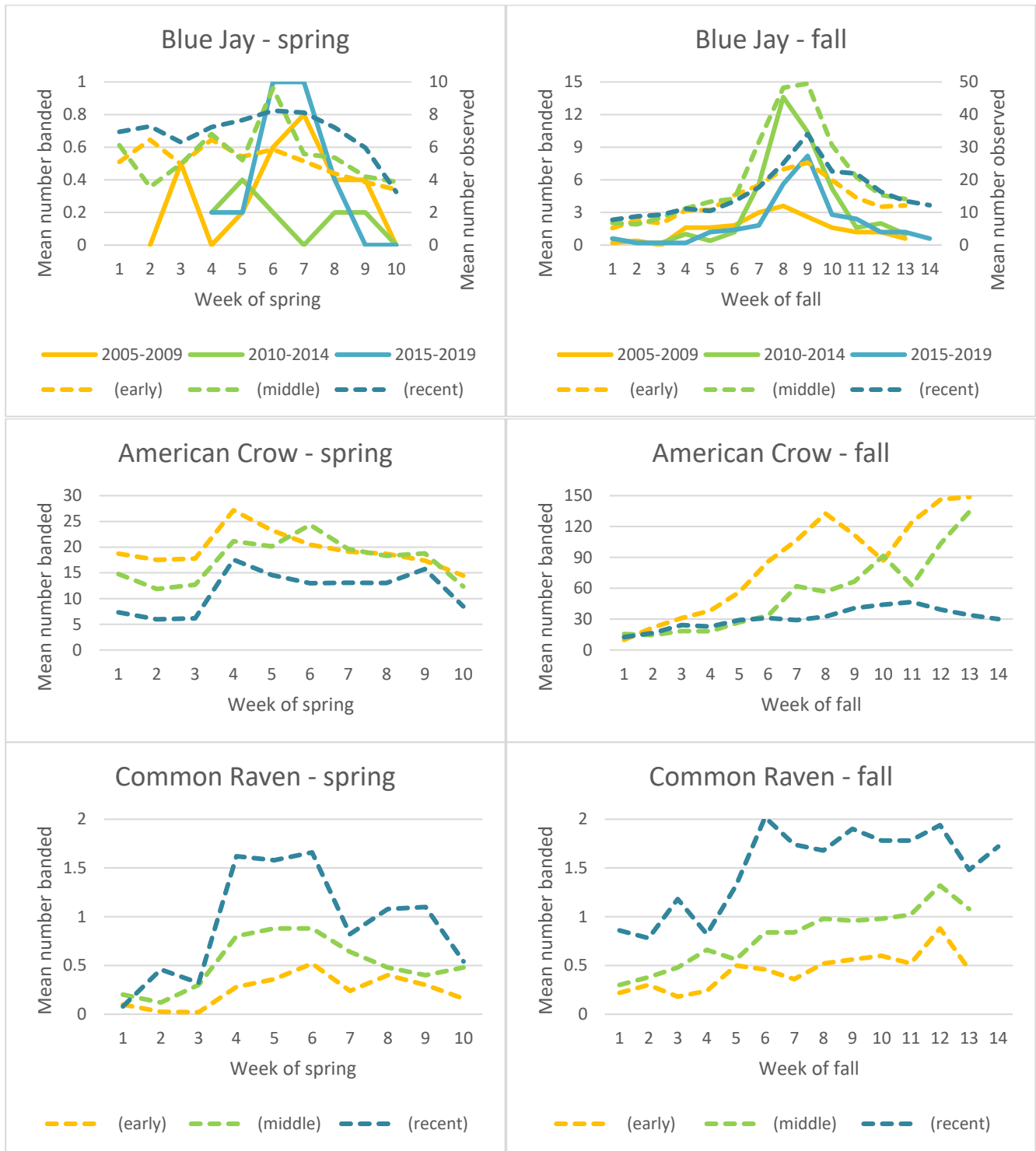


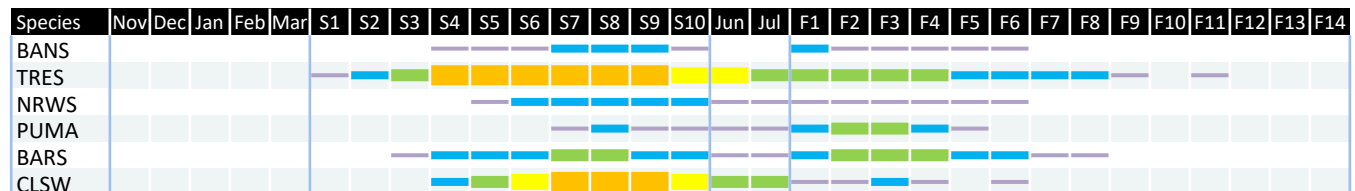
Figure 5.16: Five-year averages of weekly banding totals (solid lines) and mean daily estimated total observations (dashed lines) for Blue Jay, American Crow, and Common Raven.

5.1.13. Swallows

| | Winter | Spring | Summer | Fall | Total |
|--|----------|--------------|-------------|-------------|--------------|
| Species observed annually (% of total) | 0 (0.0%) | 4 (4.1%) | 1 (3.7%) | 2 (1.9%) | 4 (3.2%) |
| Species observed total (% of total) | 0 (0.0%) | 6 (3.0%) | 5 (4.5%) | 6 (3.0%) | 6 (2.7%) |
| Individuals observed (% of total) | 0 (0.0%) | 16301 (3.6%) | 1141 (6.0%) | 2090 (0.2%) | 19532 (1.2%) |
| Species banded (% of total) | 0 (0.0%) | 3 (2.8%) | 1 (1.7%) | 0 (0.0%) | 3 (2.4%) |
| Individuals banded (% of total) | 0 (0.0%) | 135 (0.9%) | 222 (12.2%) | 0 (0.0%) | 357 (0.5%) |

Overview: Of the 6 swallow species that have been observed at MBO, 4 have been recorded every year, while Purple Martin has only been missed once, and Bank Swallow in just three years. Swallows comprise a higher proportion of birds observed and banded in summer than in other seasons, principally because of the locally breeding Tree Swallows, but diversity tends to be greatest in spring. Barn Swallows and Cliff Swallows also breed nearby and are seen correspondingly frequently, especially in late spring; the other three species pass through mostly as migrants.

Seasonal occurrence: Tree Swallow is always the earliest to return in spring, occasionally in Week 1, but more often in Week 2. Most swallows peak in abundance around mid-May; by summer only Tree Swallow and Cliff Swallow are observed with any regularity. Fall sightings are generally more scattered, peaking overall in mid-late August as migrants gather and pass through. Only Tree Swallow has been observed past the end of September.



Trends: Tree Swallow observations in spring have fluctuated over time, although the number banded has remained fairly steady; the fall pattern for the spring has remained remarkably consistent over time, with a notable peak in Week 3 (Figure 5.17).

Barn Swallow and Cliff Swallow both had higher spring peak counts in the early years, but have remained fairly consistent since then. This is true for Cliff Swallow in fall as well, when there were high numbers in the early years in Week 1 and a smaller late peak in Week 6, periods during which hardly any have been observed since then. Consistently though there has been a Week 3 peak in fall, the same as Tree Swallow. Barn Swallow differs in lacking a consistent peak in fall, instead tending to have somewhat elevated numbers from Week 2 to Week 4. Notably, abundance during this period in recent years has been more than triple what it was previously.



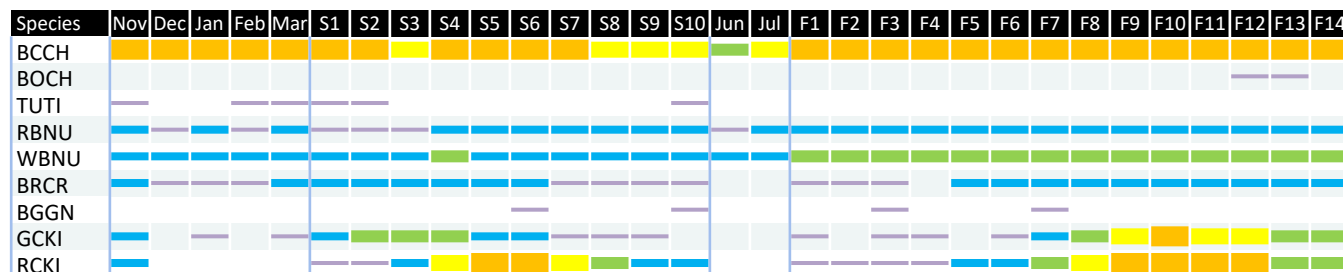
Figure 5.17: Five-year averages of weekly banding totals (solid lines) and mean daily estimated total observations (dashed lines) for Tree Swallow, Barn Swallow, and Cliff Swallow.

5.1.14. Chickadees, nuthatches, creeper, kinglets, and gnatcatcher

| | Winter | Spring | Summer | Fall | Total |
|--|-------------|--------------|------------|--------------|--------------|
| Species observed annually (% of total) | 2 (10.5%) | 5 (5.1%) | 1 (3.7%) | 6 (5.7%) | 6 (4.8%) |
| Species observed total (% of total) | 7 (7.2%) | 8 (4.0%) | 3 (2.7%) | 8 (3.9%) | 9 (4.1%) |
| Individuals observed (% of total) | 8197 (5.9%) | 16438 (3.6%) | 983 (5.1%) | 45785 (4.3%) | 71403 (4.3%) |
| Species banded (% of total) | 6 (15.0%) | 6 (5.6%) | 3 (5.0%) | 6 (5.4%) | 6 (4.7%) |
| Individuals banded (% of total) | 377 (7.5%) | 1226 (8.3%) | 93 (5.1%) | 7632 (13.5%) | 9328 (11.9%) |

Overview: This group of species includes 3 that are among the most abundant birds at MBO (Black-capped Chickadee, Golden-crowned Kinglet, and Ruby-crowned Kinglet), another 3 that occur annually in smaller numbers (Red-breasted Nuthatch, White-breasted Nuthatch, and Brown Creeper), and 3 that are rare (Boreal Chickadee, Tufted Titmouse, and Blue-gray Gnatcatcher). As a proportion of birds observed, they collectively peak in winter, driven by a consistently large Black-capped Chickadee population. However, significantly more members of this group are banded in fall than other seasons, influenced especially by the kinglets. Overall, Ruby-crowned Kinglet is the 3rd most frequently banded species at MBO, and Black-capped Chickadee is 11th.

Seasonal occurrence: Black-capped Chickadee and both White-breasted and Red-breasted Nuthatch are year-round residents; the other species are primarily migrants, although Brown Creeper occurs semi-regularly in winter, and Golden-crowned Kinglet occasionally does as well. Black-capped Chickadee and White-breasted Nuthatch breed at MBO annually, and Red-breasted Nuthatch has in at least some years. Rare observations of juvenile Brown Creepers and Golden-crowned Kinglets in early fall suggest that they may also nest within or adjacent to MBO in some years. Despite being a year-round resident, White-breasted Nuthatch is consistently more numerous throughout fall than most of the rest of the year. The kinglets have more distinct peaks than the other species in this group, with Golden-crowned Kinglet peaking two to three weeks earlier than Ruby-crowned Kinglet in spring, but largely overlapping in fall.



Trends: Black-capped Chickadee observations tend to decline gradually over the course of spring as breeding gets underway, and build as fall progresses (Figure 5.18). The latter pattern is influenced by the periodic (roughly every two to three years) influx of migrants passing through MBO, typically in October. This is reflected more in the banding totals than in observations, suggesting that perhaps the migrants are less vocal and conspicuous than residents. Throughout fall, numbers observed and banded have been somewhat below average in recent years.

For both of the kinglets, numbers observed and banded tend to correlate well in both spring and fall. The recent years have produced particularly high numbers of both species in spring, whereas there has been less evidence of change in abundance over the years in fall. However, the fall peak of Golden-crowned Kinglet has shifted one week earlier in recent years, whereas Ruby-crowned Kinglet has consistently reached its highest numbers in Week 10 across all three time periods, though in recent years its abundance in later weeks has been marginally greater than in earlier years.

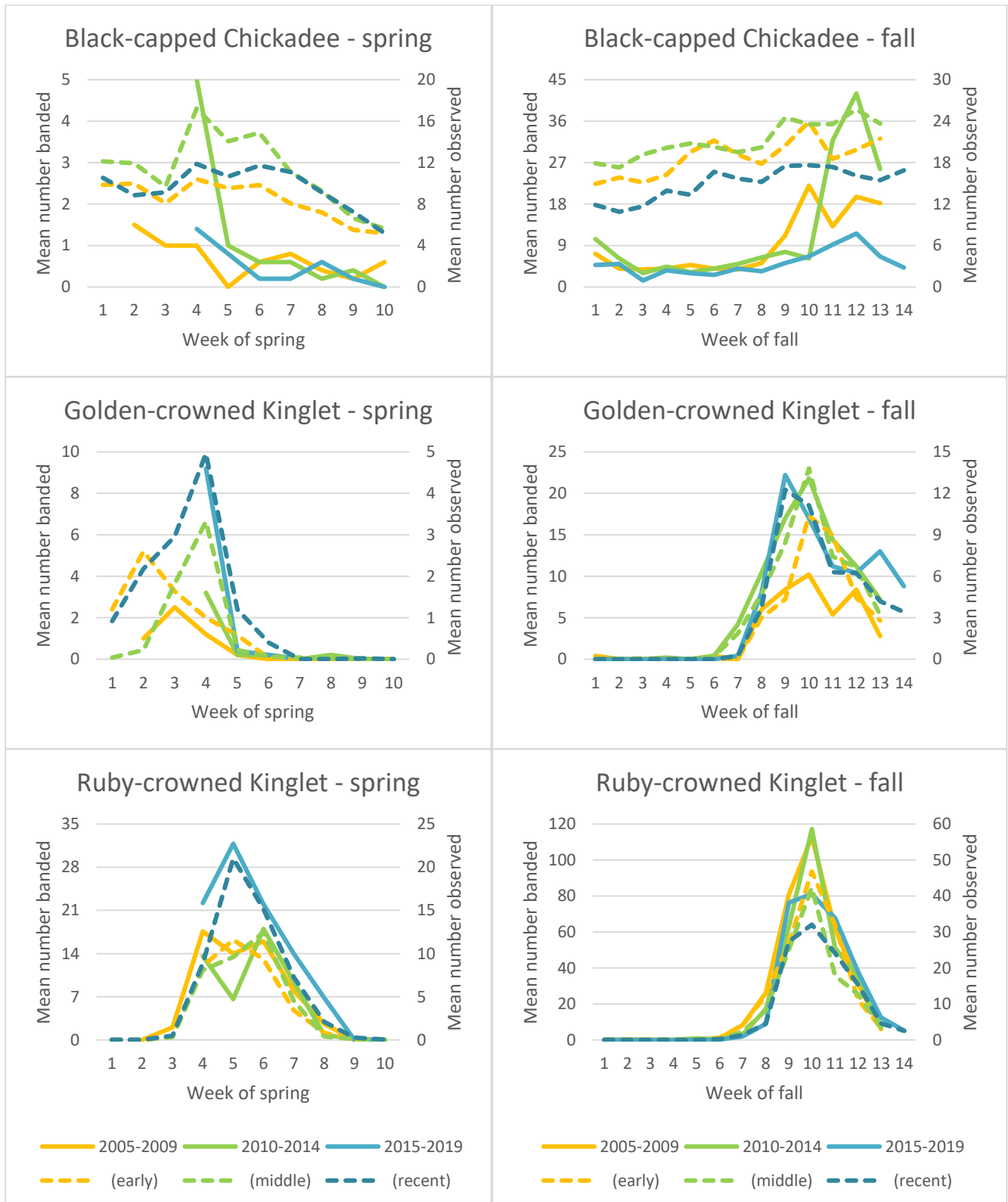


Figure 5.18: Five-year averages of weekly banding totals (solid lines) and mean daily estimated total observations (dashed lines) for Black-capped Chickadee, Golden-crowned Kinglet, and Ruby-crowned Kinglet.



Figure 5.19: Five-year averages of weekly banding totals (solid lines) and mean daily estimated total observations (dashed lines) for Red-breasted Nuthatch, White-breasted Nuthatch, and Brown Creeper.

Both of the nuthatches are banded sufficiently infrequently that there is no discernable pattern to their banding counts. What is noticeable through observations though is that both species have been considerably more abundant in recent years, with White-breasted Nuthatch (primarily a local resident) fluctuating somewhat across both seasons, contrasting with Red-breasted Nuthatch (primarily a migrant), peaking around mid-May in spring, and with two apparent pulses of movement in fall, around late August and mid-late September.

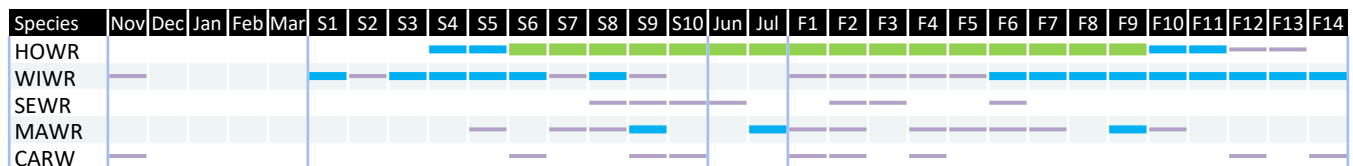
Brown Creeper has also been more abundant in spring in recent years, but in fall only the early years stand out as having somewhat lower numbers. Spring numbers consistently peak in Week 4, and fall numbers in Week 10, though in the middle years there was an additional earlier peak two weeks earlier.

5.1.15. Wrens

| | Winter | Spring | Summer | Fall | Total |
|--|----------|-------------|------------|-------------|-------------|
| Species observed annually (% of total) | 0 (0.0%) | 1 (1.0%) | 1 (3.7%) | 2 (1.9%) | 2 (1.6%) |
| Species observed total (% of total) | 2 (2.1%) | 5 (2.5%) | 3 (2.7%) | 5 (2.5%) | 5 (2.3%) |
| Individuals observed (% of total) | 5 (0.0%) | 2167 (0.5%) | 273 (1.4%) | 3017 (0.3%) | 5462 (0.3%) |
| Species banded (% of total) | 0 (0.0%) | 3 (2.8%) | 1 (1.7%) | 4 (3.6%) | 4 (3.1%) |
| Individuals banded (% of total) | 0 (0.0%) | 74 (0.5%) | 40 (2.2%) | 363 (0.6%) | 477 (0.6%) |

Overview: Although 5 wren species have been observed at MBO, only House Wren and Winter Wren occur annually; Marsh Wren has been recorded in 12 years, but often only in one season. Sedge Wren and Carolina Wren have each been observed in six or fewer years. No wrens are particularly abundant, but House Wren has been a regular enough breeder in some years for wrens to be proportionately more common in summer than other seasons. House Wren accounts for 79% of wrens banded and 90% of wrens observed overall.

Seasonal occurrence: Winter Wren has been observed as early as the first week of spring, and as late as November, but the majority of wren records overall are from mid-April to mid-October. In terms of mean daily abundance, House Wren and Winter Wren both are similar in spring and fall, yet are banded much more frequently in fall. House Wren breeds annually in the Tree Swallow boxes maintained at MBO; Sedge Wren and Carolina Wren have also been present in summer, but appear to not have bred successfully, although there were two territorial male Sedge Wrens in 2008.



Trends: In spring, House Wren has become more common over the years, especially during the final three weeks of the season; the number banded has increased especially notably in recent years (Figure 5.20). In fall, the pattern is somewhat different, with recent numbers slightly higher than in the early years, but both of those periods substantially higher than in the middle years. Consistently though across all periods, numbers decline across the first five weeks of fall, and then plateau for another month or so before largely disappearing around early October.

In spring, Winter Wren was much more abundant in the middle years than before or since. In the early and recent years, it has principally been observed in the first few weeks of spring, and with a brief bump in Week 8 (mid-May); in the middle years it was instead considerably more abundant from Week 3 through Week 6. The middle years also stand out in fall, with numbers observed and banded over those 5 years building to a peak in Week 12, whereas in the early and recent years, the peak has been in Week 10, with a sharp drop immediately after.

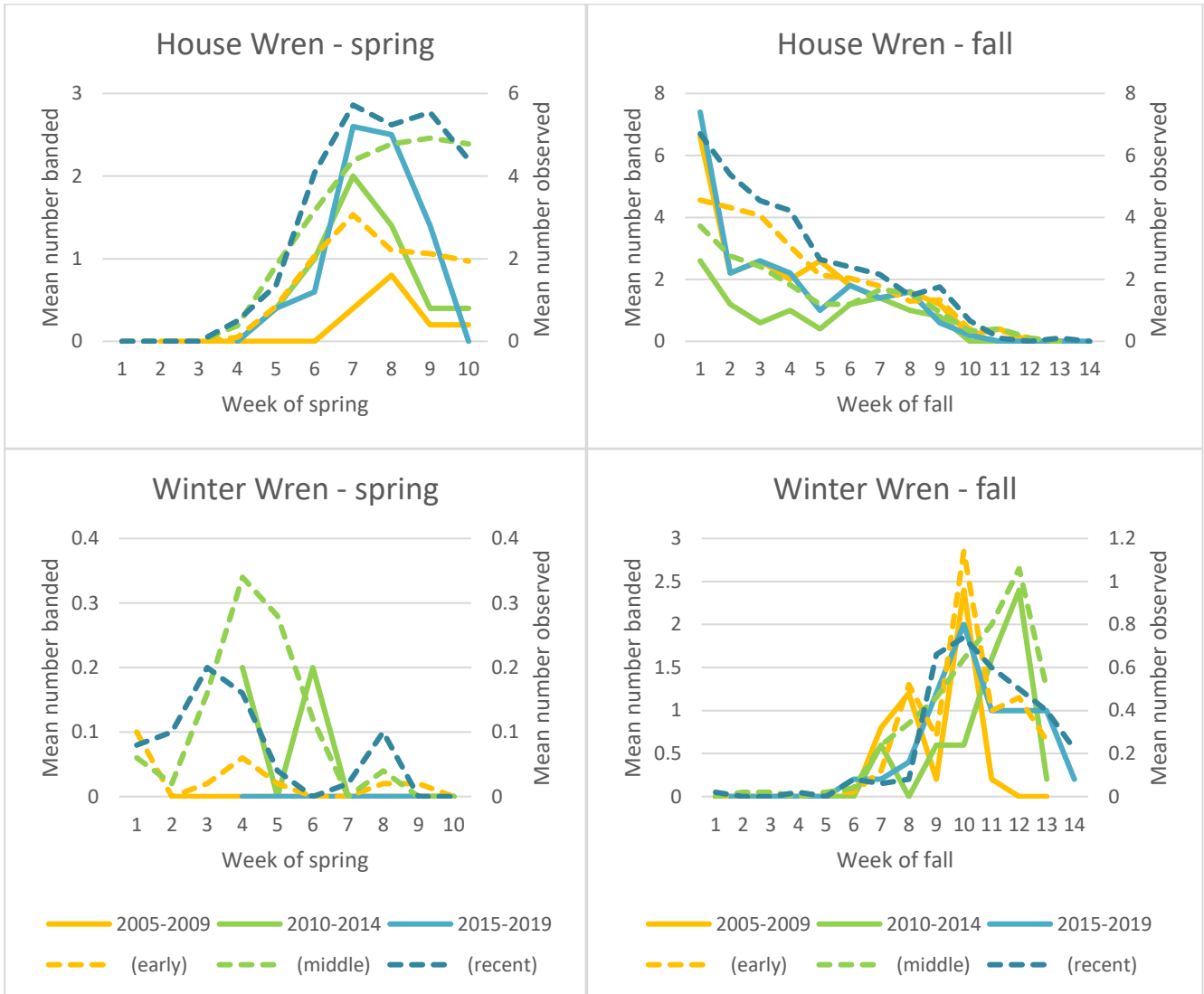


Figure 5.20: Five-year averages of weekly banding totals (solid lines) and mean daily estimated total observations (dashed lines) for House Wren and Winter Wren.



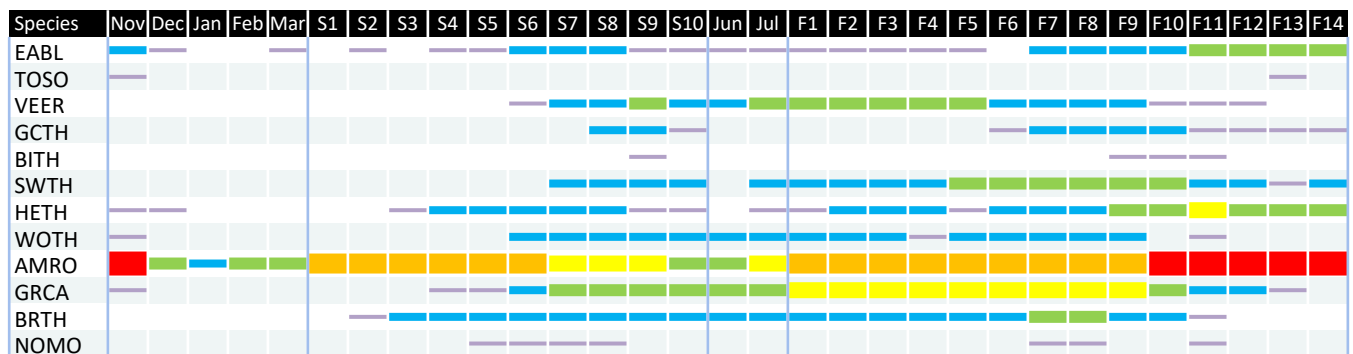
Winter Wren (left) and House Wren (right), the two most commonly banded wrens at MBO.
(Photos by Simon Duval)

5.1.16. Thrushes and mimids

| | Winter | Spring | Summer | Fall | Total |
|--|-------------|--------------|-------------|----------------|----------------|
| Species observed annually (% of total) | 1 (5.3%) | 7 (7.1%) | 3 (11.1%) | 6 (5.7%) | 9 (7.2%) |
| Species observed total (% of total) | 6 (6.2%) | 11 (5.5%) | 8 (7.2%) | 12 (5.9%) | 12 (5.4%) |
| Individuals observed (% of total) | 8810 (6.3%) | 13592 (3.0%) | 1697 (8.9%) | 144438 (13.6%) | 168537 (10.1%) |
| Species banded (% of total) | 3 (7.5%) | 10 (9.3%) | 8 (13.3%) | 10 (9.0%) | 10 (7.9%) |
| Individuals banded (% of total) | 174 (3.4%) | 698 (4.7%) | 327 (17.9%) | 6374 (11.3%) | 7573 (9.7%) |

Overview: Most of the 12 thrushes and mimids observed at MBO occur annually, but Bicknell’s Thrush and Northern Mockingbird have each been observed in six years, and there is only one record of Townsend’s Solitaire, from 30 October to 5 November, 2009. American Robin is the most abundant species of this group, with 3742 individuals banded, ranking 5th among all species, and accounting for 48% of thrushes and mimids. From early October through November, very large American Robin flocks are common.

Seasonal occurrence: American Robin is generally present year-round, although numbers from December through mid-March can be quite variable. Other thrushes and mimids mostly occur between April and October, although there also a few winter records for Eastern Bluebird, and some late fall records for Hermit Thrush, Wood Thrush, and Gray Catbird have extended into November or even December in the case of Hermit Thrush. Overall, peak periods for this group are Weeks 8 and 9 in spring (mid-late May) and Weeks 7-10 in fall (mid-September to early October). Veery, American Robin, Gray Catbird, and Brown Thrasher have consistently bred at MBO, and have in recent years been joined by Wood Thrush.



Trends: Seasonal patterns for Wood Thrush and the three common *Catharus* thrushes are presented in Figure 5.21. Wood Thrush and Swainson’s Thrush have both been far more abundant in recent years in both spring and fall. In the case of Wood Thrush numbers have been higher throughout all parts of spring and fall, and have carried over to increases during summer as well. For Swainson’s Thrush, abundance in fall was already on the rise in the middle years, but during that period there was a distinct peak in Week 7, whereas in recent years it has shifted later to Weeks 8-9.

Veery numbers have also increased in fall in recent years, most notably centred around a sharper peak in Week 4, but also with abundance in September somewhat higher than in the past. In spring, overall numbers have remained fairly similar over time, but the peak of observations has advanced by approximately one week, and the peak of banding in recent years moved up to Week 7, compared to Week 9 previously.

For Hermit Thrush, the big increase in spring numbers occurred earlier, between the early and middle years, although far more were banded in recent years than either earlier period. In fall, results from the early and recent years are very similar, other than the recent peak is shifted one week later. Numbers were higher during the middle years, when peak timing still aligned with that of the early years.

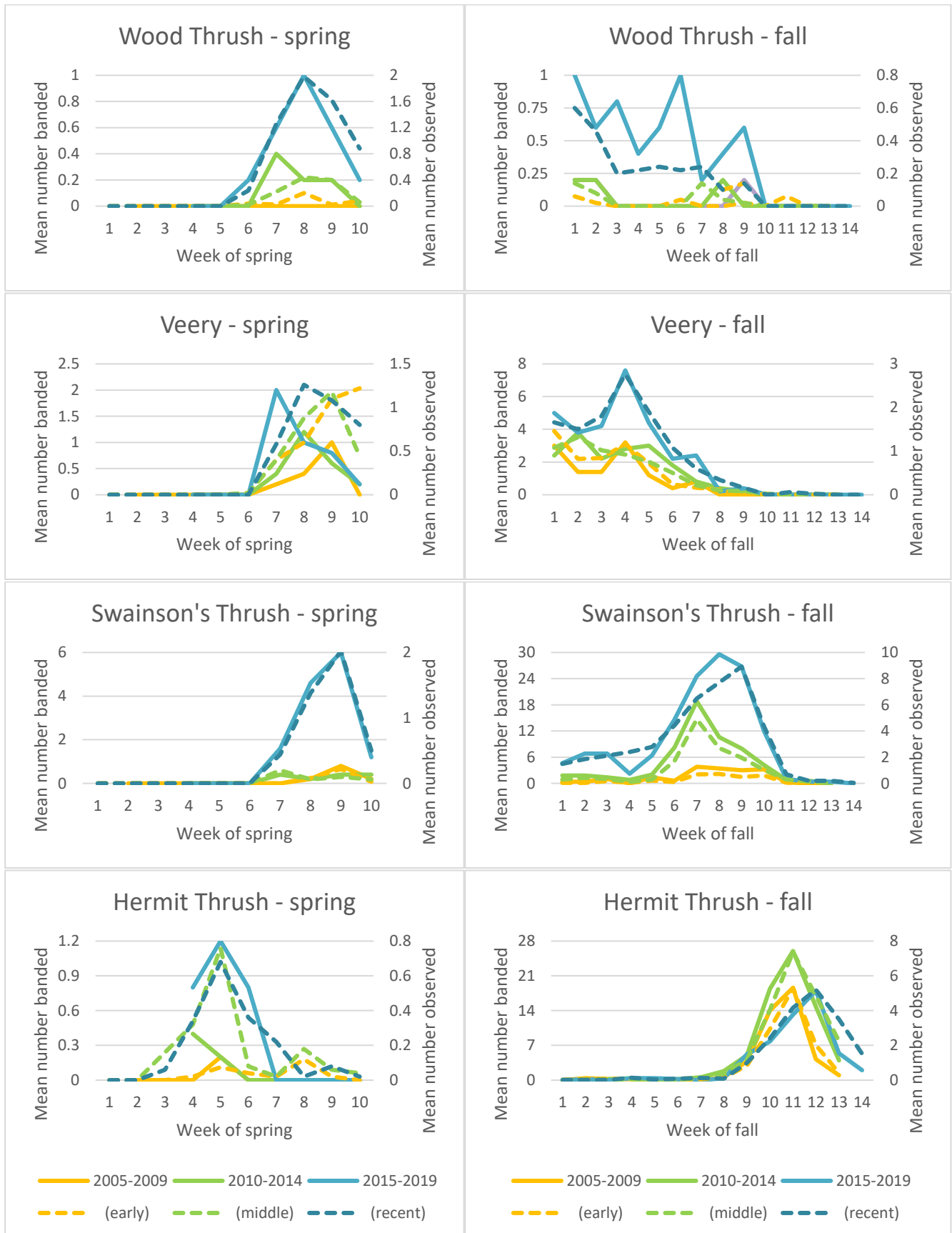


Figure 5.21: Five-year averages of weekly banding totals (solid lines) and mean daily estimated total observations (dashed lines) for Wood Thrush, Veery, Swainson's Thrush, and Hermit Thrush.

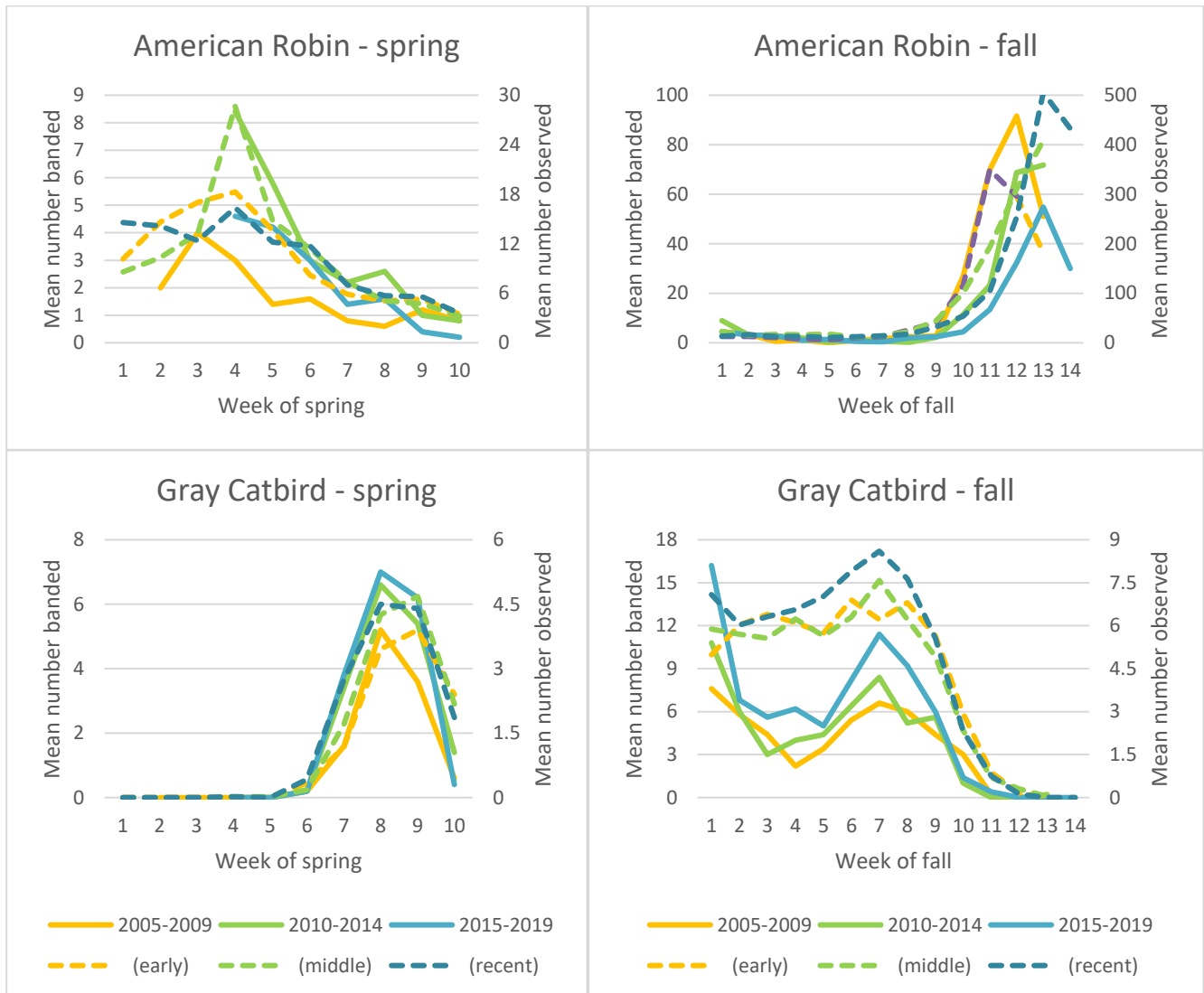


Figure 5.22: Five-year averages of weekly banding totals (solid lines) and mean daily estimated total observations (dashed lines) for American Robin and Gray Catbird.

In spring, American Robin numbers typically increase gradually to a maximum in Week 4, then taper off steadily toward the end of the season; in the middle years this peak was much more pronounced than before or since. The fall pattern is more dramatic, with relatively low numbers until a sharp increase around the end of September. The peak of observations has steadily shifted later, from Week 11 in the early years to Week 12 in the middle years, and Week 13 in recent years. The change in banding peaks is less pronounced, likely influenced by the variability in conditions that lead the larger flocks down to net level.

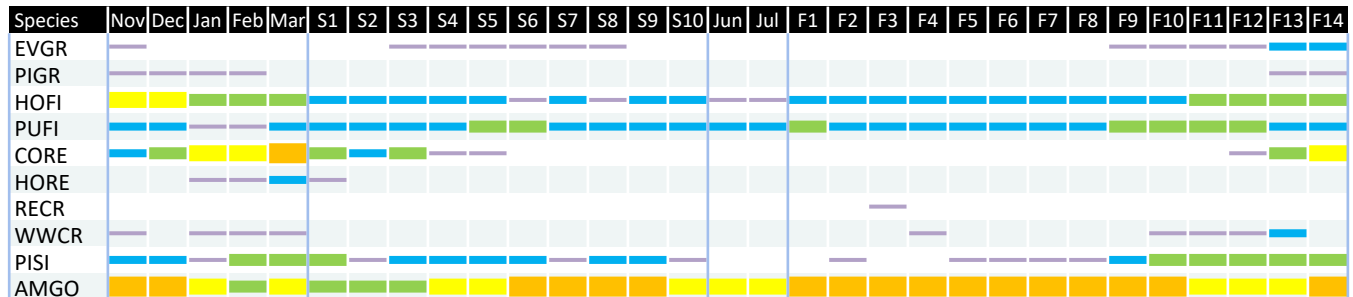
Gray Catbird patterns of occurrence in both spring and fall have changed little over time, although there have been modestly higher numbers in fall in recent years. What is notable in fall is that the number of individuals banded drops sharply after the first couple of weeks of fall before a secondary peak in the middle of the season, whereas the mean number observed tends to increase slowly throughout the first half of the season. This suggests that many of the locally produced juveniles banded early in the season continue to be observed for several weeks, and that migrants from farther north tend to begin arriving in early-mid September.

5.1.17. Finches

| | Winter | Spring | Summer | Fall | Total |
|--|--------------|--------------|-------------|--------------|--------------|
| Species observed annually (% of total) | 1 (5.3%) | 3 (3.1%) | 1 (3.7%) | 2 (1.9%) | 4 (3.2%) |
| Species observed total (% of total) | 9 (9.3%) | 7 (3.5%) | 3 (2.7%) | 9 (4.4%) | 10 (4.5%) |
| Individuals observed (% of total) | 12911 (9.3%) | 10830 (2.4%) | 1444 (7.6%) | 26158 (2.5%) | 51343 (3.1%) |
| Species banded (% of total) | 8 (20.0%) | 4 (3.7%) | 3 (5.0%) | 5 (4.5%) | 8 (6.3%) |
| Individuals banded (% of total) | 2810 (55.7%) | 750 (5.1%) | 52 (2.8%) | 1229 (2.2%) | 4841 (6.2%) |

Overview: Although 10 finch species have been observed at MBO, only House Finch, Purple Finch, and American Goldfinch are regular; Pine Siskin has also occurred annually, but in some years has been quite scarce. Evening Grosbeak, Pine Grosbeak, Hoary Redpoll, Red Crossbill, and White-winged Crossbill are all rare and irregular. American Goldfinch is by far the most common of the finches at MBO, accounting for 66% of finches banded, and ranking 8th among all species. Finches are particularly numerous in winter, comprising the majority (56%) of all birds banded at MBO in that season, compared to no more than 5% in any other season.

Seasonal occurrence: As a group, finches are present year-round, but are much more common from late fall through early spring. Only American Goldfinch routinely occurs in all seasons. House Finch and Purple Finch have also been observed at all times of year, but are only irregularly present from May through September. American Goldfinch nests at MBO annually; House Finch, Purple Finch, and Pine Siskin have bred on site at least once.



Trends: Purple Finch has been substantially more abundant in recent years than previously, in both spring and fall (Figure 5.23). In both seasons, the biggest change is that numbers in the early and middle years fluctuated mildly over the course of the season, but in recent years there have been distinct peaks, spanning Weeks 5-6 in spring, and in both Week 1 and Week 10 in fall.

House Finch has consistently been scarce in spring, but has increased marginally over time; the species typically has a modest peak around Week 4. In fall, the species was also scarce in the early years, but has been somewhat more abundant since then. Both in the middle and early years, observations have been somewhat more numerous in August than September, but numbers have increased most notably in Weeks 12 and 13 in the middle years, and a bit later in Weeks 13 and 14 in recent years.

Although present throughout spring, American Goldfinch numbers have always been much higher in the second half of the season. While not as pronounced as for many species, the peak of observations has been shifting later, from Week 7 in the early years to Week 8 in the middle years and Week 9 in recent years; the peak of banding has always lagged behind a bit, occurring in Week 8 in the early and middle years, and Week 9 in recent years. In fall, American Goldfinch is commonly observed right from the start of the season, although banding is rather infrequent over the first two to three weeks. Overall, the fall peak has tended to range from late August to around mid-September, with the highest banding counts again lagging a week or so behind observations as in spring. Numbers taper off substantially by early-mid October, and then increase sharply again right at the end of fall, as winter flocks arrive.

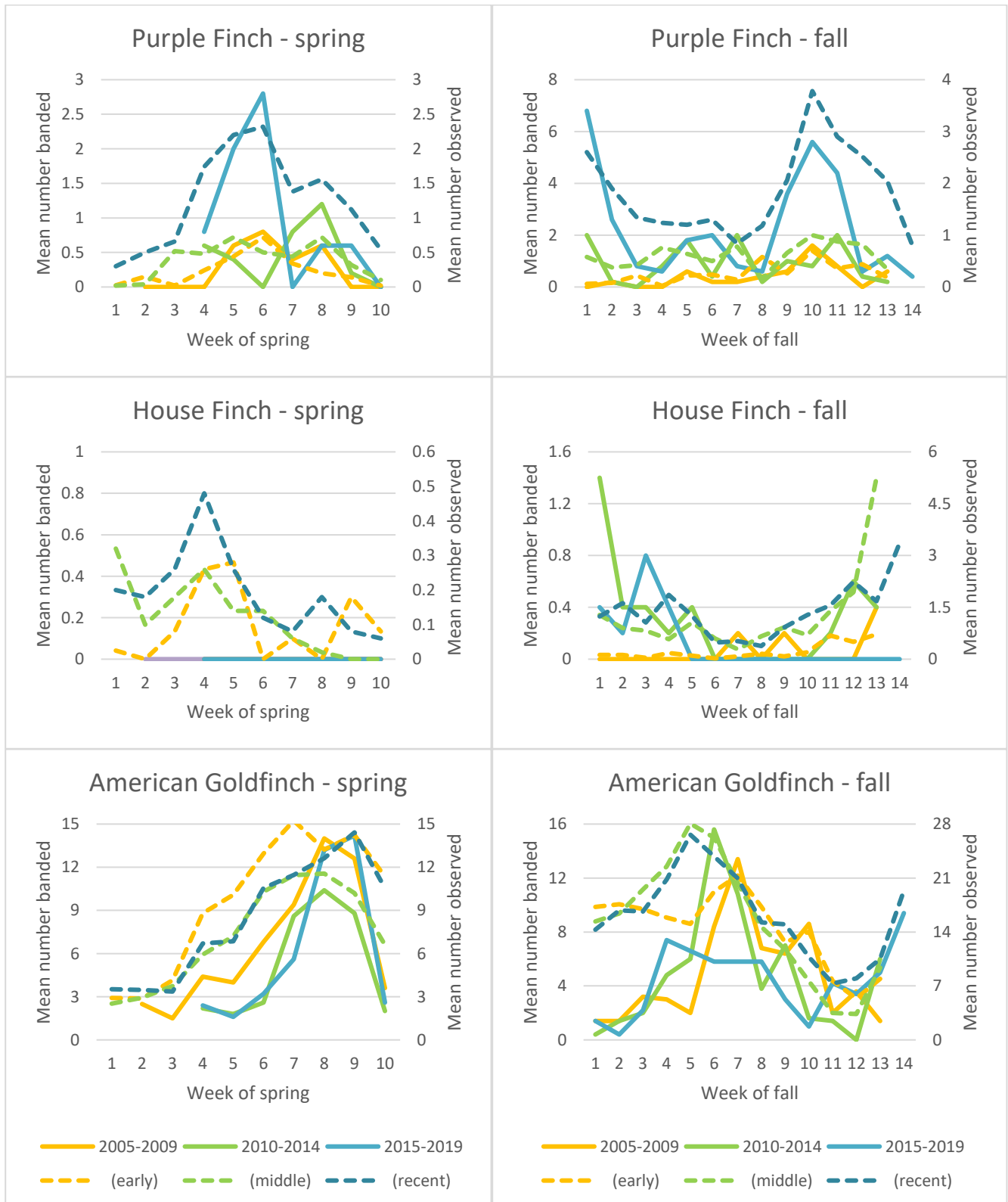


Figure 5.23: Five-year averages of weekly banding totals (solid lines) and mean daily estimated total observations (dashed lines) for Purple Finch, House Finch, and American Goldfinch.

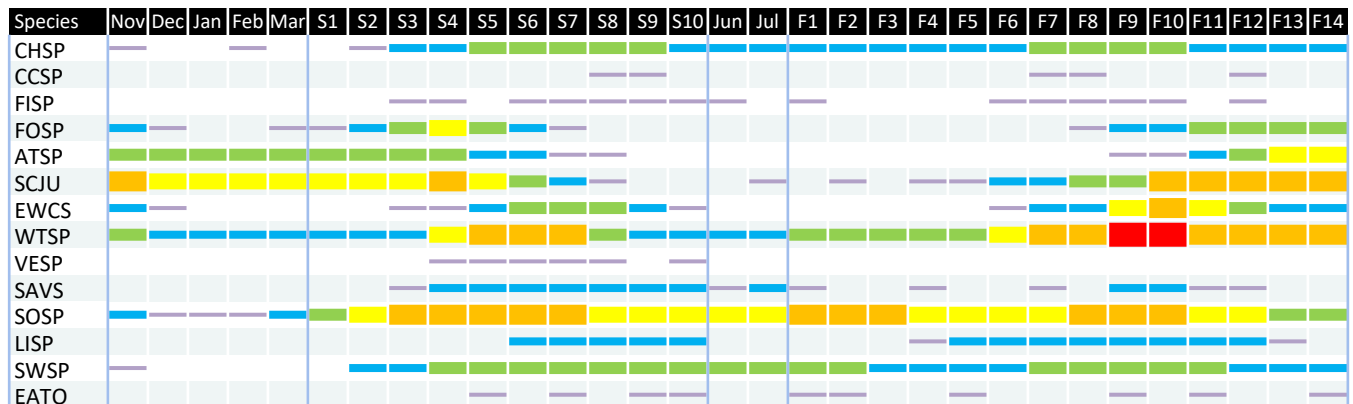
5.1.18. Sparrows

| | Winter | Spring | Summer | Fall | Total |
|--|--------------|--------------|-------------|---------------|---------------|
| Species observed annually (% of total) | 2 (10.5%) | 8 (8.2%) | 2 (7.4%) | 9 (8.6%) | 9 (7.2%) |
| Species observed total (% of total) | 8 (8.2%) | 14 (7.0%) | 7 (6.3%) | 13 (6.4%) | 14 (6.3%) |
| Individuals observed (% of total) | 8208 (5.9%) | 28318 (6.2%) | 1567 (8.2%) | 64396 (6.1%) | 102489 (6.1%) |
| Species banded (% of total) | 7 (17.5%) | 12 (11.1%) | 4 (6.7%) | 11 (9.9%) | 12 (9.4%) |
| Individuals banded (% of total) | 1227 (24.3%) | 2335 (15.9%) | 232 (12.7%) | 12827 (22.7%) | 16621 (21.3%) |

Overview: Although 14 sparrow species have been observed at MBO, Clay-colored Sparrow, Field Sparrow, Vesper Sparrow, and Eastern Towhee are all rare and irregular, and even Savannah Sparrow has not been observed in all years. Conversely, three sparrows are among the ten most frequently banded birds at MBO: White-throated Sparrow (second), Song Sparrow (6th), and Dark-eyed Junco (7th).

Seasonal occurrence: Sparrows are present at MBO throughout the year, but almost all species are limited to certain seasons. Only White-throated Sparrow routinely occurs year-round, although relatively uncommon in both summer and winter; Song Sparrow has also been observed at all times of year, but is only occasionally present in winter. American Tree Sparrow and Dark-eyed Junco are the only other sparrows to regularly overwinter. Song, Swamp, and White-throated Sparrows breed at MBO annually, and Chipping Sparrow breeds occasionally.

In spring, several sparrow species are routinely present from the start of the season, but diversity and abundance increase toward the middle of the season, peaking in late April and early May. By mid-late May, only Song Sparrow and Swamp Sparrow remain common. In fall, sparrows present in the first several weeks of the season are primarily local breeders, but by early-mid September they are joined by Lincoln’s Sparrows, soon followed by the first White-crowned Sparrows and Dark-eyed Juncos of the season, and eventually in early-mid October in most years by Fox Sparrows and American Tree Sparrows. Many of these late fall migrants linger into November, and occasionally even December.



Trends: Figure 5.24 summarizes the seasonal patterns of the three sparrows that are most restricted to early spring and late fall. Fox Sparrow peaked in Week 4 of spring in the early and middle years, but has remained similarly abundant into Week 5 in recent years. In fall, the arrival of Fox Sparrows appears to be shifting later, resulting in fewer individuals being observed during the fall season over time, even despite the addition of Week 14. A similar pattern is apparent for American Tree Sparrow in fall, although for it, the difference appears to have only developed over the past five years. In spring, American Tree Sparrow abundance during the first three weeks has remained fairly similar over the years, but it has become steadily more numerous in Week 4. Dark-eyed Junco has consistently peaked in Week 4 of spring, but like Fox Sparrow, has become increasingly abundant in Week 5 in recent years as well. In fall, Dark-eyed Junco has been substantially less numerous in recent years, no longer increasing substantially from Week 10 onward, as it did previously.

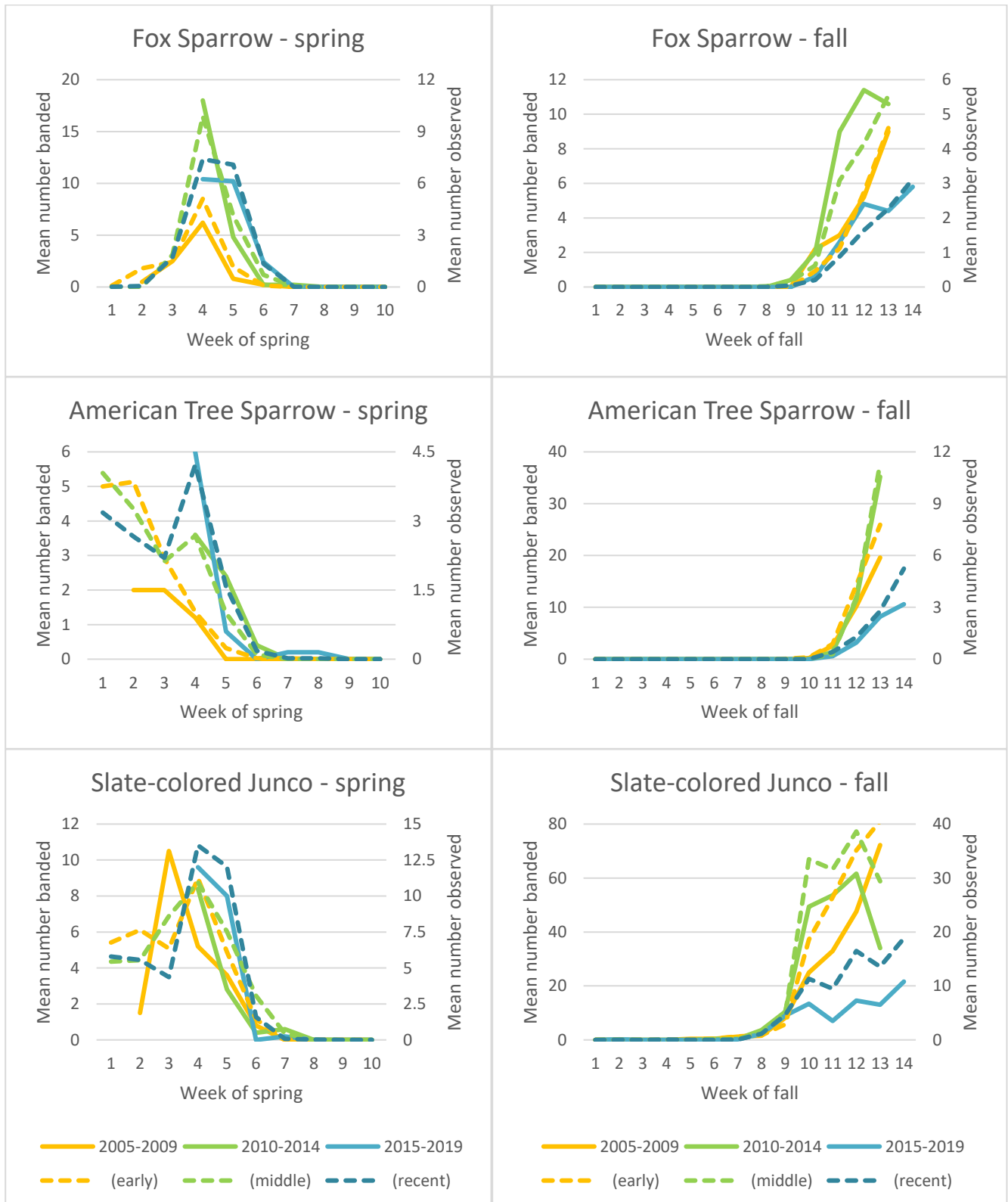


Figure 5.24: Five-year averages of weekly banding totals (solid lines) and mean daily estimated total observations (dashed lines) for Fox Sparrow, American Tree Sparrow, and Dark-eyed Junco.



Figure 5.25: Five-year averages of weekly banding totals (solid lines) and mean daily estimated total observations (dashed lines) for Chipping Sparrow, White-crowned Sparrow, and White-throated Sparrow.

White-crowned Sparrow and White-throated Sparrow both consistently have well-defined peaks of fall migration centred on Week 10, although White-throated Sparrow is often already quite abundant already in Week 9. Whereas White-throated Sparrow has increased slightly over the years, there has been a more substantial decline in White-crowned Sparrow abundance over the same time. In spring, White-throated Sparrow migrates earlier than White-crowned Sparrow, although its peak has over time shifted from early to mid-May; White-crowned Sparrow has in recent years also shifted one week later, to Week 8. Chipping Sparrow has less clearly defined seasonal patterns of occurrence, although in fall it appears that local birds may clear out before migrants move through. Curiously the number banded in fall has dropped substantially in recent years, although the number observed has not changed much compared to earlier periods.

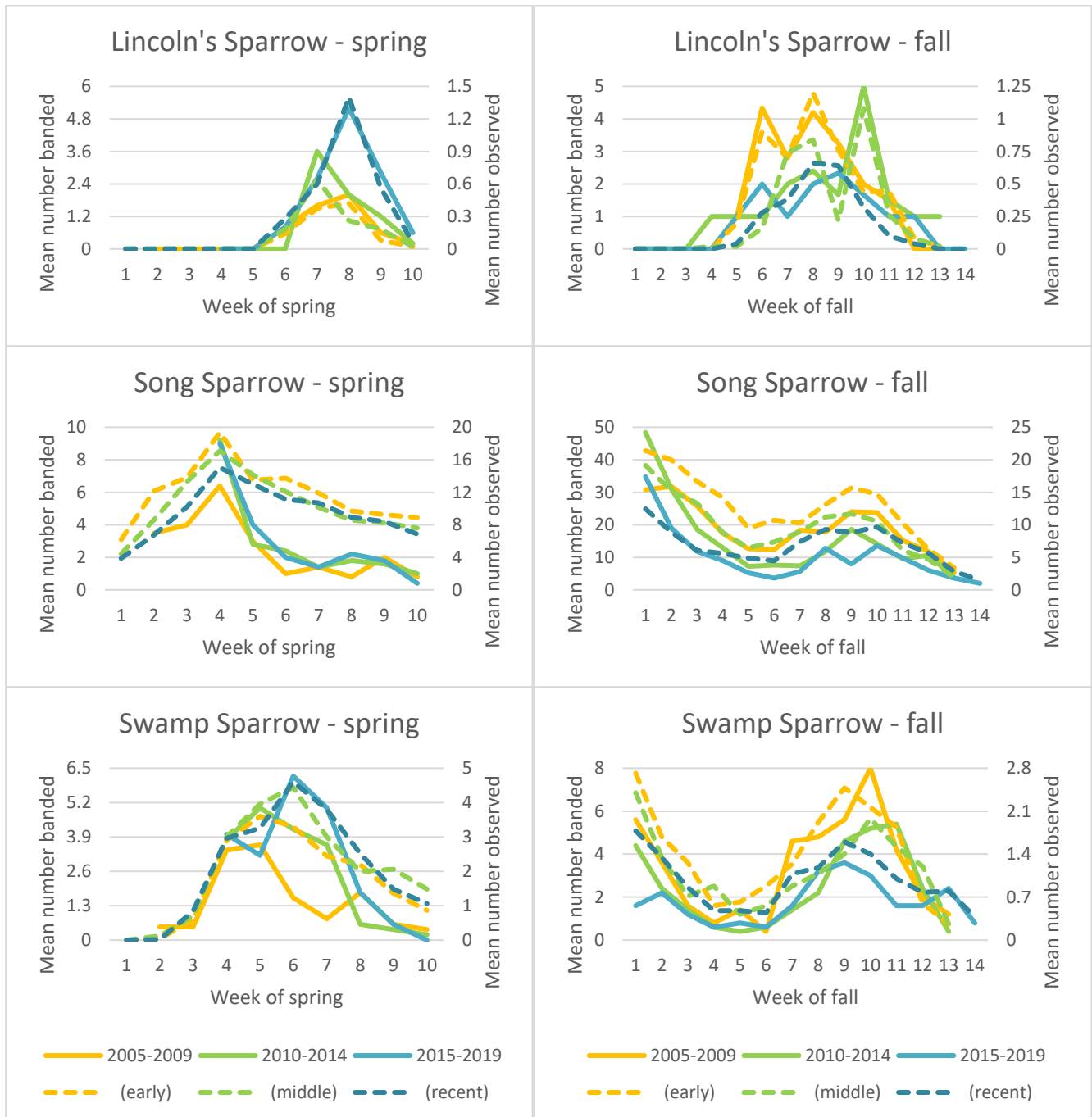


Figure 5.26: Five-year averages of weekly banding totals (solid lines) and mean daily estimated total observations (dashed lines) for Lincoln's Sparrow, Song Sparrow, and Swamp Sparrow.

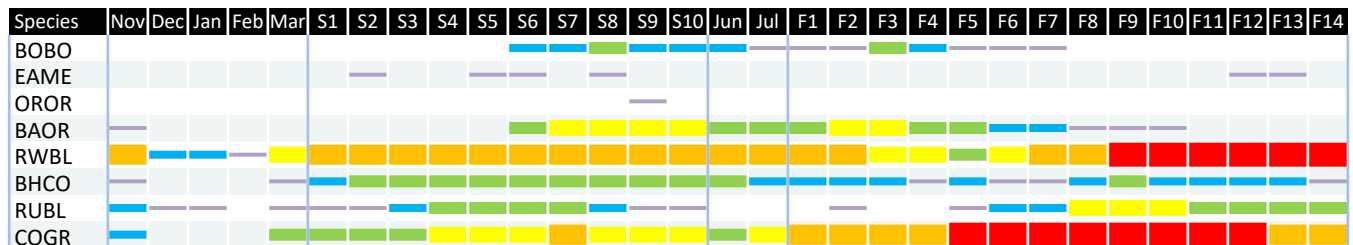
Lincoln's Sparrow occurs at MBO only as a migrant; in spring it has been much more numerous in recent years, and a bit later than previously; in fall numbers tend to fluctuate between Weeks 6 and 10, with notably fewer in recent years. Song and Swamp Sparrows both breed at MBO and show some similar patterns. Song Sparrow peaks earlier in spring (Week 4 vs. Weeks 5-6), and there is a greater drop-off in birds banded vs. observed, suggesting that many of the Song Sparrow sightings in the second half of spring involve residents. In fall, both species start high and decline to a low around Week 5, before rebounding to a second peak around Weeks 9-10. Both species have progressively declined in abundance in fall over time, although relatively slightly.

5.1.19. Blackbirds

| | Winter | Spring | Summer | Fall | Total |
|--|-------------|---------------|--------------|----------------|----------------|
| Species observed annually (% of total) | 1 (5.3%) | 6 (6.1%) | 3 (11.1%) | 5 (4.8%) | 6 (4.8%) |
| Species observed total (% of total) | 5 (5.2%) | 8 (4.0%) | 5 (4.5%) | 7 (3.4%) | 8 (3.6%) |
| Individuals observed (% of total) | 5373 (3.9%) | 55853 (12.3%) | 3667 (19.2%) | 187194 (17.7%) | 252087 (15.1%) |
| Species banded (% of total) | 4 (10.0%) | 6 (5.6%) | 4 (6.7%) | 5 (4.5%) | 6 (4.7%) |
| Individuals banded (% of total) | 75 (1.5%) | 1816 (12.3%) | 135 (7.4%) | 662 (1.2%) | 2688 (3.4%) |

Overview: Of the eight blackbird species recorded at MBO, only Eastern Meadowlark and Orchard Oriole do not occur annually; Bobolink has been observed every spring, but is sometimes absent in fall. By numbers, far more blackbirds are observed in fall than any other season, as large flocks of Common Grackle are common through most of September and October, and are joined by similarly large numbers of Red-winged Blackbirds from late September through the end of fall. However, relatively few are banded, in contrast to spring when the proportion of blackbirds observed and banded relative to overall totals for the season are identical. Red-winged Blackbird is the 14th most frequently banded bird at MBO overall, but ranks first in spring.

Seasonal occurrence: Blackbirds are primarily present at MBO from late winter or early spring to late fall or early winter, although a few Red-winged Blackbirds have overwintered, and there are also a handful of mid-winter records for Rusty Blackbird. Bobolink and Baltimore Oriole, are present only from mid-spring to early fall; Brown-headed Cowbird sightings span March to November, but the species is generally common only in spring and early summer. Red-winged Blackbird is likely the most numerous breeding bird at MBO; other species that breed on site annually are Common Grackle, Brown-headed Cowbird, and Baltimore Oriole.



Trends: Baltimore Oriole is the latest of the common blackbirds to arrive in spring, with the first individuals generally returning in Week 6, followed by a rapid increase to peak levels in Weeks 7 and 8 (Figure 5.27). Numbers taper off notably in the final two weeks of spring despite multiple pairs usually breeding at MBO, suggesting that some of the individuals observed and banded in mid-May are migrants passing through. In fall, the pattern of observations from Week 3 onward has been nearly identical across the years, and the same is true for banding records beginning in Week 4. In the early and recent years, fall numbers were highest in the first two weeks of fall, but in the middle years, the species was unusually scarce at that time, instead increasing to a Week 3 peak.

Brown-headed Cowbird is banded too infrequently in spring for patterns to be meaningful, but it is noteworthy that observations throughout the season became more scarce from the early to the middle years, and have in most weeks declined further in recent years. In fall, the species is uncommon at best throughout most of the season, aside from a surprisingly consistent sharp peak in Week 9.

Rusty Blackbird consistently peaks in Week 5 in spring, and has increased substantially over time, an encouraging trend for a bird listed as a species at risk in Canada. That trend does not carry over to fall though, where there was a strong peak of observations in Weeks 8-9 in the early years, compared to a more subdued plateau stretching from around Week 8 to Week 12 in the middle and recent years.

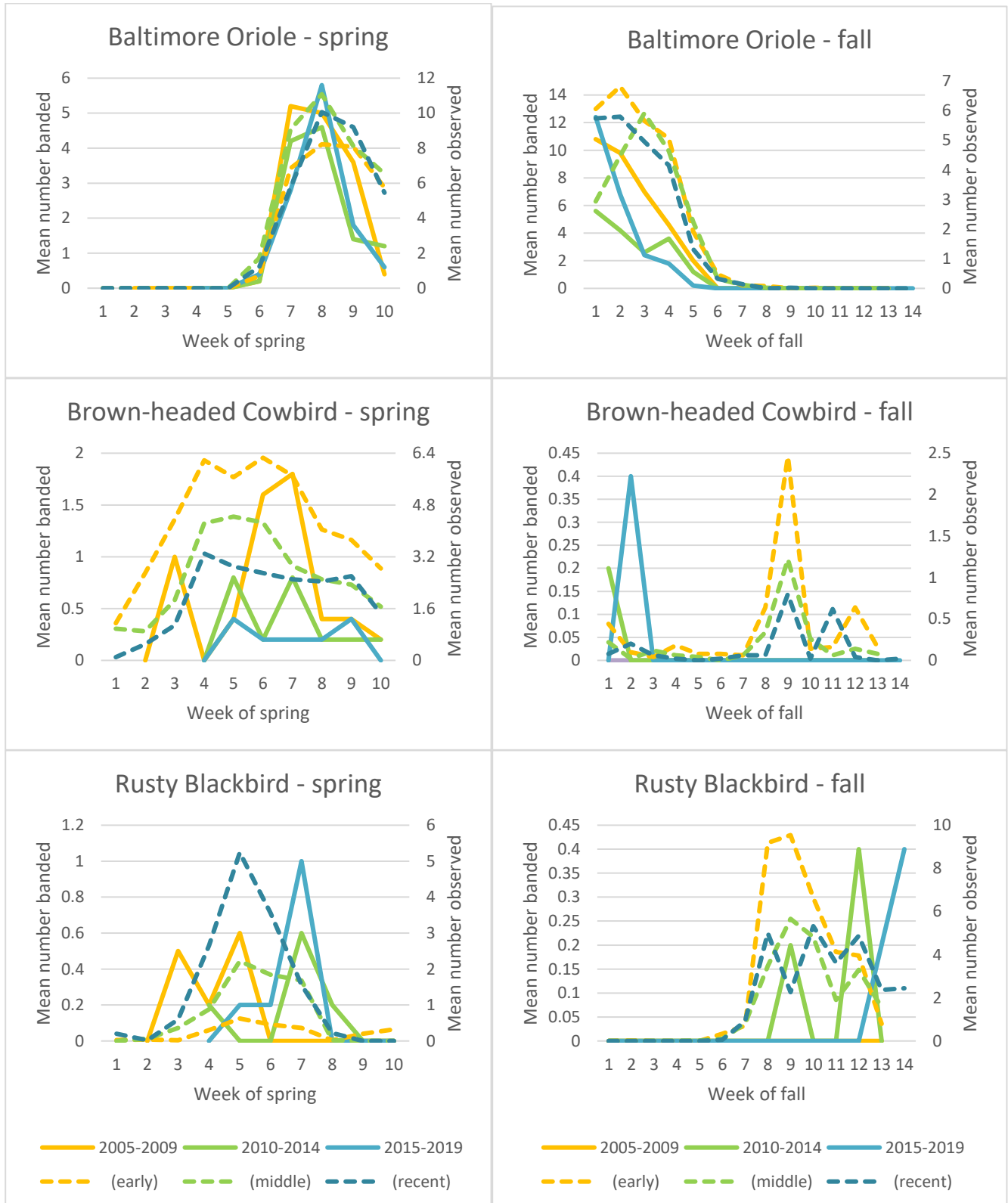


Figure 5.27: Five-year averages of weekly banding totals (solid lines) and mean daily estimated total observations (dashed lines) for Baltimore Oriole, Brown-headed Cowbird, and Rusty Blackbird.

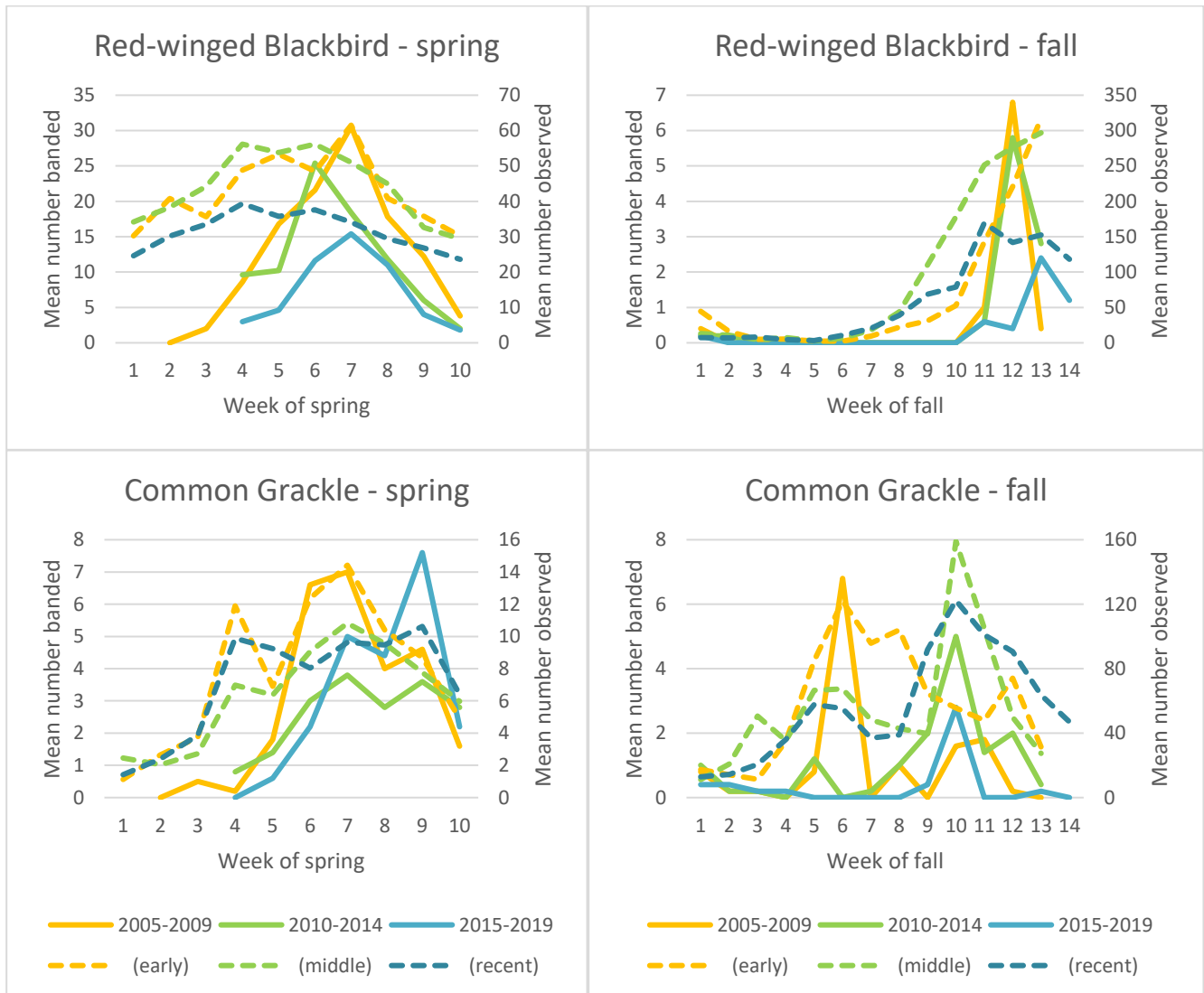


Figure 5.28: Five-year averages of weekly banding totals (solid lines) and mean daily estimated total observations (dashed lines) for Red-winged Blackbird and Common Grackle.

In spring, both Red-winged Blackbird and Common Grackle observations steadily increase over the first four weeks, more or less plateau for a few weeks, and then taper off over the final two to three weeks of the season. Yet the peak of banding is not until Weeks 7-8 for Red-winged Blackbird and ranges from Week 7 to as late as Week 9 in recent years for Common Grackle; perhaps these species are more susceptible to being captured once they have started nesting later in the season. Red-winged Blackbird abundance was fairly similar in the early and middle years, but substantially lower throughout the season in recent years; banding numbers were already much lower in the middle years and continued to decline. The pattern is somewhat different for Common Grackle, which in recent years has largely rebounded to the levels it was at in the early years, after falling to lower levels in between.

In fall, Red-winged Blackbird is generally scarce over the first half of the season. In the middle years, it began increasing rapidly after Week 8, but otherwise the peak has tended to start only after Week 10. In the early and middle years, numbers continued to grow through the end of the season in Week 13, but in recent years they have plateaued from Week 10 onward, resulting in much lower season totals. For Common Grackle, overall abundance in fall has not changed dramatically, but there has been a distinct shift in timing, from a peak spanning Weeks 6-8 in the early years to a sharper and shorter peak centred around Week 10 ever since.

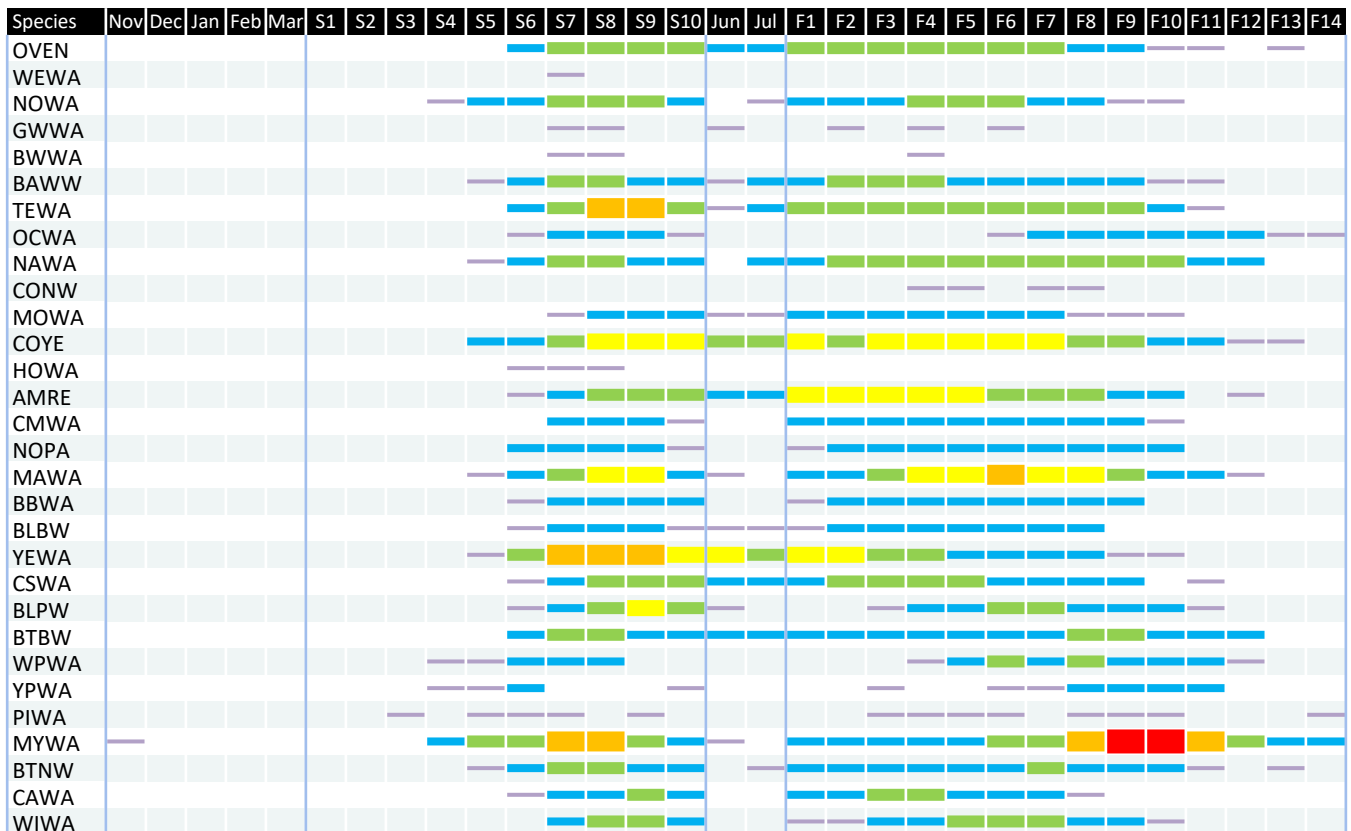
5.1.20. Warblers

| | Winter | Spring | Summer | Fall | Total |
|--|----------|--------------|-------------|---------------|---------------|
| Species observed annually (% of total) | 0 (0.0%) | 17 (17.3%) | 3 (11.1%) | 21 (20.0%) | 23 (18.4%) |
| Species observed total (% of total) | 1 (1.0%) | 28 (14.1%) | 17 (15.3%) | 27 (13.3%) | 29 (13.1%) |
| Individuals observed (% of total) | 1 (0.0%) | 23979 (5.3%) | 1746 (9.1%) | 46320 (4.4%) | 72046 (4.3%) |
| Species banded (% of total) | 0 (0.0%) | 27 (25.0%) | 14 (23.3%) | 27 (24.3%) | 29 (22.8%) |
| Individuals banded (% of total) | 0 (0.0%) | 5762 (39.2%) | 291 (15.9%) | 20038 (35.5%) | 26091 (33.4%) |

Overview: Far more species of warbler (29) have been observed at MBO than any other group, with 23 species (79%) observed at least once annually. All species have been banded, and warblers collectively account for just over one-third of all birds banded at MBO to date. Yellow-rumped Warbler is the most frequently banded species at MBO, although most of them were banded in either fall 2008 (25%) or fall 2010 (35%). Another 3 species are among the top ten birds banded at MBO (Magnolia Warbler 4th, Tennessee Warbler 9th, American Redstart 10th).

Seasonal occurrence: All warblers at MBO are migrants, with observations limited to between mid-April and late October, except for rare Yellow-rumped Warbler records in November.

Eleven warbler species have been observed in the first half of spring, but only Northern Waterthrush, Common Yellowthroat, and Yellow-rumped Warbler occur then with any regularity. Rather, the majority of species begin arriving in early May, peaking sharply within the three-week period from Week 7 to Week 9 (May 9-29).



Although 17 warbler species have been observed at MBO during summer, many of them are limited to being late spring migrants (Magnolia Warbler, Blackpoll Warbler, Yellow-rumped Warbler), early fall migrants (Northern Waterthrush, Nashville Warbler, Black-throated Green Warbler), or both (Tennessee Warbler). Only three species are believed to have bred at MBO in all years (Ovenbird, Common Yellowthroat, Yellow Warbler), though American Redstart has also become firmly established as a breeder since 2013. Another four species (Black-and-

white Warbler, Blackburnian Warbler, Chestnut-sided Warbler, and Black-throated Blue Warbler have nested in at least some years.

Fall migration of warblers is more spread out through the season than in spring, though by the final two weeks only Yellow-rumped Warbler is more than very rare, and even by Week 12 (October 17-23) there are just three other species that are at all regular (Orange-crowned Warbler, Nashville Warbler, and Black-throated Blue Warbler). Diversity is generally high over the remainder of the season, though it tends to be highest from Weeks 6 to 8 (September 5-25), with a cumulative total of 25 species observed in each of those three periods.

Ovenbird, Northern Waterthrush, and Canada Warbler have all become considerably more abundant in spring over time (Figure 5.29). Canada Warbler has maintained a consistent peak in Week 9, though in recent years the number observed and banded in Week 8 has also been much higher than in earlier years. Northern Waterthrush peaked in Week 9 in the early years, but has advanced to Week 8 since then. Ovenbird timing has been somewhat more variable, loosely centred around Week 8. In fall, the pattern of occurrence for Canada Warbler has stayed quite similar over time, other than the peak shifting one week later in recent years, and with a growing number of records in Weeks 8 since 2015. Similarly, the overall pattern for Northern Waterthrush has remained largely consistent, though the main peak around the end of August was more pronounced in the middle years, and like Canada Warbler, there have been more sightings beyond early September in recent years. Ovenbird has shown the greatest change in recent years, with higher numbers throughout the season than before, but especially high numbers during the first three weeks, contrasting with a previously sharp increase to a peak in Week 4. This appears to reflect at least in part an increase in the local breeding population, but must also include migrants on the move earlier than in the past.

Common Yellowthroat, Tennessee Warbler, and American Redstart are among the most common warblers at MBO, and all have over time increased in abundance in spring and/or fall (Figure 5.30). The increase is slightest for Common Yellowthroat, which had somewhat higher numbers in spring in recent years, especially late in the season, but in fall was actually a bit more abundant in the middle years. Tennessee Warbler was only fairly common in the early years, but has been substantially more numerous since then. In fall, the highest numbers occurred during the middle years, when the peak of migration advanced from Week 7 to Weeks 4-5; curiously in recent years numbers in the first half of fall have returned to levels similar to the early years, but there is a more pronounced peak in Week 8. Whereas fall numbers have dropped off from their peak in the middle years, spring counts have continued to increase, nearly twice as high in recent years as in the middle years. Spring migration has also shifted earlier in recent years.

American Redstart numbers increased notably from the early years to the middle years, and even more dramatically again to the recent years, in both spring and fall. In spring, the peak has remained in Week 9 across all three periods, although in recent years numbers were almost equally high already in Week 8. In fall, migration has advanced substantially, with an initial peak around Week 4-5 in the early years, around Week 2-3 in the middle years, and at a fairly steady high level throughout the first three weeks of the season in recent years. From Week 6 onward, results have remained fairly consistent across the years.

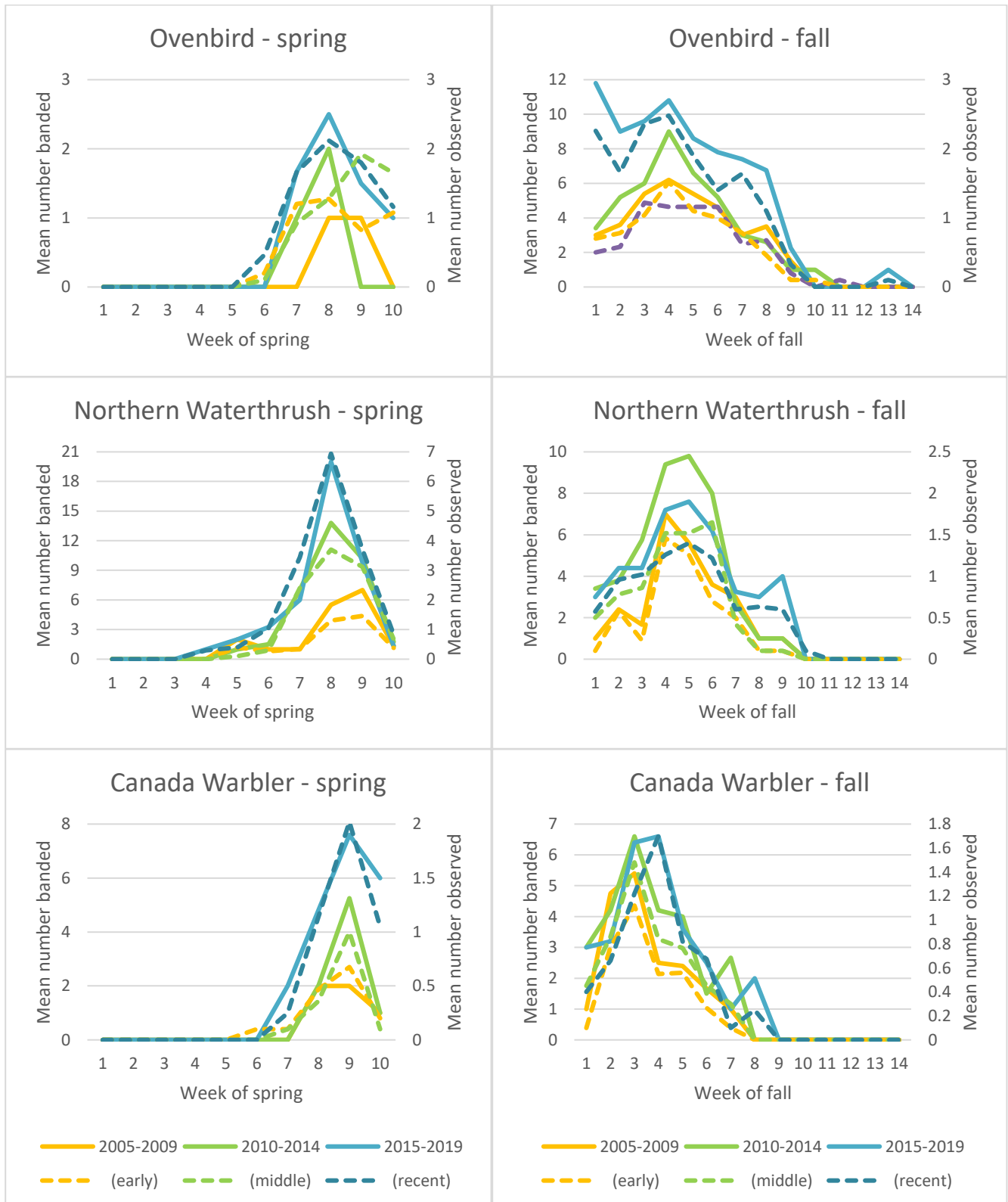


Figure 5.29: Five-year averages of weekly banding totals (solid lines) and mean daily estimated total observations (dashed lines) for Ovenbird, Northern Waterthrush, and Canada Warbler.



Figure 5.30: Five-year averages of weekly banding totals (solid lines) and mean daily estimated total observations (dashed lines) for Common Yellowthroat, Tennessee Warbler, and American Redstart.

The number of Yellow Warblers banded in spring has always peaked sharply in Week 8, with only modest differences in abundance over time, but observations over the final two weeks of the season were notably higher in the early years than since then (Figure 5.32). In fall, Yellow Warbler numbers consistently decline sharply over the first four weeks of the season, but the starting point has been considerably lower in recent years. The timing of Chestnut-sided Warbler migration in spring has not changed appreciably, but numbers were far higher in recent years. The fall pattern is a bit more complicated, but what is most notable is the newly sharp peak in Week 4 in recent years, and the secondary peak in Week 8 that was observed only during the middle years. Cape May Warbler has been substantially more numerous in spring in recent years than previously, and unlike a number of other species, its peak has shifted later, to Week 9, compared to Weeks 7-8 earlier. In fall, it was a rather uncommon species in the early years, then increased in the middle years, with migrants seeming to move through in three waves, peaking around Weeks 1, 5, and 7. In recent years, there has instead been an even higher peak in Week 3, with only a modest secondary one in Week 6.

Magnolia Warbler, Western Palm Warbler, and Wilson’s Warbler have all shown shifts in the timing of migration (Figure 5-33). Magnolia Warbler abundance in spring has steadily increased over time, and the peak in recent years was not until Week 9, compared to Week 8 previously. In fall, overall abundance in the middle and recent years has been fairly similar, and higher than in the early years, but the peak has fluctuated from around Weeks 4-6 in early years to Week 7 in the middle years, and back to Week 6 in recent years, although the number observed and banded in Week 9 and beyond has also been higher in recent years than ever before. Western Palm Warbler is too rare in spring for patterns to be interpreted, but in fall, the peak in recent years has been in Week 8, two weeks later than before. Wilson’s Warbler has consistently shown a sharp peak in Week 9 in spring, but migration has been shifting later in fall, peaking in Weeks 5-6 in the early years, Week 6 in the middle years, and spanning Weeks 6-8 in recent years, though at substantially lower levels than earlier.

Yellow-rumped Warbler increased in spring after the early years, and in recent years has shifted later (Figure 5.31). Conversely, in fall it has been substantially less abundant in recent years, but timing has remained similar.

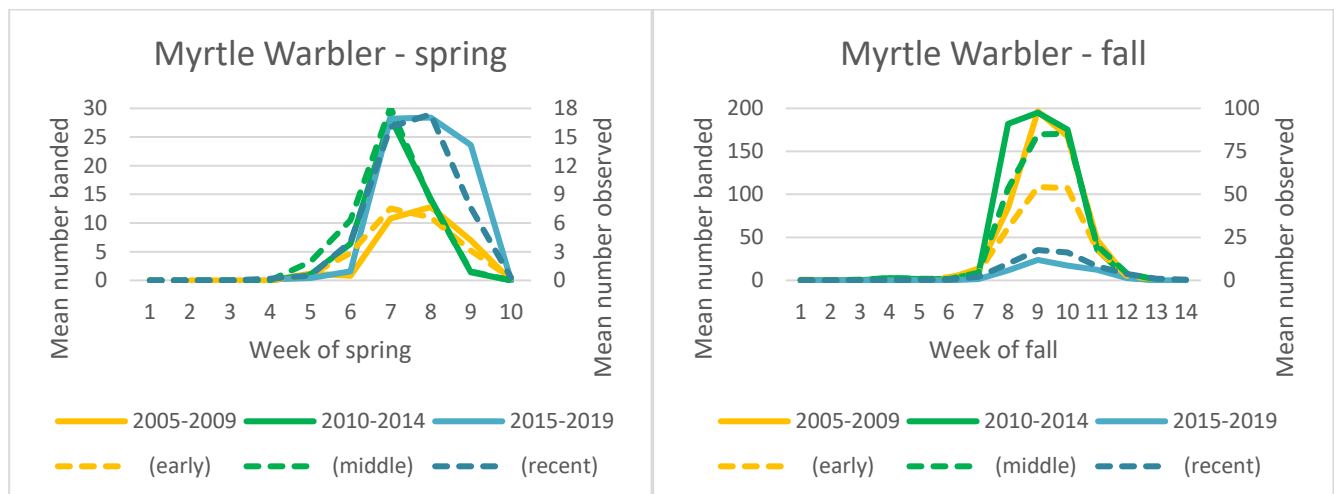


Figure 5.31: Five-year averages of weekly banding totals (solid lines) and mean daily estimated total observations (dashed lines) for Myrtle (Yellow-rumped) Warbler.

Aside from Wilson’s Warbler and Yellow-rumped Warbler, only three other warblers have become noticeably scarcer in fall over the years. Nashville Warbler has peaked in Week 7 in spring during the middle and recent years, compared to Week 8 in the early years (Figure 5.34). In fall, there was a broad peak around Weeks 6-7 in the early and middle years, but a much lower one in Weeks 8-9 in recent years. Blackpoll Warbler is a late spring migrant, consistently peaking in Week 9, but at lower numbers in recent years, especially in terms of banding. In fall numbers have consistently increased sharply to a peak in Week 6 and tapered off more slowly thereafter; numbers in recent years have been substantially lower than in the middle years, and even a bit below the level

in the early years. Black-throated Green Warbler is relatively uncommon in spring, and only rarely banded during the season; the peak of observations has shifted one week later in recent years. Abundance in fall fluctuates much more over the course of the first two-thirds of the season than for most other species; the most notable pattern is how much scarcer the species has been in recent years compared to earlier.

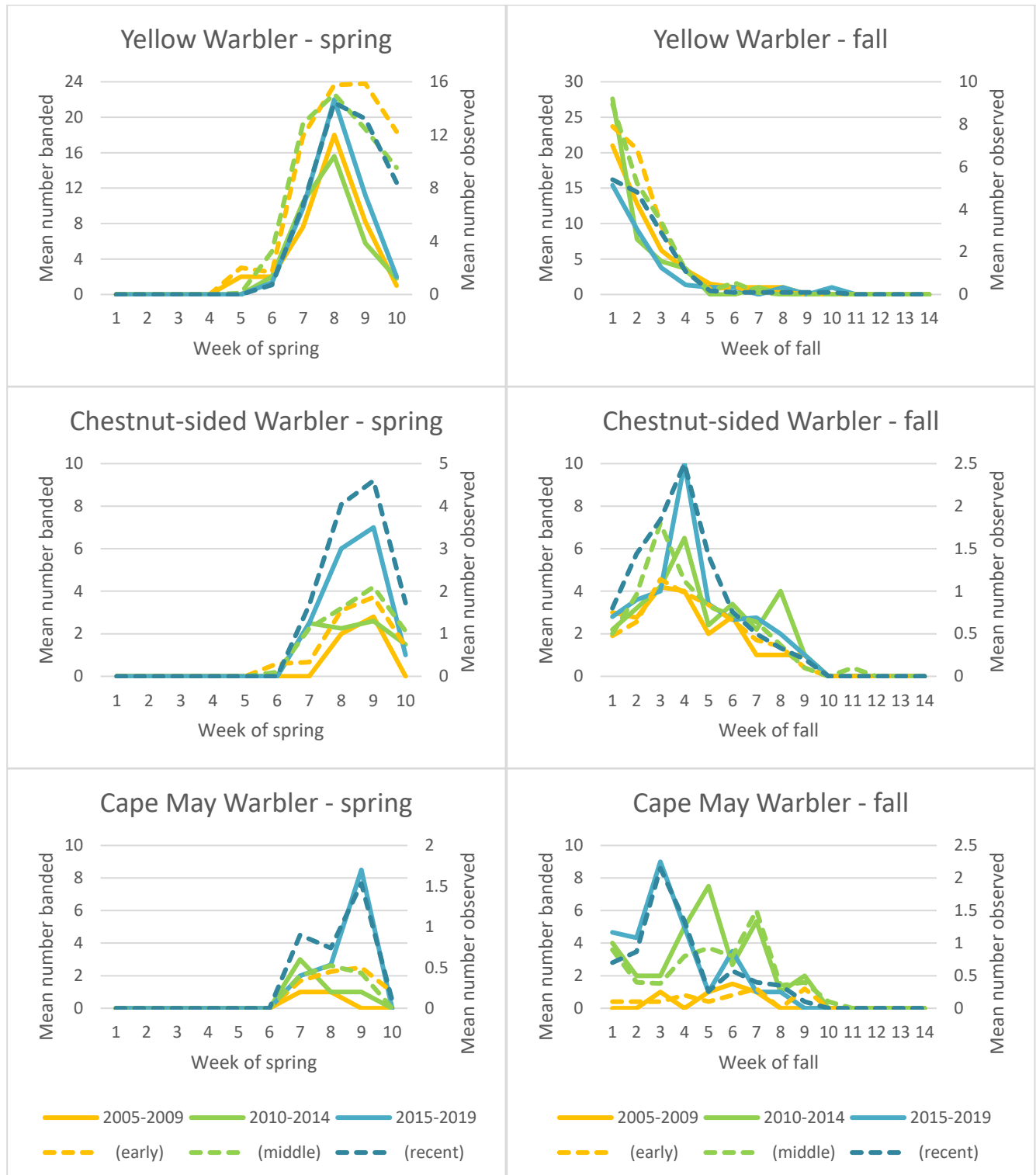


Figure 5.32: Five-year averages of weekly banding totals (solid lines) and mean daily estimated total observations (dashed lines) for Yellow Warbler, Chestnut-sided Warbler, and Cape May Warbler.

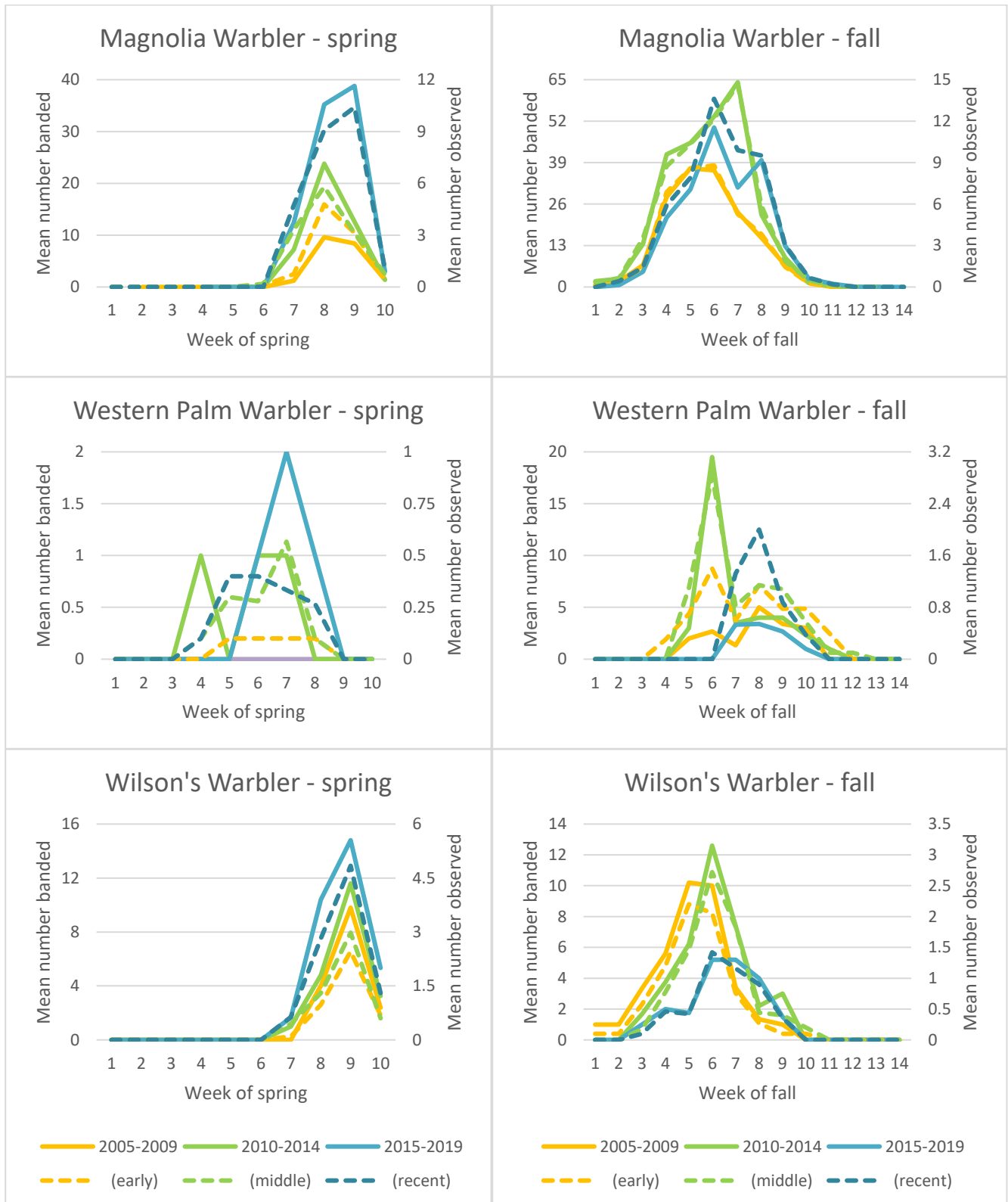


Figure 5.33: Five-year averages of weekly banding totals (solid lines) and mean daily estimated total observations (dashed lines) for Magnolia Warbler, Western Palm Warbler, and Wilson's Warbler.



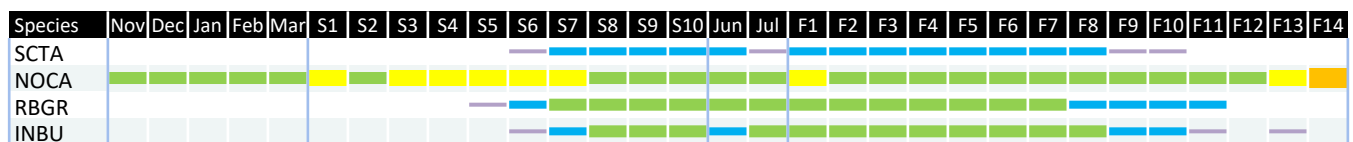
Figure 5.34: Five-year averages of weekly banding totals (solid lines) and mean daily estimated total observations (dashed lines) for Nashville Warbler, Blackpoll Warbler, and Black-throated Green Warbler.

5.1.21. Cardinals, Piranga tanagers, and allies

| | Winter | Spring | Summer | Fall | Total |
|--|-------------|-------------|------------|--------------|--------------|
| Species observed annually (% of total) | 1 (5.3%) | 4 (4.1%) | 2 (7.4%) | 4 (3.8%) | 4 (3.2%) |
| Species observed total (% of total) | 1 (1.0%) | 4 (2.0%) | 4 (3.6%) | 4 (2.0%) | 4 (1.8%) |
| Individuals observed (% of total) | 2266 (1.6%) | 7244 (1.6%) | 828 (4.3%) | 10329 (1.0%) | 20667 (1.2%) |
| Species banded (% of total) | 1 (2.5%) | 4 (3.7%) | 3 (5.0%) | 4 (3.6%) | 4 (3.1%) |
| Individuals banded (% of total) | 117 (2.3%) | 157 (1.1%) | 76 (4.2%) | 1268 (2.2%) | 1618 (2.1%) |

Overview: All 4 species in this category occur at MBO annually, although Scarlet Tanager tends to be notably less abundant than the others. All of them are banded each year as well, with Rose-breasted Grosbeak in greater numbers than any of the others.

Seasonal occurrence: Northern Cardinal is a year-round resident at MBO; the other species are generally present from early-mid May to mid-late September, with a few lingering into October in some years. All species have bred at MBO, although Scarlet Tanager and Indigo Bunting may not do so in all years.



Trends: In both spring and fall, the mean daily count of Northern Cardinal remains fairly steady throughout most of spring and fall, and was slightly higher in the middle years than the early years, before jumping substantially in recent years (Figure 5.35). In fall, there tends to be an increase right in the final week or two of the season. Banding totals vary more, but typically peak late in the season in both spring and fall.

In both spring and fall, the pattern of occurrence for Rose-breasted Grosbeak has been quite similar between the early and recent years, but contrasts with much lower numbers in the middle years. The spring peak over Week 7 to Week 9 was largely lacking in the middle years; in fall, numbers began at much lower levels in those years, before largely aligning with the pattern for later years beginning around Week 4.

For Indigo Bunting, spring and fall patterns differ. In spring, the peak of observations has consistently been in Week 9, but jumped substantially from the early to middle years, and a bit further in the recent years. In fall though, numbers over much of the season were highest in the middle years, and from Week 5 onward, the lowest counts have been in recent years. In both seasons, banding counts have shown somewhat greater fluctuations, but numbers have been lower in recent years, especially so in fall.



*Scarlet Tanager, Northern Cardinal, Rose-breasted Grosbeak, and Indigo Bunting (left to right).
(Photos by Simon Duval)*



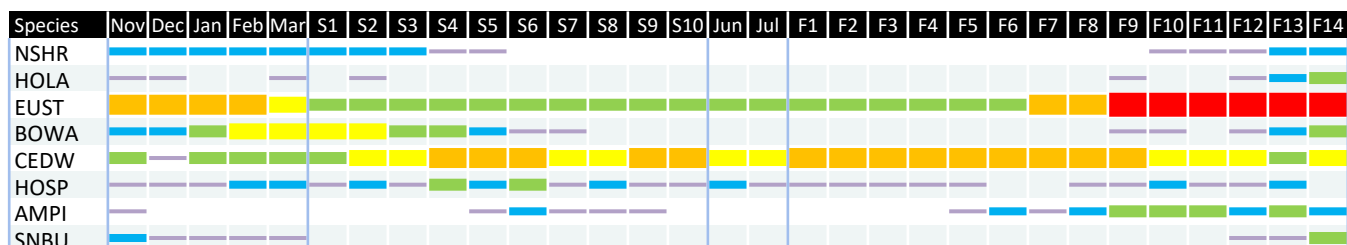
Figure 5.35: Five-year averages of weekly banding totals (solid lines) and mean daily estimated total observations (dashed lines) for Northern Cardinal, Rose-breasted Grosbeak, and Indigo Bunting.

5.1.22. Other passerines

| | Winter | Spring | Summer | Fall | Total |
|--|---------------|--------------|-------------|--------------|---------------|
| Species observed annually (% of total) | 2 (10.5%) | 2 (2.0%) | 1 (3.7%) | 3 (2.9%) | 4 (3.2%) |
| Species observed total (% of total) | 8 (8.2%) | 7 (3.5%) | 3 (2.7%) | 8 (3.9%) | 8 (3.6%) |
| Individuals observed (% of total) | 14653 (10.6%) | 17659 (3.9%) | 1438 (7.5%) | 71534 (6.8%) | 105284 (6.3%) |
| Species banded (% of total) | 3 (7.5%) | 5 (4.6%) | 3 (5.0%) | 5 (4.5%) | 5 (3.9%) |
| Individuals banded (% of total) | 37 (0.7%) | 896 (6.1%) | 62 (3.4%) | 461 (0.8%) | 1456 (1.9%) |

Overview: The 8 species in this category share few characteristics, although two of them (European Starling and House Sparrow) are non-native species. Unusually for passerines, 3 of these species have only ever been seen in flight, or on neighbouring land: Horned Lark, American Pipit, and Snow Bunting. The other 5 species have all been banded, but most of them only rarely, as Cedar Waxwing comprises 93% of individuals banded in this group, and ranks 17th overall among species banded at MBO.

Seasonal occurrence: Only European Starling is routinely seen throughout the year, though Cedar Waxwing has also been seen during all periods and overall is scarce only in December. House Sparrow was formerly present almost throughout the year, but has been largely absent since 2011, with only five observations over the past eight years. Others are either primarily winter visitors (Northern Shrike and Bohemian Waxwing), or early spring / late fall migrants (Horned Lark and American Pipit). Only Cedar Waxwing and House Sparrow have been confirmed breeding at MBO, although European Starling is present in summer and has nested nearby.



Trends: In the early and middle years, European Starling was among the relatively few species to be more abundant in the first couple of weeks of spring than any time later in the season (Figure 5.36). In recent years though it has been fairly scarce early in the season, instead increasing to a modest mid-season peak. In fall, European Starling has consistently remained uncommon over the first six weeks of the season, then increased until the end, most notably so in recent years.

Cedar Waxwing patterns have varied over time, but in spring there is generally a primary peak somewhere in the range of Week 3 to Week 6, a dip spanning Weeks 7 and 8, and a secondary peak in Week 9; numbers were highest in the middle years, thanks primarily to an exceptional count in 2014. Fall patterns have changed considerably over time. In the early years, numbers were steady through August, increased to a peak in late September, and then dropped sharply to lower levels in October. In the middle years, observations remained consistently high across the first five weeks, then tapered off steadily until the end of fall. In recent years, the average abundance has been steady throughout August and September, then dropped to a lower plateau in October. Curiously, banding has always been highest in the first two weeks of fall, and even in years with later observation peaks, few have been banded during those waves of migration.

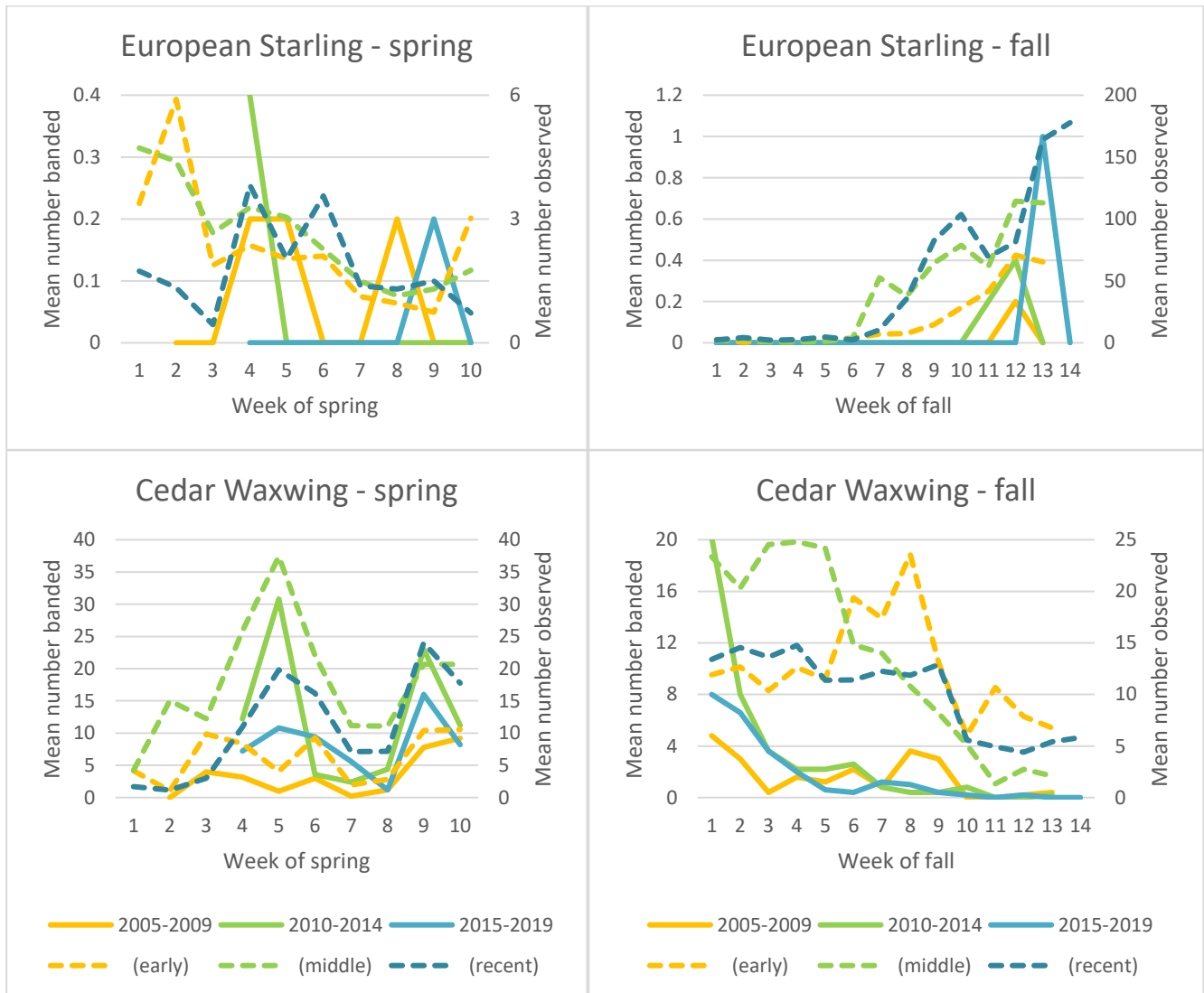


Figure 5.36: Five-year averages of weekly banding totals (solid lines) and mean daily estimated total observations (dashed lines) for European Starling and Cedar Waxwing.



*Cedar Waxwing (left) and Bohemian Waxwing (right).
(Photos by Simon Duval)*

5.2. Species not yet observed at MBO

At the time of the MBO Five-year Report (Gahbauer 2010), 200 species had been observed at MBO (including Least Bittern, which was inadvertently missed in that summary), and predictions were made for the next 20 species based on patterns of occurrence in southern Quebec or eastern Ontario. In the next five years, six of those species were observed: Great Egret (22 April 2010), Red-bellied Woodpecker (4 August 2010), Common Tern (10 August 2010), Tundra Swan (19 September 2011), Tufted Titmouse (3 June 2012), and Boreal Owl (5 November 2012). Another five species were added to the site list during that period which had not been predicted to occur: Common Goldeneye (1 October 2011), Fish Crow (20 April 2012), Black-bellied Plover (26 May 2012), Ross's Goose (12 May 2013), and Greater White-fronted Goose (21 September 2013).

In the MBO Ten-year Report (Gahbauer et al. 2016), an expanded list of 25 predictions was provided, including 11 carried forward from the initial list, plus 14 new ones. Since then, eight of the species on that expanded list have been observed at MBO: Orchard Oriole (23 May 2016), Yellow-throated Vireo (16 August 2016), Black Scoter (20 May 2017), Worm-eating Warbler (13 May 2018), Red Crossbill (15 August 2018), Hooded Warbler (7 May 2019), Redhead (23 May 2019), and Black-backed Woodpecker (19 October 2019). Again though there were new additions to the list that we had failed to predict: Wild Turkey (3 November 2014), White-eyed Vireo (21 May 2015), and Eastern Whip-poor-will (9 September 2019), bringing the site total to 222 species after 15 years. In between the completion of MBO's 15th year of operation and the publication of this report, one additional species was observed for the first time, Bufflehead (10 April 2020).

We now present an updated list of 25 more species that we believe could be observed at MBO. It includes 14 species from the previous list (marked *), two species that had been mentioned in the Five-year Report but omitted in the predictions of the Ten-year Report (marked ^), and nine species that have not been presented before. All of these are considered possible at MBO, based on regional occurrence records from the Quebec Breeding Bird Atlas (<http://www.atlas-oiseaux.qc.ca/donneesqc/cartes.jsp?lang=en>), the annotated list of species from Oiseaux du Quebec (<http://www.oiseauxqc.org/listeannotee.jsp>), and the cumulative eBird checklist for Montreal (<https://ebird.org/canada/barchart?byr=1900&eyr=2020&bmo=1&emo=12&r=CA-QC-MR>). Below in taxonomic order (rather than by likelihood of occurrence), we provide brief profiles of the 25 species we now believe are the most likely candidates to be added to the MBO checklist.

SUSC: Surf Scoter / Macreuse à front blanc (*Melanitta perspicillata*)

A rare spring and uncommon fall migrant around Montreal. Although there is no suitable habitat at MBO for this species, it is likely to eventually be seen flying overhead, as Black Scoter and White-winged Scoter have been.

AGPL: American Golden-Plover / Pluvier bronzé (*Pluvialis dominica*)

This shorebird is only rarely observed in the Montreal area in fall, but the field adjacent to MBO could be an attractive stopover site in years when it is harvested early.

UPSA: Upland Sandpiper / Maubèche des champs (*Bartramia longicauda*)

Although declining sharply in Ontario and Quebec, Upland Sandpiper continues to be seen annually in various locations not far outside Montreal, as well as at the Montreal International Airport in 2016 and 2020. Considering the farm field adjacent to MBO, a sighting remains possible.

WHIM: Whimbrel / Courlis corlieu (*Numenius phaeopus*)

A rare spring and fall migrant in the region, but given its large size and distinctive flight calls, there is a good chance of detecting and recognizing any individuals or flocks that might ever fly over MBO.

BOGU*: Bonaparte's Gull / Mouette de Bonaparte (*Chroicocephalus philadelphia*)

A fairly common boreal breeder that migrates through the Montreal area each spring and fall, and is expected to pass over MBO at some point. A flock of nine individuals was present in the farm fields 400 m east of MBO on 19 May 2019, but was not visible from within MBO.

GLGU*: Glaucous Gull / Goéland bourgmestre (*Larus hyperboreus*)

An uncommon wintering species in the Montreal area, likely to eventually be seen flying over MBO, as Iceland Gull has in the past.

AWPE: American White Pelican / Pélican d'Amérique (*Pelecanus erythrorhynchos*)

There have been increasingly frequent reports of American White Pelican in southern Quebec in recent years. Given that pelicans sometimes soar and circle, one that passes through the area might linger long enough over MBO to be spotted.

CAEG: Cattle Egret / Héron garde-boeufs (*Bubulcus ibis*)

Cattle Egret remains a rare and irregular species in southern Quebec. However, the ponds at MBO and the adjacent farm field are as likely a place as any for a vagrant individual to show up; one was photographed on the Macdonald Campus, less than 2 km south of MBO, on 2 November 2018.

BLVU*: Black Vulture / Urubu noir (*Coragyps atratus*)

A southern species gradually expanding its breeding range northward, with increasingly frequent sightings in southern Quebec in recent years, including at the Montreal West Island Hawkwatch near MBO.

SWHA*: Swainson's Hawk / Buse de Swainson (*Buteo swainsoni*)

A western species of which a few individuals drift east each year during fall migration, being spotted from Ontario to the east coast, including the Montreal West Island Hawkwatch near MBO in 2010, 2013, and 2014.

SNOW*: Snowy Owl / Harfang des neiges (*Bubo scandiacus*)

A regular winter visitor in the Montreal area, often including a number of sightings within a few kilometres of MBO in recent years. Most likely to be seen flying over MBO or in the adjacent field; one was reported in the field on 1 May 2018 but could not be seen from MBO.

NHOW*: Northern Hawk Owl / Chouette épervière (*Surnia ulula*)

An occasional winter visitor to the Montreal area, with multiple records from Île Perrot just southwest of MBO, and Laval to the northeast.

RUHU*: Rufous Hummingbird / Colibri roux (*Selasphorus rufus*)

A western species that is being seen with increasing frequency in fall across eastern North America, including several sightings in southern Quebec in recent years. With the hummingbird banding program now in operation there is a greater chance of capturing and being able to examine any vagrants that show up on site.

ATTW*: American Three-toed Woodpecker / Pic à dos rayé (*Picoides dorsalis*)

An irregular winter visitor to the Montreal area; there have been previous sightings at the adjacent Morgan Arboretum, as well as at nearby Cap-Saint-Jacques.

RHWO^: Red-headed Woodpecker / Pic à tête rouge (*Melanerpes erythrocephalus*)

An endangered species that has seen its abundance in southern Quebec decline significantly, so much so that although it was originally identified as a potential future sighting in the Five-year Report, it was removed from the next version published in the Ten-year Report. However, scattered observations continue to be reported in southern Quebec, and it seems as likely as some of the other species on the current list of 25 candidates.

CASW*: Cave Swallow / Hirondelle à front brun (*Petrochelidon fulva*)

Since 1999, there have been periodic fall irruptions of Cave Swallows that reached Quebec, the most recent occurring in 2017. There were three sightings along the St. Lawrence River near Montreal between 2015 and 2017, so there is good potential for a future sighting at MBO, given the observer effort throughout the mid-late fall period when Cave Swallows appear in the region.

VATH*: Varied Thrush / Grive à collier (*Ixoreus naevius*)

A western species that is increasingly frequent as a winter vagrant in the east, including at least half a dozen records in the greater Montreal area over the past decade. As a frugivore, it is likely to be attracted to the many

buckthorns, hawthorns, and apples at MBO, much like another western vagrant (Townsend's Solitaire) that appeared at MBO in late 2009.

LALO*: Lapland Longspur / Plectrophane lapon (*Calcarius lapponicus*)

A regular but uncommon winter visitor around the outskirts of Montreal; most likely to be seen in the company of Snow Buntings, and would probably favour the field adjacent to MBO.

YHBL*: Yellow-headed Blackbird / Carouge à tête jaune (*Xanthocephalus xanthocephalus*)

A western species that has been seen on multiple occasions along the south shore of the St. Lawrence River just south of MBO, and would find suitable habitat at Stoneycroft Pond.

LOWA*: Louisiana Waterthrush / Paruline hochequeue (*Parkesia motacilla*)

A southern species with a range that barely reaches southern Quebec and eastern Ontario, but there have been two records in Montreal over the past decade and it is widespread in Vermont east of Lake Champlain, only 100 km southeast of MBO.

CERW: Cerulean Warbler / Paruline azurée (*Setophaga cerulea*)

Although considered an endangered species in Canada, Cerulean Warbler numbers have been increasing in the Frontenac Arch in eastern Ontario (Frontenac Bird Studies 2020). There also remains a small stronghold on the northeast side of Lake Champlain, less than 100 km southeast of MBO, including regular sightings at Bird Protection Quebec's George Montgomery Sanctuary in Philipsburg.

YTWA*: Yellow-throated Warbler / Paruline à gorge jaune (*Setophaga dominica*)

Another southern warbler that is being seen with increasing frequency in southern Quebec, with at least one observation annually since 2003, including several in the Montreal area.

PRAW^: Prairie Warbler / Paruline des prés (*Setophaga discolor*)

Similar to Cerulean Warbler, this species is a regular breeder on the Frontenac Arch (FBS report reference) and east of Lake Champlain. It also has been observed in Montreal twice since 2014.

SUTA: Summer Tanager / Piranga vermillon (*Piranga rubra*)

Although the northern limit of Summer Tanager's breeding range is quite a distance south of MBO, this species overshoots frequently. There have been at least six sightings in Montreal over the past decade, including one on Ile Bizard, within 10 km of MBO.

DICK: Dickcissel / Dickcissel d'Amérique (*Spiza americana*)

Dickcissel is another species with a more southern distribution, but a growing scattering of records of vagrants around southern Quebec. Although relatively few to date have been near Montreal, the farm field adjacent to MBO could be an attractive spot for one to stop over.

Of course, despite our best efforts, it is likely that the list above does not include all of the species that may yet be observed at MBO. Some great surprises have already been documented, such as Northern Gannet and Townsend's Solitaire, and other species that sometimes drift far beyond their range could show up at MBO, such as Western Kingbird, Mountain Bluebird, or Yellow-breasted Chat. As noted in the Ten-year Report, it is even possible that MBO already hosted an Ash-throated Flycatcher in 2014, possibly misidentified as an unusually late Great Crested Flycatcher. We may also get proven wrong about omitting two species that were included in our previous lists of predictions. In the Five-year Report, we listed Short-eared Owl, but omitted it from the Ten-year Report's list because the species is in decline throughout eastern North America and sightings around Montreal have become scarce; five years later, this remains the case. In the Ten-year Report, we mentioned Eurasian Collared-Dove, which for a while appeared to be rapidly expanding its range northward, but has slowed considerably in recent years, and has not yet been observed anywhere on the island of Montreal.

6. Research and Education

Research is MBO's core priority, focused especially on the spring and fall migration monitoring programs, and to a lesser extent also the summer and winter banding efforts. The results of this work are explored in detail throughout most of this report, and the migration data are shared with the Canadian Migration Monitoring Network to contribute to a broader national understanding of bird populations. However, operation of MBO's programs also provides a foundation for addressing various other research questions, and an opportunity to share knowledge with a variety of audiences. Education has been an important part of MBO since the beginning, through on-site training in field techniques, specialized workshops, sharing results through reports and an active online presence, and making presentations to the public, including school groups.

6.1. On-site training

At the core of MBO's education program is on-site training of volunteers. To effectively operate a standardized long-term migration monitoring program requires substantial volunteer involvement, and to maintain consistency in data over time it is important that training be provided. All volunteers are expected to be familiar with the MBO migration monitoring protocol, and generally receive training with respect to mist net operation and data collection during their first few visits. The most specialized roles are extraction and banding, and the consistent safe operation of MBO is dependent on enough volunteers with these skills being available to allow full coverage of the schedule. As such, an effort is made to provide advanced training to those volunteers who display an interest and aptitude for these roles.

From 1995 until 2003, the McGill University ornithology class had been visiting the Stoneycroft Wildlife Area (now MBO) on average twice each fall for banding demonstrations by professors Dr. David Bird and Dr. Rodger Titman. With the inception of MBO in the fall of 2004, leadership of the demonstrations was turned over to the MBO banders-in-charge. From 2005 through 2011, participation in MBO activities by students was integrated into the ornithology curriculum, with all students visiting the site during field labs for the course, and many signing up for additional volunteer shifts to gain field experience that complements their classroom learning. Since 2015, field lab visits have continued under the leadership of new ornithology professor Dr. Kyle Elliot, but students have had more flexibility in choosing whether to become further involved. Over half of the volunteers at MBO from 2005 to 2019 were McGill students, some of whom volunteered for years after graduation. Several have also undertaken research projects based on data collected at MBO (see Section 6.6).

6.2. Banding workshops

Five multi-day workshops led by Marcel Gahbauer have been held at MBO to provide specialized training in ageing and sexing birds. Each workshop has spanned 2-3 days, and included both classroom and field components except for the two winter sessions which were indoor only. In the classroom setting, diagrams and photos have been used to illustrate lessons and quiz the participants, and sometimes specimens from the Bird Banding Office have been used for practice. Dates and themes of the presentations to date were:

- December 2006 – Understanding molt and learning how to effectively use the Identification Guide to North American Birds
- August 2007 – Ageing birds by molt patterns in fall
- September 2008 – Knowing the common birds well and being prepared for rarities
- May 2010 – Ageing and sexing of spring migrants (four days, co-leader Peter Pyle)
- February 2013 – Knowing what to look for – ageing common species and recognizing rarities



6.3. Other lectures and presentations

Whereas the MBO workshops are quite technical and advanced, there is also an interest in the community for briefer presentations on migration monitoring and banding research. Between 2005 and 2019, Simon Duval, Barbara Frei, Marcel Gahbauer, Gay Gruner, Marie-Anne Hudson, and Ana Morales gave over 55 talks on various aspects of MBO research to local and national birding groups including Bird Protection Quebec, the Zoological Society of Montreal, the Congrès des Ornithologues Amateurs du Québec, the Canadian Migration Monitoring Network, and several others. In addition, many volunteers have helped with staffing displays at public events such as the Bird Protection Quebec Bird Fair, and Ste-Anne-de-Bellevue's Ecology Day. Local naturalist societies have also scheduled group visits to MBO for presentations during the owl banding program.

6.4. Online presence

The MBO website was a subset of the Migration Research Foundation's website (www.migrationresearch.org) until 2014, but then has moved to www.oommbo.org, a fully bilingual site. From 2005 through 2015, banding logs were posted on the website weekly throughout spring and fall migration, and monthly in summer and winter. Since then, weekly summaries and other more immediate highlights have instead been posted to MBO's Facebook page (<https://www.facebook.com/oommbo>). In both formats, the weekly summaries have always highlighted the weekly and cumulative totals of birds banded and observed, and the ten species most banded and observed in the greatest numbers; photos illustrating some of the highlights of the week; and accompanying notes on weather, site maintenance, and any other relevant news, including recoveries of banded birds. As of late 2019, the MBO Facebook page had over 5000 followers. MBO also has an Instagram page with over 1000 followers (www.instagram.com/oommbo), and a Twitter page (<https://twitter.com/oommbo>) with nearly 400 followers. The MBO website also provides an archive of all annual reports, a site checklist, total banding numbers for each season, information for volunteers, a history of MBO, and tips for extractors.

The most frequently visited part of the original MBO website was the photo ID library. Started as a visual aid to banders at MBO, to complement the text in Pyle (1997), it quickly grew a wider following and gained international recognition from the American Birding Association and through being referenced as a valuable resource in various online identification forums. By 2015, the ID library had expanded to include over 60 full species accounts. That year, content was transferred to Environment and Climate Change Canada's Piranga website (www.natureinstruct.org/piranga), which was developed as a resource for identifying, ageing, and sexing birds of the western hemisphere. As before, each species has its own page on the website, beginning with a set of tips on ageing and sexing, followed by a table of thumbnail photos comparing age and sex classes for both spring and fall, each linked to larger photos allowing for more detailed examination of features. Additional benefits of Piranga include:

- The option for side-by-side comparison of any two birds in the database, allowing for users to directly contrast different ages, sexes, or even species
- The option (for most photos) to view full-size images to examine details more closely
- Classification of images as "reference" (best available photos, ideally showing typical features), "supplementary" (additional verified photos, often showing atypical features), and "contributed" (photos submitted by visitors to the site, which have not necessarily been screened for quality or accuracy of classification)
- A comment field allowing for feedback on any images in the database
- Full bilingual content (English/French) for all species curated by MBO (80 as of 2019)

As with the original version of the MBO photo ID library, degree of coverage varies among species to some extent, depending on the availability of photos to illustrate each age/sex class, although the majority of accounts have at least one example for each. Among the species with the best coverage are American Goldfinch, Dark-eyed Junco, Baltimore Oriole, and Yellow Warbler. Efforts are ongoing to expand and improve Piranga, both through adding more species, and updating the selection of photos in existing accounts.

6.5. School visits

MBO banders-in-charge have given several presentations to school classes in Montreal at the request of teachers. These typically involve discussions of migration, basic avian biology, the tools and methods used for banding, and habitat and conservation issues relevant to bird populations. As a hands-on component for the students, a mist net is brought into the classroom, and students can practice extracting plush toy birds from the net and banding them with plastic rings.

6.6. Student projects

Many students at McGill University prepare a research-based report as part of their curriculum, and since 2005 several have chosen to do so using data from MBO. These projects generally involve hands-on participation by the student, with supervision and guidance from the banders-in-charge and academic advisors. Topics explored have included:

- Barrie, Christine and Meaghan McDermott. 2008. Assesment of flank colour on American Redstarts. Undergraduate research project.
- Cloutier, Chantal and Camille le Gall-Payne. 2010. Influence of weather on the autumn migration of Northern Saw-whet Owls. Undergraduate research project.
- Daprato, Jacinthe. 2007. Explaining protandry in spring and protogyny in autumn in passerine birds using the susceptibility hypothesis. Undergraduate research project.
- Guglielmi, Mathilde. 2018. Using an automated radio array to detect bird movements at large spial scales. Honours thesis.
- Jarjour, Catherine. 2016. Phenology of fall migration at McGill Bird Observatory. Honours thesis.
- Keyes, Kristen and Demetrios Kolibiris. 2009. Temporal correlations among fall migrants and influence of observer effort on abundance estimates. Graduate level statistics project.
- Lalla, Kristen. In progress. Movement ecology of Purple Martins. MSc project.
- Leung, Casey. 2017. Validating point-of-care devices for use on songbirds. Honours thesis.
- Mayerhofer, Michael. 2008. Assessment of net avoidance in passerine birds. Undergraduate research project.
- Morales, Ana. 2019. Moults migration in Swainson's Thrushes. MSc project.
- Nip, Emma. 2016. Mass fluctuations in chickadees. Undergraduate research project.
- Phillips, Megan. 2017. Using an automated radio array to detect bird movements at small spatial scales. Honours thesis.
- Renaud, Limoilou-Amélie. 2007. Evaluation of roof lining for ageing and sexing Black-capped Chickadees. Undergraduate research project.
- Robert, Katleen. 2008. Influence of weather on the efficiency and accuracy of passerine migration banding studies. Undergraduate research project.
- Roy-Dufresne, Emilie. 2008. Bergmann's Rule and geographic variation in body size of American Robins. Undergraduate research project.
- Stone, Alex and Sarah Saldanas. 2011. Is it a boy or girl? Sexing migratory Magnolia Warblers using standard biometric measurements. Undergraduate research project.
- Zen, Amanda. 2020. Examining moult data at McGill Bird Observatory. Vanier CEGEP internship.

6.7. Internal reports

MBO's seasonal, annual, and multi-year reports are available at <http://www.oommbo.org/results/reports/> and listed chronologically by category below:

Spring Migration Monitoring Program reports (6 reports, 2005-2010):

Gahbauer, M.A. 2005. McGill Bird Observatory Spring Migration Monitoring Program 2005 Report. Migration Research Foundation, Ste-Anne-de-Bellevue QC. 10 pp.

Gahbauer, M.A. and M-A. Hudson. 2006. McGill Bird Observatory Spring Migration Monitoring Program 2006 Report. Migration Research Foundation, Ste-Anne-de-Bellevue QC. 42 pp.

Hudson, M-A. and B. Frei. 2007. McGill Bird Observatory Spring Migration Monitoring Program 2007 Report. Migration Research Foundation, Ste-Anne-de-Bellevue QC. 44 pp.

Hudson, M-A. 2008. McGill Bird Observatory Spring Migration Monitoring Program 2008 Report. Migration Research Foundation, Ste-Anne-de-Bellevue QC. 45 pp.

Hudson, M-A. and M.A. Gahbauer. 2009. McGill Bird Observatory Spring Migration Monitoring Program 2009 Report. Migration Research Foundation, Ste-Anne-de-Bellevue QC. 43 pp.

Gahbauer, M.A. and M-A. Hudson. 2010. McGill Bird Observatory Spring Migration Monitoring Program 2010 Report. Migration Research Foundation, Ste-Anne-de-Bellevue QC. 37 pp.

Fall Migration Monitoring Program reports (7 reports, 2004-2010):

Gahbauer, M.A. 2004. McGill Bird Observatory Fall Migration Monitoring Program 2004 Report. Migration Research Foundation, Ste-Anne-de-Bellevue QC. 10 pp.

Gahbauer, M.A. 2005. McGill Bird Observatory Fall Migration Monitoring Program 2005 Report. Migration Research Foundation, Ste-Anne-de-Bellevue QC. 42 pp.

Hudson, M-A. and M.A. Gahbauer. 2006. McGill Bird Observatory Fall Migration Monitoring Program 2006 Report. Migration Research Foundation, Ste-Anne-de-Bellevue QC. 42 pp.

Hudson, M-A. and M.A. Gahbauer. 2007. McGill Bird Observatory Fall Migration Monitoring Program 2007 Report. Migration Research Foundation, Ste-Anne-de-Bellevue QC. 42 pp.

Frei, B. and M-A. Hudson. 2008. McGill Bird Observatory Fall Migration Monitoring Program 2008 Report. Migration Research Foundation, Ste-Anne-de-Bellevue QC. 42 pp.

Frei, B. and M-A. Hudson. 2008. McGill Bird Observatory Fall Migration Monitoring Program 2008 Report. Migration Research Foundation, Ste-Anne-de-Bellevue QC. 42 pp.

Gahbauer, M.A. and M-A. Hudson. 2009. McGill Bird Observatory Fall Migration Monitoring Program 2009 Report. Migration Research Foundation, Ste-Anne-de-Bellevue QC. 42 pp.

Gahbauer, M.A. and G. Gruner. 2011. McGill Bird Observatory Fall Migration Monitoring Program 2010 Report. Migration Research Foundation, Ste-Anne-de-Bellevue QC. 44 pp.

Annual program reports (9 reports 2011-2019):

Gahbauer, M.A. 2011. McGill Bird Observatory Annual Program Report 2011. Migration Research Foundation, Ste-Anne-de-Bellevue QC. 71 pp.

Gahbauer, M.A. 2012. McGill Bird Observatory Annual Program Report 2012. Migration Research Foundation, Ste-Anne-de-Bellevue QC. 75 pp.

Gahbauer, M.A. 2013. McGill Bird Observatory Annual Program Report 2013. Migration Research Foundation, Ste-Anne-de-Bellevue QC. 75 pp.

Gahbauer, M.A., S. Duval, and D Davey. 2015. McGill Bird Observatory Annual Program Report 2014. Migration Research Foundation, Ste-Anne-de-Bellevue QC. 77 pp.

Gahbauer, M.A., S. Duval, and D Davey. 2016. McGill Bird Observatory Annual Program Report 2015. Migration Research Foundation, Ste-Anne-de-Bellevue QC. 87 pp.

Gahbauer, M.A., S. Duval, and D Davey. 2017. McGill Bird Observatory Annual Program Report 2016. Migration Research Foundation, Ste-Anne-de-Bellevue QC. 84 pp.

Gahbauer, M.A., S. Duval, and D Davey. 2018. McGill Bird Observatory Annual Program Report 2017. Migration Research Foundation, Ste-Anne-de-Bellevue QC. 85 pp.

Gahbauer, M.A., S. Duval, and D Davey. 2019. McGill Bird Observatory Annual Program Report 2018. Migration Research Foundation, Ste-Anne-de-Bellevue QC. 89 pp.

Gahbauer, M.A., S. Duval, and D Davey. 2020. McGill Bird Observatory Annual Program Report 2019. Migration Research Foundation, Ste-Anne-de-Bellevue QC. 91 pp.

5-year summary reports (2 reports):

Gahbauer, M.A. 2010. McGill Bird Observatory Five-Year Report #1: 2005-2009. Migration Research Foundation, Ste-Anne-de-Bellevue QC. 146 pp.

Gahbauer, M.A., S. Duval, and D Davey. 2016. McGill Bird Observatory Ten-Year Report: 2005-2014. Migration Research Foundation, Ste-Anne-de-Bellevue QC. 326 pp.

6.8. Scientific publications

MBO research has been featured in a number of peer-reviewed publications, arising from collaboration with the Canadian Migration Monitoring Network, researchers studying the movement of bird-borne ticks, and moult studies. Articles published to date are listed below:

Brennan, C.L., E. Boulanger, S. Duval, B. Frei, A. Gorbet, J. Head, M. Shieldcastle, and A.W. Jones. *In press*. Two cases of a previously undocumented New World warbler hybrid (*Setophaga magnolia* x *S. ruticilla*) in eastern North America. *Wilson Journal of Ornithology*.

Confer, J.L., L.L. Kanda, and I. Li. 2014. Northern Saw-whet Owl: regional patterns for fall migration and demographics revealed by banding data. *Wilson Journal of Ornithology* 126: 305-320.

Crewe, T.L., J.D. McCracken, P.D. Taylor, D. Lepage, and A.E. Heagy. 2008. The Canadian Migration Monitoring Network-Réseau canadien de surveillance des migrations: Ten-year Report on Monitoring Landbird Population Change. CMMN-RCSM Scientific Technical Report #1. Bird Studies Canada, Port Rowan ON. 69 pp.

Flinn, T., J. Hudon, and D. Derbyshire. 2007. When Baltimore Orioles stop being orange. *Birding* 39: 62-68.

Gahbauer, M.A. 2007. The MBO photo library: a new online resource for advanced identification. *Winging It* 19: 13.

Guallar, S., and R. Jovani. 2020. Wing-feather moult phenotypes differ between the preformative and prealternate epsidoes and along passerine phylogeny. *Ibis* 162: 778-786.

Hobson, K.A., S.L. Van Wilgenburg, E.H. Dunn, D.J.T. Hussell, P.D. Taylor, and D.M. Collister. 2015. Predicting origins of passerines migrating through Canadian migration monitoring stations using stable-hydrogen isotope analyses of feathers: a new tool for bird conservation. *Avian Conservation and Ecology* 10(1): 3.

Hudon, J., D. Derbyshire, S. Leckie, and T. Flinn. 2013. Diet-induced plumage erythrism in Baltimore Orioles as a result of the spread of introduced shrubs. *Wilson Journal of Ornithology* 125: 88-96.

Hudon, J., and R. Mulvihill. 2017. Diet-induced plumage erythrism as a result of the spread of alien shrubs in North America. *North American Bird Bander* 42: 95-103.

Hudson, M-A., M. Gahbauer, S. Leckie, and B. Frei. 2008. Unusually extensive preformative molt in hatching-year Song Sparrows. *North American Bird Bander* 33: 1-6.

- Jarjour C., B. Frei, and K.H. Elliott. 2017. Associations between sex, age and species-specific climate sensitivity in migration. *Animal Migration* 4: 23-36.
- Junda, J.H., S. Duval, and M.A. Gahbauer. 2020. Use of discrete molting grounds among migrant passerines undergoing prebasic molt in southern Quebec. *Wilson Journal of Ornithology* 132: 72-82.
- Kerr, K.C.R. 2011. Searching for evidence of selection in avian DNA barcodes. *Molecular Ecology Resources* 11: 1045-1055.
- Mackenzie, S.A. and M.A. Gahbauer. 2014. Guidelines for prioritizing bird safety during high capture events. *North American Bird Bander* 39: 61-65.
- Morales, A., B. Frei, C. Leung, R. Titman, S. Whelan, Z.M. Benowitz-Fredericks, and K.H. Elliott. 2020. Point-of-care blood analyzers measure the nutritional state of eighteen free-living bird species. *Comparative Biochemistry and Physiology Part A: Molecular & Integrative Physiology* 240, p.110594.
- Nip, E.J., B. Frei, and K.H. Elliott. 2019. Seasonal and temporal variation in scaled mass index of Black-capped Chickadees (*Poecile atricapillus*). *The Canadian Field-Naturalist* 132: 368-377.
- Ogden, N.H., L.R. Lindsay, K. Hanincova, I.K. Barker, M. Bigras-Poulin, D.F. Charron, A. Heagy, C.M. Francis, C.J. O'Callaghan, I. Schwartz, and R.A. Thompson. 2008. Role of migratory birds in introduction and range expansion of *Ixodes scapularis* ticks and of *Borrelia burgdorferi* and *Anaplasma phagocytophilum* in Canada. *Applied and Environmental Microbiology* 74: 1780-1790.
- Scott, J.D., J.F. Anderson, and L.A. Durden. 2012. Widespread dispersal of *Borrelia burgdorferi*-infected ticks collected from songbirds across Canada. *Journal of Parasitology* 98: 49-59.
- Scott, J.D., K.L. Clark, J.E. Foley, J.F. Anderson, B.C. Bierman, and L.A. Durden. 2018. Extensive distribution of the Lyme Disease bacterium, *Borrelia burgdorferi sensu lato*, in multiple tick species parasitizing avian and mammalian hosts across Canada. *Healthcare* 6: 131.
- Scott, J.D. and L.A. Durden. 2015. New records of the Lyme disease bacterium in ticks collected from songbirds in central and eastern Canada. *International Journal of Acarology* 41: 241-249.
- Wolfe, J., and P. Pyle. 2011. First evidence for eccentric prealternate molt in the Indigo Bunting: possible implications for adaptive molt strategies. *Western Birds* 42: 257-262.

7. Future plans (2020-2024)

MBO has completed its first fifteen years, during which the value of consistent long-term monitoring at this location has been established, and a substantial database of bird records has been compiled. The primary goals for the next five years are to maintain operation of existing programs, expand research and education efforts, and build financial capacity to support the long-term persistence of MBO.

7.1. Management

For much of the first five years, MBO was largely dependent on three or fewer banders-in-charge, who were also largely responsible for managing operations. Although MBO was successful during this period, it required substantial time commitments from those volunteers, and was not sustainable. Fortunately, from 2010 to 2014 the leadership base grew, as did the number of banders-in-charge available to participate on a regular basis. One of the goals set in the MBO five-year report (Gahbauer 2010) was hiring a full-time coordinator for MBO to serve as the primary bander, lead an expanded education program, supervise researchers and other volunteers, and contribute to ongoing fundraising efforts. This was achieved in 2013 and has made a significant difference in improving overall capacity. All the same, the team of fully qualified banders-in-charge remains small, and continuing to train others to be able to join that group is a priority, to ensure that full coverage of all programs can be maintained.

It also remains important to secure more consistent funding for MBO. For the first eight years, MBO operated with a modest annual budget of under \$20,000 but always managed to cover all expenses. Over time, the annual budget has roughly tripled, enabling the hiring of a full-time site coordinator, and securing consistent coverage of all programs. The biggest leap forward was made through large grants and generous donations received in 2013 and 2014, but it has only been possible to sustain that momentum through continued support from MBO's core funders: Bird Protection Quebec, Environment and Climate Change Canada, and the Great Canadian Birdathon (see section 8.1 for full funding acknowledgments).

It is important for MBO to maintain the financial capacity to continue standardized monitoring, to capitalize on the 15 years of effort already invested by extending the time period covered by trend analyses. Unfortunately, most sources of funding provide support one year at a time, and some grants are non-renewable. It is therefore critical for MBO's proven track record to be translated into long-term partnerships and sponsorships that will provide greater financial stability. MBO is very grateful to Bird Protection Quebec for a three-year commitment to increased funding support beginning in 2020, which will be used to secure core operations, expand educational efforts, and provide some short-term flexibility to invest in pursuing additional relationships. Recommendations for potential funding opportunities are welcome by e-mail at mbo@migrationresearch.org.

7.2. Research

The top priority for research remains to maintain consistent operation of all seasonal monitoring programs. In the event of a funding shortfall, the Fall Migration Monitoring Program is the top priority, followed by the Spring Migration Monitoring Program, MAPS, owl migration, and winter monitoring. Although all programs generate valuable data, winter monitoring is the least standardized because of the degree that variability in weather influences the level of effort that is possible, and therefore missing one or more years would not constitute a significant gap in data.

Increasingly though, it is becoming apparent that the 15 years of data collected at MBO provide a rich resource for exploring a variety of research questions of varying complexity. We are eager to collaborate with students or other researchers to mine the database to investigate questions of interest – and also recognize the potential to pursue research grants to facilitate this work. Listed below are some of the topics for investigation that we have identified to date. We encourage students or other researchers interested in pursuing these or any other ideas to contact us at mbo@migrationresearch.org.

Migration ecology and phenology:

- Influence of weather: To what extent does short term or seasonal variation in rainfall or temperature affect the number of birds observed at MBO? Do the effects of weather vary by species, by season, or by time of season? What are the implications for using MBO data for trend analysis?
- Factors driving Northern Saw-whet Owl migration: To what degree do wind direction and speed, temperature, cloud cover, and date influence the number of Northern Saw-whet Owls banded on a given night? Is volume of migration primarily determined by conditions each evening, or does weather on previous nights also have an influence (e.g., is migration heavier following two or three nights of rain)?
- What aspects of spring weather have the greatest influence on migration? Does an increase in temperature or an overnight south wind tend to result in the arrival of new migrants at MBO? Or does unfavourable weather (cool temperatures or north winds) slow the advance of migrants, resulting in more birds stopping over at MBO, possibly for longer periods? Does the influence of weather factors differ for early/mid/late spring migrants?
- Stopover frequency: Some species routinely stop over at MBO during migration, while others almost never stay for more than one day, based on recapture data. What do members of these two groups have in common? What factors appear to be most responsible for deviations from typical patterns (e.g., far fewer or more individuals of a species stopping over in migration than in an average year)? Are patterns correlate across species and/or with particular weather conditions? To what extent might interannual variability in stopover frequency influence seasonal totals, and corresponding trend estimates?
- Changes in phenology: Over the course of 15 years, some species have shifted the timing of migration in spring and/or fall. What are the commonalities among the species that are arriving or departing earlier versus those that have shifted later? Do patterns align with changes observed at other observatories? How to they relate to changing climate at various spatial-temporal scales?

Physiology:

- Stopover physiology: For species that commonly stop over at MBO, how much do weight and fat scores change between first and last captures? To what degree does this vary among species, notably between molt migrants vs. non-molting stopovers?
- Changes in weight by season: To what degree are there predictable changes in weight by season for year-round residents at MBO (e.g., Downy Woodpecker, Black-capped Chickadee, Northern Cardinal)? For individuals that have been recaptured in multiple seasons, are distinct patterns apparent?
- Effects of age and season on wing chord: Does wing chord shorten measurably over the course of the year as feathers become more worn, and if so, is this difference more pronounced for young birds? Are there species for which wing chord measurements differ consistently by age class?
- Physiological changes over time: Are there any species for which mean wing chord or weight show a positive or negative trend over 15 years?

Molt strategies:

- Habitat use and home range size by Swainson's Thrush during molt migration: Extensive data collection has been undertaken, but analysis and reporting remains to be done.
- Timing, duration, and habitat use by Tennessee Warblers during molt migration: Data have been collected, but not yet analyzed or reported.
- Evaluating changes in frequency of molt migration: In western North America, molt migration appears to be strongly influenced by precipitation in late summer. Is this similarly important in eastern North America, or are there other factors (such as productivity) that have a greater effect? MBO data could potentially be complemented with results from other observatories, as well as museum specimens.

Habitat use:

- Local habitat use during migration: Are there any species that are captured disproportionately often at certain nets at MBO? Do these associations correspond with documented habitat preferences (e.g., are species that tend to favour conifers banded more frequently at E1 than elsewhere)? Do the results suggest that any species may be relatively poorly sampled through banding, or alternatively that some species have weaker (or different) habitat preferences during migration than while breeding?
- How do birds use the landscape during migration? Are there key native or non-native species that either benefit of hinder connectivity? Are there some species that are particularly dependent on certain plant communities or landscape features for connectivity?

Data interpretation:

- Stopover duration: Estimating how long individual birds stay at MBO during migration is of inherent value to better understand their use of the site, but also has important implications for the season total counts of species, which are used as the basis for trend estimation. Can mark-recapture analysis be used for commonly banded species to infer the frequency and mean duration of stopovers, and if so, can this be used to adjust season totals such that each individual is only counted once?
- Distinguishing trends between resident and passage migrants: For species that have breeding populations at MBO but also pass through on migration (e.g., Gray Catbird, Song Sparrow, Baltimore Oriole), are season totals biased by the status of the local population? Are resident individuals present throughout, or do they tend to not fully overlap with migrants? Can banding and recapture data be examined to model when migrants typically occur, such that their numbers and trends can be estimated separately?
- Estimation of local population size: For species that commonly breed at MBO, can mark-recapture analysis be used to estimate the size of the local population? Can this be done more effectively for year-round residents (e.g., Black-capped Chickadee) than summer visitors (e.g., Gray Catbird, Song Sparrow)? Can any inferences be made about local dispersal rates based on the relative frequency of recapture of adults vs. juveniles?
- Comparing the effectiveness of different types of count data: MBO primarily reports banding counts and daily estimated totals that take into consideration birds banded, counted on census, or otherwise observed. On most days, there are at least some species that are detected only by banding, on census, or through casual observation, but overall, are all three types of data collection similarly important? Are there certain species for which any of the three types of data are particularly critical or unimportant?
- Is variability in fall banding numbers reflective of productivity? How does the ratio of after hatch year to hatch year compare between years with high and low numbers banded? In years with unusually high numbers, is there evidence of late breeding (i.e., an extra brood), such as more adults in molt during migration, or hatch-year birds in juvenile plumage?
- What traits are shared by species that fluctuate in tandem? Especially in fall, there are some species that tend to fluctuate in abundance on a roughly two-year cycle. What similarities are there among species that share a similar pattern, in terms of distribution, breeding habitat, diet, or other factors?
- What factors influence automated telemetry detection? How does detectability differ in relation to altitude, position on the bird, or other factors? Some data have already been compiled to explore this, laying the groundwork for additional questions and to summarize all of the findings.

In addition to making more use of the current MBO database, there are opportunities to collect additional data through the existing research programs, in support of various research questions. We now have good knowledge of what species occur at MBO commonly, and for many of these birds there are aspects of morphometrics, timing/sequence of molt, or ageing/sexing techniques that remain poorly understood. Small projects have already been undertaken for Black-capped Chickadee, American Redstart, Magnolia Warbler, House Finch, and American Goldfinch, and many additional promising candidates exist.

Whether for new projects or those involving analysis of existing data, the hope is that such research will increasingly be undertaken by undergraduate or graduate students from McGill University. While MBO banders are eager to provide guidance and assist with data collection, their priority is generally the operation of standard monitoring programs, therefore having specific research under the leadership of students and their academic supervisors will improve the ability for such projects to be completed in a timely, thorough, and rigorous manner. Closely related to this, another objective for the next five years is to increase the scientific output of MBO, especially in peer-reviewed journals and at ornithological conferences. This should include further engagement in collaborative research through national and international initiatives such as the Canadian Migration Monitoring Network and the Motus wildlife tracking system.

7.3. Education

The core of MBO's education efforts has always been the on-site training of students and other volunteers in bird identification, handling, and banding techniques. This will always remain important because of volunteer turnover, but also with the broader objective of enabling dedicated trainees to establish their own programs elsewhere, as many have already done.

Throughout MBO's history, this has been complemented by an online presence that engages the public through sharing program highlights, and provides a resource for other North American banders through sharing insights on ageing and sexing of species. MBO will continue its tradition of publishing annual program reports, sharing regular bilingual updates through its Facebook and Instagram pages.

We expect that presentations to naturalist clubs and other interested community groups will continue, and that the content of such talks will evolve over time to reflect the growing depth of analysis of MBO data, as well as putting it in the context of local and regional conservation concerns and opportunities. The bilingual Northern Saw-whet Owl education program operated in collaboration with the Morgan Arboretum over the past few years has provided participants with an introduction to owl biology and bird banding, along with an opportunity to see owls being banded. It has proven very popular, and will continue.

Technically-oriented workshops aimed at training potential banders were more common in MBO's early years, when capacity-building in that regard was critical. They have not been offered in the past few years, but with three members of the MBO team now certified as trainers by the North American Banding Council (NABC), we hope to offer focused sessions of some form over the next five years, including potentially hosting NABC certification sessions.

Last but not least, MBO has to date had relatively little involvement with education of school-age children, with efforts largely limited to a few classes that were visited upon request. However, there is great potential for expanding in this area, given the various ways in which migratory birds tie in easily with the curriculum in several grades, and how they can inspire students to contribute to conservation. We look forward to exploring in-class opportunities, as well as development of online resources for use by teachers.

8. Acknowledgements

MBO was started in 2004 as a pilot project by a few graduate students, but over the course of 15 years has become established as an important member of the Canadian Migration Monitoring Network, has developed an international following through its website and Facebook/Twitter/Instagram accounts, and has positively influenced many students and community members through training and outreach efforts. As described in Section 3.2, these achievements would not have been possible without the sustained effort of dedicated leaders and a large group of volunteers always willing to assist whenever help was required. In particular, the long-term banders-in-charge (Simon Duval, Barbara Frei, Marcel Gahbauer, Gay Gruner, and Marie-Anne Hudson) have each contributed countless hours off-site over the years to developing protocols, managing data, fundraising, and communications, all of which have been essential to building a strong framework for long-term monitoring at MBO. Also deserving of particular recognition are David Davey for developing and maintaining the MBO database, Richard Gregson and Geneviève Gélinas for designing and managing the updated MBO website, and Malcolm Johnson for many years as site caretaker managing the facilities, mowing net lanes, and much more. However, a project of this scope demands a much larger team to be active, and the long list of volunteers in Appendix I demonstrates how many people have played a role in MBO's success, with special thanks to those who have contributed for multiple years.

8.1. Funders and supporters

Although MBO relies heavily on volunteer effort, fundraising is essential to cover the costs of equipment and pay the banders-in-charge / site coordinator, who are responsible for safe and consistent operation of programs. The MBO team is profoundly grateful for the support of its loyal corporate, government, organizational, and individual supporters, without whom our work would be impossible.

Bird Protection Quebec (BPQ) offered grants from their Support and Education Funds annually from 2005 to 2007, has contributed to the operation of the Fall Migration Monitoring Program annually since 2010 and the Northern Saw-whet Owl Program since 2015, has covered the costs of seeds for the winter monitoring program since 2012, funded MBO's winter finch study, and provided funding to launch MBO's participation in the MOTUS wildlife tracking system in 2017 and the start of hummingbird banding in 2018. In addition, BPQ has been consistently supportive of MBO through encouraging its members to participate in MBO activities, and inviting MBO banders to give presentations to BPQ.



Environment and Climate Change Canada has provided financial support for the spring and fall migration monitoring programs annually since 2008.



Environment and
Climate Change Canada

Environnement et
Changement climatique Canada

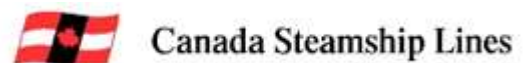
The **Great Canadian Birdathon** (formerly Baillie Birdathon), coordinated by Bird Studies Canada, is a major source of funding for many members of the Canadian Migration Monitoring Network, including MBO. Each year, between one and seven teams of birders have raised between \$4,000 and \$11,000 for MBO through the Birdathon, and in most years this funding



has been critical to ensuring that all programs were able to take place in full. Participants in alphabetical order (* indicating those who have been involved in the Birdathon at least five years) supporting MBO between 2005 and 2019 were: Angelika Aleksieva, Lise Amarasekera, Jean Bacon, Lina Bardo, Christine Barrie, Jean Beaudreault, Michel Beaupré*, Nicolas Bernier*, Pascal Berthelot, David Bird, Sue Bishop*, Eric Boodman, Martin Bowman,

Jacques Brisson, Émile Brisson-Curadeau, Christine Burt, Sophie Cauchon, Céline Charette, Chris Cloutier, Claude Cloutier, Joel Coutu, Averill Craig*, Laurent de Vriendt, Diana McDougall Deakin, Steven Dedesko, Jean Demers, Samuel Denault, Stéfany Desroches, Joy Ding, Christina Donehower, Catherine Doucet, Amélie Drolet, Manon Dubé, Pierre-Alexandre Dumas, Christopher Dunn, Simon Duval*, Bob Edwards, David Fishman, Linda Fishman, Nicki Fleming, Sarah Fraser, Barbara Frei*, Louise Gagné, Marcel Gahbauer*, Alain Goulet, Jean Gregson, Richard Gregson, Gay Gruner*, Peter Gruner*, Alison Hackney*, Frédéric Hareau, Jeff Harrison, Sharon Hayden, Nicolas Houde, Marie-Anne Hudson*, Stacey Jarema, James Junda, Marie-Melissa Kalamaras, Kristen Keyes, Pamela Lagrange, Kristen Lalla, Marie-Pier Laplante, Lance Laviolette, Helen Leroux, Dylan Letchuk, Morgan Letchuk, Penny Letchuk, Jessy Loranger, Barbara MacDuff*, Francine Marcoux*, Sarah Marteinson, Mike Mayerhofer, Betsy McFarlane*, Sandy McNeil, Phillip Mercier, Anthi Mimidakis, George Mony, Ana Morales, Chris Murphy*, Mathias Mutzl, Jeremy Pauzé, André Pelletier, Liam Ragan, Oliver Rind, Lisa Rosenberger, Steve Rosenstein, Catherine Russell*, Ahmad Shah*, Clémence Soulard, Rodger Titman, Bruno Tremblay, Francis van Oordt, and Anthony Zerafa. The James L. Baillie Memorial Fund, also derived from Birdathon proceeds and managed by Bird Studies Canada, provided financial support for the 2006 Spring Migration Monitoring Program.

Canada Steamship Lines was MBO's first corporate sponsor, and is gratefully acknowledged for having provided a generous donation annually for each of MBO's first ten years of operation.



The **John Hackney Foundation for the Noosphere** has made a generous annual donation in support of migration monitoring at MBO annually since 2012.

The 2013 *Call for the Wild* contest by **Jamieson Vitamins** was MBO's biggest fundraising campaign to date, and was instrumental in enabling the hiring of a full-time site coordinator. Thanks also to the countless MBO supporters who influenced the outcome by voting for MBO daily throughout the contest.



A grant from the **Mountain Equipment Co-op Environment Fund** covered the 2006 Fall Migration Monitoring Program, while a grant from the **TD Friends of the Environment Foundation** funded equipment and other costs for migration monitoring in 2009. TD FEF also provided environment grants to cover the purchase and installation of a solar panel in 2013, replacing mist nets and other equipment in 2014, and building a Barn Swallow nesting structure in 2015.



A generous bequest from the estate of **Ian Dalton** in 2014 was another major contribution toward MBO's financial stability, and MBO is very grateful for this thoughtful gift.

MBO was among the organizations fortunate to receive a generous contribution from the distribution of assets upon dissolution of the **Zoological Society of Montreal** in 2016.

In 2019, MBO received a generous donation in support of migration monitoring from the **MacDuff Family Foundation**.

MBO has also received donations from **United Way/Centraide** Ottawa and Montreal (2011-2013), **Club de golf Royal Montreal** (2011), **La compagnie du Cimetière de Montréal** (2012), and **Bell Canada's** volunteer engagement program (2015).

In-kind donations from several other companies have made valuable contributions to MBO's operations. These include contributions of bird feeders and seed from **Wildlifers** (2005-2006) and **Centre de conservation de la faune ailée** (2009-2011), the donation of roofing materials for the cabin from **EMCO Building Products** (2005), and a half-price discount from **Sun-Mar** for MBO's composting toilet (2008), donation of building materials for the cabin from **Home Depot** (2012), donation of three windows for the cabin from **PF Expert** (2012), donation of 9 Squirrel Buster feeders from **Brome Bird Care** (2018 and 2019), and donation of a Canon EOS 6D Mark II camera with two lenses from **Canon Canada** (2019). We also thank Ducks Unlimited Canada for work done to maintain wetland quality through improving drainage.



We would also to thank the **Canadian Migration Monitoring Network**, **Birds Canada**, the **Ecomuseum**, and the **Avian Science and Conservation Centre** for their advice, on-site contributions, and logistical support.

Last but certainly not least, we thank the many individuals who have made generous cash or in-kind donations in support of MBO. Please visit <http://www.oommbo.org/how-to-help/support-mbo/donations/> for information on donating via cheque (payable to "The Migration Research Foundation Inc."), or to contribute directly by credit card through PayPal. All donations to MBO are eligible for charitable tax receipts.

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Note: See Section 6 for a listing of all MBO seasonal and annual reports, as well as a list of publications including data generated through MBO research programs.

Appendix A: Periods of observation at MBO

Operations and data collection at MBO are organized into four seasons, but they differ somewhat from the standard calendar. Spring is defined as the 10-week period from March 28 through June 5, during which the majority of migrants pass through MBO. Similarly, fall is considered to start on August 1, when migrants begin to arrive at MBO, and extends 14 weeks until November 6, by which time only the latest of fall migrants are still on the move (note that from 2005-2014, the fall season ended on October 30, but was subsequently extended, as it had become increasingly apparent that species such as American Robin, American Tree Sparrow, and Fox Sparrow were still moving through in large numbers in the first week of November). Consequently, summer is defined as the 8-week period between spring and fall (i.e., June 6 to July 31), and winter is the longest season, lasting from November 7 (previously October 31) until March 27, spanning 20 weeks (formerly 21). Within each season, observation periods are broken down by week (during migration) or month (during summer and winter), as follows:

WINTER:

Nov: November 7* – November 30 (of the year BEFORE that listed in the header of tables)

(*beginning October 31 from 2005-2014)

Dec: December 1 – 31 (of the year BEFORE that listed in the header of tables)

Jan: January 1 – 31

Feb: February 1 – 28

Mar: March 1 – 27

SPRING:

S1: March 28 – April 3

S5: April 25 – May 1

S8: May 16 – 22

S2: April 4 – 10

S6: May 2 – 8

S9: May 23 – 29

S3: April 11 – 17

S7: May 9 – 15

S10: May 30 – June 5

S4: April 18 – 24

SUMMER*:

Jun: June 6 – 30

July: July 1 – 31

* note that in 2009, the last day of MAPS banding was August 4, and in 2012, the first day was June 5

FALL:

F1: August 1 – 7

F6: September 5 – 11

F11: October 10 – 16

F2: August 8 – 14

F7: September 12 – 18

F12: October 17 – 23

F3: August 15 – 21

F8: September 19 – 25

F13: October 24 – 30

F4: August 22 – 28

F9: September 26 – October 2

F14: October 30 – November 6

F5: August 29 – September 4

F10: October 3 – 9

(2015 to 2019 only)

Appendix B: Spring Migration Monitoring Program Overview

Statistics compiled for the Spring Migration Monitoring Program, 2005-2019. Numbers in the first row of each cell are for the week, while those in the second row are the cumulative season total to date. See Appendix A for the dates corresponding to S1 to S10, and Appendix D for further details on the weather and dominant species of each week of spring. For each week, the lowest result among 15 years is shown in blue, and the highest in red.

| | Year | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | FINAL |
|-------------------------------------|------|----------|--------------------|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|-----------------------|-----------------------|-----------|
| # species observed | 2005 | n/a | 51 51 | 42 56 | 59 65 | 59 76 | 60 84 | 68 102 | 86 121 | 85 129 | 72 133 | 133 |
| | 2006 | 39 39 | 50 55 | 54 63 | 60 72 | 63 81 | 78 99 | 85 118 | 104 137 | 99 148 | 74 148 | 148 |
| | 2007 | 35 35 | 38 44 | 36 48 | 66 70 | 58 78 | 78 97 | 91 116 | 98 132 | 91 134 | 79 134 | 134 |
| | 2008 | 24 24 | 36 38 | 44 48 | 69 71 | 70 80 | 82 102 | 91 118 | 90 129 | 100 137 | 83 139 | 139 |
| | 2009 | 38 38 | 33 45 | 40 52 | 64 72 | 72 90 | 89 112 | 95 128 | 96 138 | 89 144 | 75 146 | 146 |
| | 2010 | 37 37 | 39 46 | 46 54 | 65 72 | 55 78 | 80 105 | 85 118 | 93 131 | 81 137 | 58 138 | 138 |
| | 2011 | 32 32 | 37 42 | 38 50 | 59 67 | 75 86 | 77 102 | 94 123 | 98 134 | 93 139 | 79 140 | 140 |
| | 2012 | 35 35 | 41 46 | 45 55 | 64 74 | 64 83 | 87 107 | 96 129 | 94 135 | 79 141 | 70 143 | 143 |
| | 2013 | 35 35 | 42 47 | 47 59 | 66 73 | 67 87 | 78 102 | 87 122 | 94 136 | 93 144 | 76 145 | 145 |
| | 2014 | 30 30 | 37 41 | 44 53 | 68 71 | 57 73 | 70 84 | 98 124 | 107 134 | 98 140 | 81 141 | 141 |
| | 2015 | 34 34 | 33 40 | 52 57 | 56 67 | 64 78 | 91 111 | 96 132 | 100 141 | 90 146 | 69 147 | 147 |
| | 2016 | 42 42 | 39 46 | 44 51 | 59 65 | 70 79 | 71 90 | 103 123 | 110 135 | 99 139 | 84 139 | 139 |
| | 2017 | 30 30 | 32 40 | 42 53 | 59 68 | 70 78 | 78 95 | 87 111 | 110 135 | 99 140 | 88 142 | 142 |
| | 2018 | 31 31 | 32 40 | 37 48 | 66 70 | 67 82 | 99 110 | 110 136 | 103 140 | 104 148 | 75 148 | 148 |
| | 2019 | 31 31 | 35 40 | 56 58 | 74 82 | 77 91 | 106 118 | 112 130 | 123 149 | 110 154 | 93 155 | 155 |
| # individual birds (species) banded | 2005 | n/a | 17 (7) 17 (7) | 17 (8) 34 (10) | 50 (15) 84 (19) | 97 (18) 181 (25) | 82 (18) 263 (30) | 55 (18) 318 (40) | 164 (39) 482 (56) | 109 (30) 591 (59) | 59 (26) 650 (62) | 650 (62) |
| | 2006 | n/a | 17 (10) 17 (10) | 68 (19) 85 (22) | 77 (15) 162 (26) | 78 (13) 240 (29) | 148 (23) 388 (33) | 88 (23) 476 (39) | 123 (28) 599 (52) | 127 (30) 726 (62) | 28 (16) 754 (63) | 754 (63) |
| | 2007 | n/a | n/a | n/a | 56 (13) 56 (13) | 13 (3) 69 (14) | 85 (12) 154 (20) | 197 (35) 351 (41) | 131 (36) 482 (52) | 167 (37) 649 (58) | 46 (18) 695 (61) | 695 (61) |
| | 2008 | n/a | n/a | n/a | 141 (18) 141 (18) | 68 (11) 209 (21) | 67 (22) 276 (34) | 177 (32) 453 (45) | 147 (34) 600 (55) | 171 (31) 771 (63) | 55 (15) 826 (64) | 826 (64) |
| | 2009 | n/a | n/a | n/a | 39 (20) 39 (20) | 92 (18) 131 (27) | 52 (16) 183 (30) | 115 (27) 298 (44) | 300 (44) 598 (62) | 175 (30) 773 (66) | 42 (24) 815 (66) | 815 (66) |
| | 2010 | n/a | n/a | n/a | 98 (15) 98 (15) | 55 (14) 153 (18) | 74 (18) 227 (26) | 124 (31) 351 (40) | 146 (36) 497 (52) | 98 (26) 595 (58) | 32 (17) 627 (59) | 627 (59) |
| | 2011 | n/a | n/a | n/a | 89 (20) 89 (20) | 66 (17) 155 (25) | 140 (23) 295 (33) | 129 (30) 424 (46) | 198 (37) 622 (55) | 248 (36) 870 (64) | 36 (17) 906 (64) | 906 (64) |
| | 2012 | n/a | n/a | n/a | 102 (19) 102 (19) | 72 (16) 174 (24) | 140 (22) 314 (33) | 220 (40) 534 (53) | 202 (33) 736 (60) | 188 (30) 924 (64) | 67 (20) 991 (66) | 991 (66) |
| | 2013 | n/a | n/a | n/a | 113 (15) 113 (15) | 66 (13) 179 (18) | 82 (22) 261 (31) | 102 (28) 363 (43) | 266 (40) 629 (60) | 132 (28) 761 (68) | 29 (19) 790 (68) | 790 (68) |
| | 2014 | n/a | n/a | n/a | 169 (20) 169 (20) | 197 (17) 366 (25) | 84 (17) 450 (29) | 305 (43) 755 (56) | 209 (41) 964 (65) | 318 (40) 1282 (69) | 74 (19) 1356 (69) | 1356 (69) |
| | 2015 | n/a | n/a | n/a | 83 (14) 83 (14) | 130 (14) 213 (18) | 91 (23) 304 (35) | 273 (48) 577 (61) | 373 (43) 950 (66) | 154 (31) 1104 (68) | 13 (10) 1117 (69) | 1117 (69) |
| | 2016 | n/a | n/a | n/a | 126 (20) 126 (20) | 127 (21) 253 (26) | 101 (16) 354 (29) | 244 (34) 598 (51) | 235 (43) 833 (64) | 225 (33) 1058 (67) | 35 (16) 1093 (67) | 1093 (67) |
| | 2017 | n/a | n/a | n/a | 145 (17) 145 (17) | 131 (21) 276 (25) | 79 (18) 355 (32) | 97 (24) 452 (38) | 412 (47) 864 (62) | 216 (35) 1080 (66) | 42 (17) 1122 (66) | 1122 (66) |
| | 2018 | n/a | n/a | n/a | 57 (15) 57 (15) | 46 (11) 103 (19) | 160 (28) 263 (31) | 300 (43) 563 (53) | 332 (38) 895 (61) | 203 (33) 1098 (67) | 40 (15) 1138 (67) | 1138 (67) |
| | 2019 | n/a | n/a | n/a | 140 (22) 140 (22) | 128 (20) 268 (24) | 118 (28) 386 (37) | 113 (31) 499 (48) | 384 (48) 883 (68) | 804 (49) 1687 (75) | 140 (25) 1827 (76) | 1827 (76) |

| | Year | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | FINAL |
|-------------------------------------|------|-----|----------------|-----------------|--------------------|--------------------|--------------------|---------------------|---------------------|----------------------|---------------------|-------------|
| # individual birds (species) return | 2005 | n/a | 2 (1) 2 (1) | 0 (0) 2 (1) | 5 (3) 7 (3) | 3 (3) 10 (5) | 4 (1) 14 (5) | 1 (1) 15 (5) | 2 (1) 17 (5) | 3 (3) 20 (6) | 0 (0) 20 (6) | 20 (6) |
| | 2006 | n/a | 6 (2) 6 (2) | 8 (3) 14 (4) | 6 (5) 20 (6) | 7 (6) 27 (7) | 6 (5) 33 (9) | 7 (5) 40 (11) | 14 (6) 54 (14) | 14 (9) 68 (17) | 2 (2) 70 (17) | 70 (17) |
| | 2007 | n/a | n/a | n/a | 13 (6) 13 (6) | 2 (2) 15 (7) | 12 (5) 27 (9) | 18 (9) 45 (14) | 20 (11) 65 (18) | 14 (6) 79 (21) | 3 (1) 82 (21) | 82 (21) |
| | 2008 | n/a | n/a | n/a | 21 (6) 21 (6) | 13 (5) 34 (7) | 16 (7) 50 (10) | 13 (11) 63 (14) | 17 (8) 80 (15) | 8 (4) 88 (16) | 2 (2) 90 (16) | 90 (16) |
| | 2009 | n/a | n/a | n/a | 13 (4) 13 (4) | 9 (7) 22 (8) | 9 (5) 31 (10) | 25 (10) 56 (16) | 29 (15) 85 (21) | 14 (8) 99 (22) | 0 (0) 99 (22) | 99 (22) |
| | 2010 | n/a | n/a | n/a | 16 (8) 16 (8) | 9 (6) 25 (11) | 11 (8) 36 (15) | 29 (10) 65 (19) | 29 (12) 94 (23) | 15 (8) 109 (23) | 3 (3) 112 (24) | 112 (24) |
| | 2011 | n/a | n/a | n/a | 13 (6) 13 (6) | 9 (6) 22 (10) | 4 (4) 26 (12) | 8 (5) 34 (16) | 15 (7) 49 (17) | 10 (6) 59 (17) | 4 (3) 63 (17) | 63 (17) |
| | 2012 | n/a | n/a | n/a | 21 (6) 21 (6) | 11 (4) 32 (7) | 17 (8) 49 (11) | 28 (8) 77 (13) | 12 (6) 89 (14) | 10 (8) 99 (17) | 4 (3) 103 (17) | 103 (17) |
| | 2013 | n/a | n/a | n/a | 24 (9) 24 (9) | 9 (7) 33 (12) | 8 (5) 41 (15) | 13 (7) 54 (16) | 36 (11) 90 (23) | 11 (6) 101 (23) | 4 (4) 105 (23) | 105 (23) |
| | 2014 | n/a | n/a | n/a | 31 (9) 31 (9) | 12 (4) 43 (9) | 9 (6) 52 (11) | 33 (10) 85 (18) | 19 (11) 104 (21) | 19 (10) 123 (23) | 4 (4) 127 (25) | 127 (25) |
| | 2015 | n/a | n/a | n/a | 19 (6) 19 (6) | 12 (9) 31 (10) | 11 (8) 42 (16) | 23 (10) 65 (20) | 25 (15) 90 (26) | 8 (6) 98 (26) | 0 (0) 98 (26) | 98 (26) |
| | 2016 | n/a | n/a | n/a | 13 (8) 13 (8) | 15 (8) 28 (12) | 10 (6) 38 (15) | 15 (7) 53 (20) | 22 (10) 75 (22) | 14 (10) 89 (24) | 5 (5) 94 (24) | 94 (24) |
| | 2017 | n/a | n/a | n/a | 16 (8) 16 (8) | 13 (8) 29 (13) | 9 (6) 38 (14) | 16 (7) 54 (15) | 36 (13) 90 (23) | 17 (11) 107 (25) | 4 (4) 111 (25) | 111 (25) |
| | 2018 | n/a | n/a | n/a | 15 (6) 15 (6) | 12 (8) 27 (10) | 11 (9) 38 (12) | 32 (14) 70 (21) | 26 (11) 96 (23) | 25 (12) 121 (27) | 3 (3) 124 (27) | 124 (27) |
| | 2019 | n/a | n/a | n/a | 13 (5) 13 (5) | 6 (6) 19 (9) | 8 (5) 27 (9) | 26 (15) 53 (20) | 20 (11) 73 (23) | 16 (8) 89 (25) | 10 (7) 99 (27) | 99 (27) |
| # individual birds (species) repeat | 2005 | n/a | 1 (1) 1 (1) | 5 (2) 6 (2) | 9 (3) 15 (3) | 12 (6) 27 (6) | 22 (8) 49 (9) | 12 (7) 61 (11) | 57 (12) 118 (17) | 56 (11) 174 (19) | 37 (13) 211 (21) | 211 (21) |
| | 2006 | n/a | 7 (3) 7 (3) | 8 (4) 15 (5) | 6 (3) 21 (6) | 17 (6) 38 (10) | 12 (10) 50 (13) | 23 (9) 73 (16) | 25 (10) 98 (20) | 39 (14) 137 (23) | 7 (6) 144 (23) | 144 (23) |
| | 2007 | n/a | n/a | n/a | 13 (4) 13 (4) | 3 (3) 16 (6) | 12 (4) 28 (8) | 16 (8) 44 (12) | 20 (8) 64 (15) | 32 (11) 96 (19) | 7 (5) 103 (20) | 103 (20) |
| | 2008 | n/a | n/a | n/a | 20 (6) 20 (6) | 27 (9) 47 (11) | 12 (8) 59 (14) | 25 (12) 84 (18) | 61 (17) 145 (23) | 39 (14) 184 (25) | 10 (8) 194 (25) | 194 (25) |
| | 2009 | n/a | n/a | n/a | 8 (3) 8 (3) | 14 (5) 22 (6) | 12 (5) 34 (7) | 45 (13) 79 (15) | 83 (18) 162 (24) | 68 (20) 230 (29) | 16 (9) 246 (29) | 246 (29) |
| | 2010 | n/a | n/a | n/a | 19 (7) 19 (7) | 16 (5) 35 (9) | 13 (4) 48 (10) | 23 (10) 71 (17) | 45 (15) 116 (23) | 35 (13) 151 (25) | 9 (5) 160 (25) | 160 (25) |
| | 2011 | n/a | n/a | n/a | 7 (5) 7 (5) | 12 (7) 19 (8) | 15 (7) 34 (13) | 11 (6) 45 (16) | 26 (12) 71 (20) | 52 (14) 123 (25) | 6 (5) 129 (25) | 129 (25) |
| | 2012 | n/a | n/a | n/a | 24 (6) 24 (6) | 37 (8) 61 (10) | 27 (9) 88 (13) | 64 (17) 152 (23) | 64 (18) 216 (27) | 60 (15) 276 (29) | 22 (11) 298 (30) | 298 (30) |
| | 2013 | n/a | n/a | n/a | 36 (11) 36 (11) | 21 (9) 57 (13) | 17 (9) 74 (15) | 21 (10) 95 (18) | 54 (16) 149 (27) | 55 (18) 204 (31) | 21 (10) 225 (32) | 225 (32) |
| | 2014 | n/a | n/a | n/a | 22 (9) 22 (9) | 28 (9) 50 (11) | 22 (7) 72 (12) | 51 (18) 123 (22) | 75 (18) 198 (29) | 73 (19) 271 (33) | 24 (8) 295 (34) | 295 (34) |
| | 2015 | n/a | n/a | n/a | 18 (7) 18 (7) | 29 (9) 47 (9) | 8 (6) 55 (12) | 40 (17) 95 (26) | 75 (21) 170 (33) | 60 (20) 230 (36) | 4 (4) 234 (37) | 234 (37) |
| | 2016 | n/a | n/a | n/a | 32 (7) 32 (7) | 54 (13) 86 (13) | 32 (9) 118 (15) | 31 (14) 149 (23) | 60 (24) 209 (34) | 41 (18) 250 (36) | 8 (5) 258 (36) | 258 (36) |
| | 2017 | n/a | n/a | n/a | 21 (7) 21 (7) | 28 (11) 49 (13) | 31 (12) 80 (17) | 30 (11) 110 (19) | 54 (18) 164 (29) | 77 (22) 241 (36) | 21 (12) 262 (39) | 262 (39) |
| | 2018 | n/a | n/a | n/a | 21 (4) 21 (4) | 14 (6) 35 (7) | 22 (6) 57 (10) | 54 (19) 111 (23) | 98 (26) 209 (33) | 74 (23) 283 (38) | 19 (9) 302 (39) | 302 (39) |
| | 2019 | n/a | n/a | n/a | 19 (7) 19 (7) | 24 (10) 43 (11) | 26 (9) 69 (14) | 27 (10) 96 (17) | 58 (19) 154 (26) | 178 (31) 332 (43) | 47 (15) 379 (45) | 379 (45) |

| | Year | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | FINAL | |
|-------------|--------------------------------|------|----------------|----------------|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|------|
| # net hours | 2005 | n/a | 115.3 115.3 | 61.3 176.6 | 97.0 273.6 | 214.1 487.7 | 281.6 769.3 | 112.7 882.0 | 274.7 1156.7 | 281.7 1438.4 | 137.2 1575.6 | 1575.6 | |
| | 2006 | n/a | 169.0 169.0 | 313.9 482.9 | 353.0 835.9 | 386.9 1222.8 | 463.9 1686.7 | 295.4 1982.1 | 236.3 2218.4 | 483.8 2702.2 | 209.9 2912.1 | 2912.1 | |
| | 2007 | n/a | n/a | n/a | 413.5 413.5 | 75.0 488.5 | 510.0 998.5 | 454.5 1453.0 | 300.5 1753.5 | 533.0 2286.5 | 173.5 2460.0 | 2460.0 | |
| | 2008 | n/a | n/a | n/a | 510.0 510.0 | 436.7 946.7 | 436.0 1382.7 | 508.0 1890.7 | 454.0 2344.7 | 446.0 2790.7 | 121.5 2912.2 | 2912.2 | |
| | 2009 | n/a | n/a | n/a | 398.0 398.0 | 464.0 862.0 | 352.5 1214.5 | 525.0 1739.5 | 554.5 2294.0 | 464.0 2758.0 | 198.5 2956.5 | 2956.5 | |
| | 2010 | n/a | n/a | n/a | 554.4 554.4 | 400.0 954.4 | 421.0 1375.4 | 480.0 1855.4 | 544.0 2399.4 | 560.0 2959.4 | 156.0 3115.4 | 3115.4 | |
| | 2011 | n/a | n/a | n/a | 327.5 327.5 | 376.0 703.5 | 407.5 1111.0 | 400.0 1511.0 | 279.0 1790.0 | 406.0 2196.0 | 240.0 2436.0 | 2436.0 | |
| | 2012 | n/a | n/a | n/a | 346.0 346.0 | 389.0 735.0 | 408.0 1143.0 | 467.0 1610.0 | 480.0 2090.0 | 492.0 2582.0 | 236.0 2818.0 | 2818.0 | |
| | 2013 | n/a | n/a | n/a | 511.0 511.0 | 399.0 910.0 | 560.0 1470.0 | 407.0 1877.0 | 482.0 2359.0 | 324.8 2683.8 | 240.0 2923.8 | 2923.8 | |
| | 2014 | n/a | n/a | n/a | 502.5 502.5 | 356.8 859.3 | 378.8 1238.0 | 523.8 1761.8 | 499.0 2260.8 | 528.0 2788.8 | 216.0 3004.8 | 3004.8 | |
| | 2015 | n/a | n/a | n/a | 365.3 365.3 | 527.0 892.3 | 560.0 1452.3 | 437.5 1889.8 | 556.0 2445.8 | 548.8 2994.6 | 85.2 3079.8 | 3079.8 | |
| | 2016 | n/a | n/a | n/a | 450.0 450.0 | 555.0 1005.0 | 484.0 1489.0 | 558.0 2047.0 | 520.0 2567.0 | 544.0 3111.0 | 232.0 3343.0 | 3343.0 | |
| | 2017 | n/a | n/a | n/a | 438.8 438.8 | 405.0 843.8 | 357.8 1201.5 | 457.0 1658.5 | 480.0 2138.5 | 544.0 2682.5 | 216.0 2898.5 | 2898.5 | |
| | 2018 | n/a | n/a | n/a | 450.0 450.0 | 250.8 700.8 | 495.0 1195.8 | 496.8 1692.5 | 489.0 2181.5 | 488.0 2669.5 | 216.0 2885.5 | 2885.5 | |
| | 2019 | n/a | n/a | n/a | 336.0 336.0 | 440.0 776.0 | 520.0 1296.0 | 384.0 1680.0 | 436.0 2116.0 | 552.0 2668.0 | 240.0 2908.0 | 2908.0 | |
| | # birds banded / 100 net hours | 2005 | n/a | 14.7 14.7 | 27.7 19.3 | 51.5 30.7 | 45.3 37.1 | 29.1 34.2 | 48.8 36.1 | 59.7 41.7 | 38.7 41.1 | 43.0 41.3 | 41.3 |
| | | 2006 | n/a | 10.1 10.1 | 21.7 17.6 | 21.8 19.4 | 20.2 19.6 | 31.9 23.0 | 29.8 24.0 | 52.1 27.0 | 26.3 26.9 | 13.3 25.9 | 25.9 |
| | | 2007 | n/a | n/a | n/a | 13.5 13.5 | 17.3 14.1 | 16.7 15.4 | 43.3 24.2 | 43.6 27.5 | 31.3 28.4 | 26.5 28.3 | 28.3 |
| | | 2008 | n/a | n/a | n/a | 27.6 27.6 | 15.6 22.1 | 15.4 20.0 | 34.8 24.0 | 32.4 25.6 | 38.3 27.6 | 45.3 28.4 | 28.4 |
| 2009 | | n/a | n/a | n/a | 9.8 9.8 | 19.8 15.2 | 14.8 15.1 | 21.9 17.1 | 54.1 26.1 | 37.7 28.0 | 21.2 27.6 | 27.6 | |
| 2010 | | n/a | n/a | n/a | 17.7 17.7 | 13.8 16.0 | 17.6 16.5 | 25.8 18.9 | 26.8 20.7 | 17.5 20.1 | 20.5 20.1 | 20.1 | |
| 2011 | | n/a | n/a | n/a | 27.2 27.2 | 17.6 22.0 | 34.4 26.6 | 32.2 28.1 | 71.0 34.7 | 61.1 39.6 | 15.0 37.2 | 37.2 | |
| 2012 | | n/a | n/a | n/a | 29.5 29.5 | 18.5 23.7 | 34.3 27.5 | 47.1 33.2 | 42.1 35.2 | 38.2 35.8 | 28.4 35.2 | 35.2 | |
| 2013 | | n/a | n/a | n/a | 22.1 22.1 | 16.5 19.7 | 14.6 17.8 | 25.1 19.3 | 55.2 26.7 | 40.6 28.4 | 12.1 27.0 | 27.0 | |
| 2014 | | n/a | n/a | n/a | 33.6 33.6 | 55.2 42.6 | 22.2 36.3 | 58.2 42.9 | 41.9 42.6 | 60.2 46.0 | 34.3 45.1 | 45.1 | |
| 2015 | | n/a | n/a | n/a | 22.7 22.7 | 24.7 23.9 | 16.2 20.9 | 62.4 30.5 | 67.1 38.8 | 28.1 36.9 | 15.3 36.3 | 36.3 | |
| 2016 | | n/a | n/a | n/a | 28.0 28.0 | 22.9 25.2 | 20.9 23.8 | 43.7 29.2 | 45.2 32.5 | 41.4 34.0 | 15.1 32.7 | 32.7 | |
| 2017 | | n/a | n/a | n/a | 33.0 33.0 | 32.3 32.7 | 22.1 29.5 | 21.2 27.3 | 85.8 40.4 | 39.7 40.3 | 19.4 38.7 | 38.7 | |
| 2018 | | n/a | n/a | n/a | 12.7 12.7 | 18.3 14.7 | 32.3 22.0 | 60.4 33.3 | 67.9 41.0 | 41.6 41.1 | 18.5 39.4 | 39.4 | |
| 2019 | | n/a | n/a | n/a | 41.7 41.7 | 29.1 34.5 | 22.7 29.8 | 29.4 29.7 | 88.1 41.7 | 145.7 63.2 | 58.3 62.8 | 62.8 | |

Appendix C: Fall Migration Monitoring Program Overview

Statistics compiled for the Fall Migration Monitoring Program, 2005-2019. Numbers in the first row of each cell are for the week, while those in the second row are the cumulative season total to date. See Appendix A for the dates corresponding to F1 to F14, and Appendix D for further details on the weather and dominant species of each week of fall. For each week, the lowest result among 15 years is shown in blue, and the highest in red.

| | Year | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FINAL | |
|--------------------|-------------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|-----------|-----------|
| # species observed | 2005 | 74 74 | 71 88 | 75 95 | 76 102 | 83 111 | 88 121 | 89 125 | 89 129 | 75 132 | 83 136 | 67 141 | 59 147 | 55 152 | n/a | 152 | |
| | 2006 | 75 75 | 84 91 | 78 95 | 82 101 | 87 106 | 86 114 | 74 120 | 77 123 | 70 126 | 63 131 | 60 134 | 55 134 | 50 134 | n/a | 134 | |
| | 2007 | 65 65 | 72 84 | 82 98 | 81 106 | 83 112 | 84 116 | 75 123 | 81 131 | 74 133 | 74 135 | 55 135 | 53 137 | 58 144 | n/a | 144 | |
| | 2008 | 71 71 | 71 85 | 77 96 | 74 103 | 82 110 | 83 113 | 76 117 | 76 121 | 73 126 | 73 131 | 61 136 | 57 141 | 57 141 | 46 141 | n/a | 141 |
| | 2009 | 71 71 | 73 86 | 82 98 | 78 106 | 76 111 | 75 115 | 72 121 | 82 128 | 78 128 | 70 131 | 65 133 | 51 136 | 52 144 | n/a | 144 | |
| | 2010 | 71 71 | 68 83 | 72 92 | 71 95 | 78 102 | 85 106 | 87 117 | 74 120 | 68 125 | 80 134 | 63 135 | 52 137 | 57 140 | n/a | 140 | |
| | 2011 | 67 67 | 75 81 | 77 87 | 78 97 | 86 107 | 77 112 | 84 121 | 86 124 | 81 132 | 81 136 | 52 140 | 49 141 | 53 146 | n/a | 146 | |
| | 2012 | 74 74 | 84 91 | 85 101 | 84 109 | 77 112 | 85 119 | 84 125 | 87 132 | 89 136 | 77 138 | 59 139 | 69 142 | 66 148 | n/a | 148 | |
| | 2013 | 84 84 | 74 95 | 94 107 | 86 114 | 81 116 | 82 122 | 91 130 | 88 136 | 81 141 | 70 142 | 67 143 | 60 144 | 53 147 | n/a | 147 | |
| | 2014 | 78 78 | 81 91 | 88 105 | 87 110 | 93 115 | 85 120 | 90 124 | 83 128 | 84 133 | 73 135 | 75 143 | 64 145 | 70 150 | n/a | 150 | |
| | 2015 | 83 83 | 81 92 | 88 100 | 93 108 | 91 115 | 85 117 | 88 124 | 90 127 | 77 131 | 74 137 | 74 141 | 66 145 | 62 149 | 57 151 | 151 | |
| | 2016 | 84 84 | 84 93 | 92 103 | 93 112 | 96 119 | 81 123 | 93 134 | 90 137 | 87 141 | 78 142 | 60 143 | 52 143 | 60 149 | 59 150 | 150 | |
| | 2017 | 73 73 | 79 86 | 88 100 | 93 108 | 93 116 | 107 125 | 95 130 | 84 133 | 92 137 | 70 139 | 63 139 | 60 144 | 53 147 | 57 151 | 151 | |
| | 2018 | 76 76 | 82 92 | 80 96 | 94 106 | 84 112 | 86 114 | 84 120 | 82 122 | 87 129 | 84 135 | 62 136 | 69 140 | 58 145 | 59 148 | 148 | |
| | 2019 | 72 72 | 84 94 | 75 98 | 78 104 | 81 108 | 88 115 | 91 126 | 90 129 | 81 130 | 66 132 | 58 135 | 60 139 | 60 143 | 60 145 | 145 | |
| | # individual birds (species) banded | 2005 | 69 (22) 69 (22) | 158 (28) 227 (32) | 141 (39) 368 (43) | 196 (35) 564 (49) | 283 (41) 847 (53) | 181 (34) 1028(59) | 426 (49) 1454(64) | 480 (48) 1934(68) | 380 (36) 2314(69) | 375 (37) 2689(70) | 185 (24) 2874(73) | 157 (17) 3031(75) | 195 (21) 3226(78) | n/a | 3226 (78) |
| | | 2006 | 152 (30) 152 (30) | 225 (40) 377 (46) | 162 (31) 539 (48) | 200 (34) 739 (54) | 146 (37) 885 (58) | 279 (39) 1164(59) | 266 (41) 1430(65) | 332 (32) 1762(67) | 545 (35) 2307(70) | 305 (23) 2612(72) | 241 (22) 2853(74) | 333 (19) 3186(76) | 94 (11) 3280(76) | n/a | 3280 (76) |
| | | 2007 | 210 (29) 210 (29) | 142 (32) 352 (36) | 91 (25) 443 (41) | 128 (30) 571 (47) | 131 (36) 702 (56) | 162 (36) 864 (60) | 135 (34) 999 (66) | 210 (38) 1209(71) | 311 (33) 1520(71) | 486 (34) 2006(74) | 430 (28) 2436(75) | 289 (19) 2725(77) | 152 (17) 2877(77) | n/a | 2877 (77) |
| | | 2008 | 187 (32) 187 (32) | 182 (42) 369 (45) | 155 (33) 524 (48) | 166 (36) 690 (52) | 271 (44) 961 (59) | 345 (42) 1306(62) | 203 (36) 1509(66) | 393 (34) 1902(67) | 1112(46) 3014(71) | 1113(39) 4127(74) | 531 (26) 4658(77) | 218 (13) 4876(77) | 224 (13) 5100(77) | n/a | 5100 (77) |
| 2009 | | 228 (39) 228 (39) | 148 (33) 376 (47) | 184 (33) 560 (50) | 196 (33) 756 (54) | 159 (34) 915 (56) | 109 (33) 1024(59) | 185 (38) 1209(64) | 252 (34) 1461(69) | 372 (43) 1833(69) | 591 (36) 2424(71) | 257 (22) 2681(72) | 359 (20) 3040(73) | 351 (19) 3391(75) | n/a | 3391 (75) | |
| 2010 | | 250 (37) 250 (37) | 192 (34) 442 (42) | 250 (38) 692 (48) | 177 (34) 869 (53) | 197 (34) 1066(57) | 416 (38) 1482(58) | 297 (42) 1779(64) | 1279(40) 3058(67) | 1085(36) 4143(68) | 1019(24) 5162(70) | 635 (28) 5797(72) | 605 (23) 6402(74) | 406 (19) 6808(74) | n/a | 6808 (74) | |
| 2011 | | 257 (35) 257 (35) | 142 (35) 399 (42) | 136 (33) 535 (45) | 240 (38) 775 (53) | 311 (36) 1086(56) | 257 (37) 1343(57) | 217 (37) 1560(60) | 241 (40) 1801(65) | 327 (31) 2128(70) | 275 (29) 2403(74) | 104 (19) 2507(75) | 139 (18) 2646(76) | 146 (17) 2792(78) | n/a | 2792 (78) | |
| 2012 | | 281 (34) 281 (34) | 243 (39) 524 (44) | 161 (41) 685 (52) | 239 (43) 924 (56) | 166 (36) 1090(59) | 263 (40) 1353(64) | 404 (49) 1757(71) | 210 (35) 1967(73) | 447 (42) 2414(77) | 850 (36) 3264(79) | 316 (26) 3580(81) | 331 (28) 3911(82) | 153 (20) 4064(86) | n/a | 4064 (86) | |
| 2013 | | 300 (41) 300 (41) | 160 (30) 460 (45) | 170 (34) 630 (48) | 330 (39) 960 (53) | 309 (39) 1269(59) | 234 (33) 1503(61) | 312 (40) 1815(64) | 205 (37) 2020(68) | 263 (35) 2283(69) | 483 (30) 2766(71) | 271 (22) 3037(75) | 170 (21) 3207(76) | 134 (17) 3341(77) | n/a | 3341 (77) | |
| 2014 | | 204 (42) 204 (42) | 191 (39) 395 (48) | 121 (32) 516 (49) | 296 (38) 812 (54) | 237 (37) 1049(56) | 223 (40) 1272(61) | 324 (41) 1596(65) | 323 (39) 1919(69) | 454 (37) 2373(70) | 295 (30) 2668(73) | 408 (25) 3076(73) | 405 (27) 3481(75) | 337 (20) 3818(77) | n/a | 3818 (77) | |
| 2015 | | 233 (42) 233 (42) | 146 (37) 379 (47) | 232 (44) 611 (55) | 220 (40) 831 (57) | 192 (39) 1023(59) | 185 (36) 1208(63) | 297 (41) 1505(68) | 307 (41) 1812(72) | 174 (34) 1986(75) | 352 (28) 2338(75) | 300 (25) 2638(76) | 159 (20) 2797(80) | 208 (24) 3005(83) | 146 (17) 3151(84) | 3151 (84) | |
| 2016 | | 263 (35) 263 (35) | 144 (35) 407 (45) | 200 (42) 607 (54) | 219 (40) 826 (58) | 165 (36) 991 (62) | 87 (25) 1078(62) | 194 (33) 1272(68) | 307 (40) 1579(71) | 568 (40) 2147(74) | 399 (33) 2546(77) | 248 (24) 2794(79) | 204 (19) 2998(79) | 205 (22) 3203(80) | 214 (18) 3431(82) | 3417 (82) | |
| 2017 | | 248 (35) 248 (35) | 181 (33) 429 (42) | 175 (34) 604 (48) | 221 (40) 825 (54) | 197 (38) 1022(57) | 282 (40) 1304(62) | 173 (42) 1477(67) | 228 (35) 1705(70) | 399 (43) 2104(72) | 278 (32) 2382(73) | 143 (14) 2525(73) | 166 (20) 2691(75) | 79 (16) 2770(76) | 54 (11) 2824(76) | 2824 (76) | |
| 2018 | | 358 (40) 358 (40) | 341 (45) 699 (52) | 195 (36) 894 (54) | 256 (38) 1150(56) | 240 (42) 1390(60) | 157 (33) 1547(62) | 198 (40) 1745(65) | 272 (45) 2017(70) | 460 (46) 2477(76) | 361 (34) 2838(78) | 244 (26) 3082(78) | 198 (16) 3208(79) | 151 (21) 3431(82) | 111 (16) 3542(83) | 3542 (83) | |
| 2019 | | 209 (38) 209 (38) | 196 (39) 405 (49) | 189 (36) 594 (51) | 160 (36) 754 (57) | 127 (34) 881 (60) | 274 (41) 1155(62) | 131 (37) 1286(66) | 302 (42) 1588(71) | 222 (36) 1810(73) | 232 (31) 2042(75) | 256 (18) 2298(76) | 191 (20) 2489(76) | 193 (25) 2682(77) | 92 (17) 2774(78) | 2774 (78) | |

| | Year | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FINAL | |
|-------------------------------------|-------------------------------------|--------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|----------------------|----------------------|----------------------|----------------------|---------------------|--------------------|--------------|-------------|
| # individual birds (species) return | 2005 | 0 (0) 0 (0) | 3 (2) 3 (2) | 3 (3) 6 (4) | 3 (3) 9 (5) | 7 (5) 16 (9) | 4 (3) 20 (9) | 3 (2) 23 (9) | 6 (3) 29 (10) | 6 (4) 35 (11) | 5 (3) 40 (11) | 1 (1) 41 (11) | 0 (0) 41 (11) | 2 (2) 43 (13) | n/a | 43 (13) | |
| | 2006 | 6 (5) 6 (5) | 6 (4) 12 (6) | 1 (1) 13 (6) | 2 (2) 15 (8) | 1 (1) 16 (8) | 3 (2) 19 (8) | 2 (2) 21 (8) | 0 (0) 21 (8) | 2 (1) 23 (8) | 1 (1) 24 (8) | 2 (1) 26 (8) | 2 (2) 28 (9) | 3 (2) 31 (9) | n/a | 31 (9) | |
| | 2007 | 10 (6) 10 (6) | 6 (4) 16 (7) | 6 (2) 22 (7) | 5 (5) 27 (10) | 3 (2) 30 (11) | 7 (5) 37 (11) | 2 (2) 39 (11) | 3 (3) 42 (12) | 0 (0) 42 (12) | 1 (1) 43 (12) | 1 (1) 44 (12) | 1 (1) 45 (12) | 1 (1) 46 (12) | n/a | 46 (12) | |
| | 2008 | 11 (7) 11 (7) | 0 (0) 11 (7) | 1 (1) 12 (8) | 1 (1) 13 (8) | 2 (2) 15 (10) | 3 (3) 18 (11) | 3 (3) 21 (11) | 3 (3) 24 (14) | 0 (0) 24 (14) | 1 (1) 25 (14) | 5 (2) 30 (14) | 0 (0) 30 (14) | 2 (1) 32 (14) | n/a | 32 (14) | |
| | 2009 | 6 (6) 6 (6) | 3 (3) 9 (8) | 3 (3) 12 (10) | 3 (3) 15 (11) | 7 (6) 22 (15) | 4 (4) 26 (16) | 1 (1) 27 (16) | 4 (2) 31 (16) | 3 (1) 33 (16) | 2 (2) 35 (16) | 1 (1) 36 (16) | 5 (3) 41 (18) | 2 (2) 43 (18) | n/a | 43 (18) | |
| | 2010 | 6 (5) 6 (5) | 2 (2) 8 (7) | 3 (3) 11 (9) | 4 (3) 15 (10) | 3 (3) 18 (12) | 3 (3) 21 (14) | 6 (3) 27 (15) | 3 (2) 30 (15) | 2 (2) 32 (16) | 4 (3) 36 (18) | 1 (1) 37 (18) | 2 (1) 39 (18) | 5 (3) 44 (20) | n/a | 44 (20) | |
| | 2011 | 5 (2) 5 (2) | 1 (1) 6 (3) | 5 (5) 11 (7) | 2 (2) 13 (9) | 2 (2) 15 (11) | 1 (1) 16 (12) | 1 (1) 17 (12) | 2 (2) 19 (12) | 8 (4) 27 (14) | 5 (2) 32 (14) | 2 (2) 34 (14) | 3 (2) 37 (14) | 3 (1) 40 (15) | n/a | 40 (15) | |
| | 2012 | 13 (10) 13 (10) | 7 (4) 20 (12) | 9 (7) 29 (16) | 2 (2) 31 (17) | 10 (8) 41 (19) | 2 (2) 43 (19) | 15 (7) 58 (20) | 2 (2) 60 (20) | 6 (3) 66 (20) | 3 (1) 69 (20) | 3 (1) 75 (21) | 6 (4) 78 (22) | 3 (3) 87 (24) | 9 (6) 87 (24) | n/a | 87 (24) |
| | 2013 | 7 (5) 7 (5) | 8 (5) 15 (8) | 4 (4) 19 (10) | 2 (2) 21 (11) | 5 (5) 26 (15) | 2 (2) 28 (15) | 6 (4) 34 (16) | 4 (2) 38 (16) | 5 (4) 43 (17) | 0 (0) 43 (17) | 3 (3) 46 (18) | 4 (3) 50 (18) | 3 (2) 53 (18) | n/a | 53 (18) | |
| | 2014 | 13 (9) 13 (9) | 3 (2) 16 (9) | 6 (6) 22 (11) | 8 (6) 30 (14) | 3 (3) 33 (15) | 2 (2) 35 (16) | 6 (4) 41 (17) | 5 (4) 46 (17) | 5 (4) 51 (17) | 2 (1) 53 (17) | 5 (2) 55 (18) | 3 (2) 58 (18) | 3 (3) 61 (20) | n/a | 61 (20) | |
| | 2015 | 7 (4) 7 (4) | 6 (5) 13 (8) | 11 (8) 24 (13) | 8 (6) 32 (15) | 3 (3) 35 (15) | 5 (4) 40 (16) | 4 (3) 44 (16) | 3 (2) 47 (16) | 2 (2) 49 (17) | 2 (2) 51 (19) | 2 (2) 53 (20) | 1 (1) 54 (20) | 3 (3) 57 (21) | 9 (5) 66 (23) | 66 (23) | |
| | 2016 | 14 (10) 14 (10) | 9 (8) 23 (13) | 6 (4) 29 (14) | 8 (6) 37 (15) | 5 (2) 42 (15) | 5 (3) 47 (15) | 4 (3) 51 (16) | 1 (1) 52 (16) | 2 (2) 54 (17) | 3 (3) 57 (17) | 10 (7) 67 (20) | 1 (1) 68 (21) | 3 (2) 71 (21) | 7 (4) 78 (22) | 78 (22) | |
| | 2017 | 11 (9) 11 (9) | 4 (2) 15 (10) | 5 (2) 20 (11) | 5 (5) 25 (14) | 3 (3) 28 (16) | 1 (1) 29 (17) | 10 (8) 39 (21) | 1 (1) 40 (22) | 3 (3) 43 (23) | 4 (2) 47 (23) | 1 (1) 48 (23) | 1 (1) 49 (23) | 0 (0) 49 (23) | 3 (2) 52 (24) | 52 (24) | |
| | 2018 | 8 (5) 8 (5) | 5 (4) 13 (7) | 12 (6) 25 (10) | 9 (6) 34 (11) | 8 (6) 42 (13) | 3 (2) 45 (13) | 5 (4) 50 (14) | 3 (2) 53 (15) | 1 (1) 54 (15) | 6 (4) 60 (17) | 3 (2) 63 (18) | 6 (4) 69 (20) | 6 (4) 75 (20) | 1 (1) 76 (20) | 76 (20) | |
| | 2019 | 9 (6) 9 (6) | 3 (2) 12 (7) | 7 (3) 19 (8) | 5 (5) 24 (11) | 3 (3) 27 (12) | 6 (5) 33 (13) | 4 (4) 37 (14) | 5 (5) 42 (17) | 1 (1) 43 (17) | 7 (5) 50 (18) | 0 (0) 50 (18) | 0 (0) 50 (18) | 2 (2) 52 (18) | 3 (2) 55 (18) | 55 (18) | |
| | # individual birds (species) repeat | 2005 | 4 (4) 4 (4) | 23 (11) 27 (13) | 24 (12) 51 (15) | 19 (12) 70 (18) | 47 (15) 117 (22) | 38 (14) 155 (25) | 58 (19) 213 (29) | 82 (18) 295 (32) | 52 (12) 347 (34) | 53 (17) 400 (38) | 24 (10) 424 (38) | 11 (7) 435 (40) | 45 (9) 480 (42) | n/a | 480 (42) |
| | | 2006 | 22 (10) 22 (10) | 31 (11) 53 (15) | 33 (12) 86 (19) | 25 (10) 111 (23) | 19 (8) 130 (24) | 35 (14) 165 (26) | 54 (18) 219 (30) | 28 (12) 247 (32) | 48 (10) 295 (33) | 26 (10) 321 (34) | 49 (10) 370 (37) | 35 (9) 405 (37) | 8 (3) 413 (38) | n/a | 413 (38) |
| | | 2007 | 31 (12) 31 (12) | 50 (16) 81 (18) | 40 (16) 121 (24) | 24 (10) 145 (25) | 33 (15) 178 (27) | 47 (14) 225 (28) | 41 (15) 266 (30) | 36 (13) 302 (32) | 72 (17) 374 (37) | 68 (13) 442 (41) | 55 (12) 497 (41) | 42 (12) 539 (43) | 22 (8) 561 (43) | n/a | 561 (43) |
| | | 2008 | 42 (17) 42 (17) | 47 (14) 89 (20) | 50 (19) 139 (26) | 36 (12) 175 (28) | 53 (19) 228 (32) | 76 (16) 304 (35) | 64 (18) 368 (37) | 69 (14) 437 (38) | 137 (13) 574 (39) | 152 (17) 726 (42) | 122 (15) 848 (46) | 52 (14) 900 (47) | 33 (8) 933 (48) | n/a | 933 (48) |
| 2009 | | 29 (11) 29 (11) | 35 (16) 64 (19) | 38 (16) 102 (23) | 39 (17) 141 (25) | 37 (11) 178 (25) | 29 (11) 207 (26) | 29 (10) 236 (28) | 49 (12) 285 (28) | 93 (13) 378 (33) | 66 (10) 444 (34) | 38 (8) 482 (35) | 50 (9) 532 (37) | 73 (9) 605 (39) | n/a | 605 (39) | |
| 2010 | | 35 (16) 35 (16) | 38 (17) 73 (21) | 28 (14) 101 (23) | 38 (18) 139 (25) | 35 (15) 174 (27) | 43 (15) 217 (29) | 59 (22) 276 (31) | 80 (10) 356 (34) | 171 (9) 527 (36) | 103 (12) 630 (39) | 100 (11) 730 (40) | 75 (13) 805 (42) | 71 (10) 876 (44) | n/a | 876 (44) | |
| 2011 | | 50 (17) 50 (17) | 43 (17) 93 (23) | 32 (15) 125 (25) | 42 (15) 167 (26) | 39 (12) 206 (26) | 45 (17) 251 (29) | 52 (16) 303 (32) | 44 (11) 347 (32) | 67 (14) 414 (39) | 61 (12) 475 (40) | 36 (12) 511 (43) | 55 (12) 566 (43) | 38 (11) 604 (45) | n/a | 604 (45) | |
| 2012 | | 50 (13) 50 (13) | 74 (22) 124 (25) | 61 (18) 185 (27) | 74 (21) 259 (31) | 52 (17) 311 (33) | 65 (16) 376 (34) | 89 (19) 465 (35) | 65 (13) 530 (38) | 118 (23) 648 (46) | 152 (17) 800 (50) | 148 (16) 948 (51) | 83 (15) 1031 (52) | 58 (9) 1089 (52) | n/a | 1089 (52) | |
| 2013 | | 67 (16) 67 (16) | 63 (22) 130 (25) | 48 (17) 178 (28) | 80 (21) 258 (31) | 61 (15) 319 (32) | 54 (15) 373 (35) | 72 (24) 445 (37) | 63 (18) 508 (37) | 69 (20) 577 (40) | 79 (16) 656 (42) | 48 (9) 704 (43) | 25 (7) 729 (45) | 30 (7) 759 (46) | n/a | 759 (46) | |
| 2014 | | 43 (19) 43 (19) | 48 (19) 91 (28) | 44 (21) 135 (32) | 61 (17) 196 (34) | 50 (15) 246 (36) | 69 (19) 315 (36) | 99 (20) 414 (40) | 48 (16) 462 (40) | 76 (17) 538 (45) | 64 (14) 602 (45) | 99 (14) 701 (47) | 75 (14) 776 (49) | 72 (13) 848 (49) | n/a | 848 (49) | |
| 2015 | | 54 (20) 54 (20) | 35 (15) 89 (23) | 59 (20) 148 (28) | 50 (18) 198 (30) | 56 (21) 254 (32) | 44 (16) 298 (33) | 49 (15) 347 (35) | 67 (17) 414 (36) | 39 (11) 453 (37) | 80 (14) 533 (43) | 67 (11) 600 (44) | 49 (10) 649 (46) | 39 (10) 688 (47) | 36 (9) 724 (47) | 724 (47) | |
| 2016 | | 62 (18) 62 (18) | 41 (14) 103 (19) | 62 (17) 165 (24) | 42 (21) 207 (27) | 39 (15) 246 (29) | 29 (15) 275 (31) | 40 (20) 315 (34) | 62 (21) 377 (37) | 69 (14) 446 (41) | 62 (10) 508 (42) | 80 (13) 588 (46) | 52 (11) 640 (47) | 83 (13) 723 (49) | 48 (9) 771 (49) | 771 (49) | |
| 2017 | | 35 (18) 35 (18) | 32 (15) 67 (23) | 47 (16) 114 (27) | 53 (17) 167 (29) | 43 (16) 210 (30) | 53 (19) 263 (33) | 27 (8) 290 (33) | 30 (12) 320 (35) | 80 (20) 400 (40) | 73 (17) 473 (44) | 44 (8) 517 (44) | 20 (6) 537 (44) | 28 (9) 565 (46) | 26 (8) 591 (47) | 591 (47) | |
| 2018 | | 57 (21) 57 (21) | 66 (24) 123 (28) | 55 (20) 178 (30) | 65 (26) 243 (37) | 49 (23) 292 (38) | 24 (14) 316 (38) | 47 (18) 363 (39) | 50 (14) 413 (41) | 70 (15) 483 (43) | 67 (15) 550 (47) | 66 (13) 616 (49) | 36 (10) 652 (50) | 24 (8) 676 (50) | 18 (5) 694 (50) | 694 (50) | |
| 2019 | | 35 (17) 35 (17) | 53 (18) 88 (22) | 53 (20) 141 (28) | 47 (18) 188 (34) | 35 (17) 223 (38) | 38 (14) 261 (39) | 21 (9) 282 (40) | 51 (18) 333 (41) | 17 (10) 350 (41) | 58 (15) 408 (44) | 68 (11) 476 (45) | 40 (9) 516 (46) | 55 (10) 571 (47) | 25 (8) 596 (48) | 596 (48) | |

| | Year | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FINAL | |
|-------------|--------------------------------|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|--------|------|
| # net hours | 2005 | 71.5 71.5 | 132.3 203.8 | 152.8 356.6 | 245.6 602.2 | 435.0 1037.2 | 481.5 1518.7 | 444.0 1962.7 | 436.4 2399.1 | 397.7 2796.8 | 368.5 3165.3 | 168.4 3333.7 | 190.3 3524.0 | 281.1 3805.1 | n/a | 3805.1 | |
| | 2006 | 420.0 420.0 | 426.5 846.5 | 390.9 1237.4 | 412.9 1650.3 | 343.8 1994.1 | 498.2 2492.3 | 377.9 2870.2 | 175.4 3045.6 | 208.9 3254.5 | 333.3 3587.8 | 310.4 3898.2 | 318.3 4216.5 | 206.6 4423.1 | n/a | 4423.1 | |
| | 2007 | 370.0 370.0 | 462.0 832.0 | 493.4 1325.4 | 414.7 1740.1 | 490.5 2230.6 | 434.5 2665.1 | 417.5 3082.6 | 489.5 3572.1 | 369.7 3941.8 | 398.9 4340.7 | 348.5 4689.2 | 370.7 5059.9 | 363.0 5422.9 | n/a | 5422.9 | |
| | 2008 | 386.5 386.5 | 459.2 845.7 | 520.0 1365.7 | 540.0 1905.7 | 553.0 2458.7 | 433.0 2891.7 | 358.0 3249.7 | 536.5 3786.2 | 377.5 4163.7 | 377.5 4541.2 | 373.0 4914.2 | 402.2 5316.4 | 290.7 5607.1 | n/a | 5607.1 | |
| | 2009 | 499.7 499.7 | 466.0 965.7 | 544.0 1509.7 | 533.0 2042.7 | 476.3 2519.0 | 554.0 3073.0 | 504.0 3577.0 | 532.0 4109.0 | 459.0 4568.0 | 359.5 4927.5 | 225.5 5153.0 | 307.0 5460.0 | 377.4 5837.4 | n/a | 5837.4 | |
| | 2010 | 468.0 468.0 | 558.0 1026.0 | 508.5 1534.5 | 524.0 2058.5 | 556.0 2614.5 | 456.5 3071.0 | 532.0 3603.0 | 425.0 4028.0 | 274.5 4302.5 | 380.0 4682.5 | 430.0 5112.5 | 438.0 5550.5 | 491.0 6041.5 | n/a | 6041.5 | |
| | 2011 | 557.5 557.5 | 560.0 1117.5 | 480.0 1597.5 | 426.0 2023.5 | 531.6 2555.1 | 480.0 3035.1 | 472.0 3507.1 | 516.0 4023.1 | 505.0 4528.1 | 534.0 5062.1 | 307.0 5369.1 | 466.0 5835.1 | 558.0 6393.1 | n/a | 6393.1 | |
| | 2012 | 560.0 560.0 | 552.0 1112.0 | 540.0 1652.0 | 560.0 2212.0 | 504.8 2716.8 | 547.0 3263.8 | 544.0 3807.8 | 514.0 4321.8 | 552.0 4873.8 | 477.5 5351.3 | 479.0 5830.3 | 454.0 6284.3 | 504.0 6788.3 | n/a | 6788.3 | |
| | 2013 | 560.0 560.0 | 490.0 1050.0 | 560.0 1610.0 | 539.5 2149.5 | 526.0 2675.5 | 480.0 3155.5 | 469.5 3625.0 | 541.6 4166.6 | 546.0 4712.6 | 505.0 5217.6 | 497.5 5715.1 | 343.0 6058.1 | 431.2 6489.3 | n/a | 6489.3 | |
| | 2014 | 548.0 548.0 | 471.0 1019.0 | 444.0 1463.0 | 560.0 2023.0 | 560.0 2583.0 | 479.0 3062.0 | 560.0 3622.0 | 516.0 4138.0 | 541.0 4679.0 | 328.3 5007.3 | 466.0 5473.3 | 461.5 5934.8 | 488.0 6422.8 | n/a | 6422.8 | |
| | 2015 | 556.5 556.5 | 418.5 975.0 | 542.4 1517.4 | 560.0 2077.4 | 560.0 2637.4 | 545.8 3183.2 | 435.3 3618.5 | 560.0 4178.5 | 486.0 4664.5 | 476.0 5140.5 | 493.5 5634.0 | 455.0 6089.0 | 526.3 6615.2 | 478.0 7093.2 | 7093.2 | |
| | 2016 | 560.0 560.0 | 387.9 947.9 | 560.0 1507.9 | 552.0 2059.9 | 560.0 2619.9 | 480.0 3099.9 | 536.0 3635.9 | 522.6 4158.5 | 544.0 4702.5 | 480.0 5182.5 | 472.0 5654.5 | 259.0 5913.5 | 380.0 6293.5 | 468.0 6761.5 | 6761.5 | |
| | 2017 | 476.0 476.0 | 480.0 956.0 | 396.0 1352.0 | 560.0 1912.0 | 480.5 2392.5 | 520.0 2912.5 | 560.0 3472.5 | 560.0 4032.5 | 560.0 4592.5 | 416.0 5008.5 | 487.0 5495.5 | 551.0 6046.5 | 324.0 6370.5 | 256.0 6626.5 | 6626.5 | |
| | 2018 | 520.0 520.0 | 560.0 1080.0 | 560.0 1640.0 | 528.0 2168.0 | 544.0 2712.0 | 480.0 3192.0 | 560.0 3752.0 | 420.0 4172.0 | 497.6 4669.6 | 528.0 5197.6 | 430.0 5627.6 | 316.0 5943.6 | 314.0 6257.6 | 251.0 6508.6 | 6508.6 | |
| | 2019 | 560.0 560.0 | 540.0 1100.0 | 536.0 1636.0 | 512.0 2148.0 | 424.0 2572.0 | 560.0 3132.0 | 504.0 3636.0 | 470.0 4106.0 | 414.5 4520.5 | 470.0 4990.5 | 522.0 5512.5 | 463.3 5975.8 | 472.0 6447.8 | 367.0 6814.8 | 6814.8 | |
| | # birds banded / 100 net hours | 2005 | 96.5 96.5 | 119.4 111.4 | 92.3 103.2 | 79.8 93.7 | 65.1 81.7 | 37.6 67.7 | 95.9 74.1 | 110.0 80.6 | 95.5 82.7 | 101.8 85.0 | 109.9 86.2 | 82.5 86.0 | 69.4 84.8 | n/a | 84.8 |
| | | 2006 | 36.2 36.2 | 52.8 44.5 | 41.4 43.6 | 48.4 44.8 | 42.5 44.4 | 56.0 46.7 | 70.4 49.8 | 189.3 57.9 | 260.9 70.9 | 91.5 72.8 | 77.6 73.2 | 104.6 75.6 | 45.5 74.2 | n/a | 74.2 |
| | | 2007 | 56.8 56.8 | 30.7 42.3 | 18.4 33.4 | 30.9 32.8 | 26.7 31.5 | 37.3 32.4 | 32.3 32.4 | 42.9 33.8 | 84.1 38.6 | 121.8 46.2 | 123.4 51.9 | 78.0 53.9 | 41.9 53.1 | n/a | 53.1 |
| | | 2008 | 48.4 48.4 | 39.6 43.6 | 29.8 38.4 | 30.7 36.2 | 49.0 39.1 | 79.7 45.2 | 56.7 46.4 | 73.3 50.2 | 294.6 72.4 | 294.8 90.9 | 142.4 94.8 | 54.2 91.7 | 77.1 91.0 | n/a | 91.0 |
| 2009 | | 45.6 45.6 | 31.8 38.9 | 33.8 37.1 | 36.8 37.0 | 33.4 36.3 | 19.7 33.3 | 36.7 33.8 | 47.4 35.6 | 81.0 40.1 | 164.4 49.2 | 114.0 52.0 | 116.9 55.7 | 93.0 58.1 | n/a | 58.1 | |
| 2010 | | 53.4 53.4 | 34.4 43.1 | 49.2 45.1 | 33.8 42.2 | 35.4 40.8 | 91.1 48.3 | 55.8 49.4 | 300.9 75.9 | 395.3 96.3 | 268.2 110.2 | 147.7 113.4 | 138.1 115.3 | 82.7 112.7 | n/a | 112.7 | |
| 2011 | | 46.1 46.1 | 25.4 35.7 | 28.3 33.5 | 56.3 38.3 | 58.5 42.5 | 53.5 44.2 | 46.0 44.5 | 46.7 44.8 | 64.8 47.0 | 51.5 47.5 | 33.9 46.7 | 29.8 45.3 | 26.2 43.7 | n/a | 43.7 | |
| 2012 | | 50.2 50.2 | 44.0 47.1 | 29.8 41.5 | 42.7 41.8 | 32.9 40.1 | 48.1 41.5 | 74.3 46.1 | 40.9 45.5 | 81.0 49.5 | 178.0 61.0 | 66.0 61.4 | 72.9 62.2 | 30.4 59.9 | n/a | 59.9 | |
| 2013 | | 53.6 53.6 | 32.7 43.8 | 30.4 39.1 | 61.2 44.7 | 58.7 47.4 | 48.8 47.6 | 66.5 50.1 | 37.9 48.5 | 48.2 48.4 | 95.6 53.0 | 54.5 53.1 | 49.6 52.9 | 31.1 51.5 | n/a | 51.5 | |
| 2014 | | 37.2 37.2 | 40.6 38.8 | 27.3 35.3 | 52.9 40.1 | 42.3 40.6 | 46.6 41.5 | 57.9 44.1 | 62.6 46.4 | 83.9 50.7 | 89.9 53.3 | 87.6 56.2 | 87.8 58.7 | 69.1 59.4 | n/a | 59.4 | |
| 2015 | | 41.9 41.9 | 34.9 38.9 | 42.8 40.3 | 39.3 40.0 | 34.3 38.8 | 33.9 37.9 | 68.2 41.6 | 54.8 43.4 | 35.8 42.6 | 73.9 45.5 | 60.8 46.8 | 34.9 45.9 | 39.5 45.4 | 30.5 44.4 | 44.4 | |
| 2016 | | 47.0 47.0 | 37.1 42.9 | 35.7 40.3 | 39.7 40.1 | 29.5 37.8 | 18.1 34.8 | 36.2 35.0 | 58.7 38.0 | 104.4 45.7 | 83.1 49.1 | 52.5 49.4 | 78.8 50.7 | 53.9 50.9 | 45.7 50.5 | 50.5 | |
| 2017 | | 52.1 52.1 | 37.7 44.9 | 44.2 44.7 | 39.5 43.1 | 41.0 42.7 | 54.2 44.8 | 30.9 42.5 | 40.7 42.3 | 71.2 45.8 | 66.8 47.6 | 29.4 45.9 | 30.1 44.5 | 24.4 43.5 | 21.1 42.6 | 42.6 | |
| 2018 | | 68.8 68.8 | 60.9 64.7 | 34.8 54.5 | 48.5 53.0 | 44.1 51.3 | 32.7 48.5 | 35.4 46.5 | 64.8 48.3 | 92.4 53.0 | 68.4 54.6 | 56.7 54.8 | 62.7 55.2 | 48.1 54.8 | 44.2 54.4 | 54.4 | |
| 2019 | | 37.3 37.3 | 36.3 36.8 | 35.3 36.3 | 31.2 35.1 | 30.0 34.3 | 48.9 36.9 | 26.0 35.4 | 64.3 38.7 | 53.6 40.0 | 49.4 40.9 | 49.0 41.7 | 41.2 41.7 | 40.9 41.6 | 25.1 40.7 | 40.7 | |

Appendix D: Weekly Species Charts for Spring and Fall Migration

This section summarizes the most frequently observed and banded species on a weekly basis throughout the spring and fall migration seasons. Numbers banded represent weekly (or seasonal) totals; observations are reported as the weekly/seasonal average of mean daily counts, rounded to the nearest whole number. For each week, species are listed in decreasing order of abundance, with tied species sequenced first by numbers prior to rounding, and secondarily by taxonomic sequence. Last-place ties which increase the list beyond ten species are included only if 4 or more individuals per species were banded. Species are colour-coded in the tables to highlight seasonal patterns of occurrence of different groups; the table below serves as a legend.

| Species group | Species included |
|----------------------|---|
| Waterfowl | Geese and ducks |
| Other waterbirds | Cormorants, gulls, and terns |
| Woodpeckers | Woodpeckers, including flicker |
| Other non-passerines | Hawks, hummingbirds, doves, cuckoos, owls |
| Flycatchers and lark | Flycatchers, including phoebe, pewee, and kingbird; Horned Lark |
| Swallows | Swallows, including martin |
| Vireos | Vireos |
| Corvids | Crow, raven, jay |
| Chickadees etc. | Chickadees, nuthatches, creeper, kinglets, wrens |
| Thrushes etc. | Thrushes, mimids, waxwings |
| Warblers | Warblers |
| Sparrows | Sparrows |
| Finches | Finches, including cardinal, grosbeak, bunting |
| Blackbirds | Blackbirds, including oriole, starling |

A summary of key weather data by year is also provided for each period, based on the archived Environment Canada weather data for Montreal (at Trudeau International Airport, 15 km east of MBO). Temperatures at least 2° Celsius warmer than the 15-year average are highlighted in red; those at least 2° Celsius colder than the 15-year average are highlighted in blue (for seasonal summaries, the threshold is reduced to 1° Celsius). For rainfall and snowfall, values more than double the 15-year average are highlighted in blue, and those less than half the 15-year average are highlighted in red (for seasonal summaries, the threshold is reduced to 25% above or below the 15-year average). In each case, the highest and lowest values are bolded.



Large flocks of Canada Geese like this (at left) are a common sight at MBO from early-mid spring, and again from mid-late fall, vastly outnumbering all other species; more Yellow-rumped Warblers (at right) have been banded at MBO than any other species.

(Photos by Simon Duval)

Bandings, Spring Week 1 (March 28 - April 3):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| No bandings during this period | No bandings during this period | No bandings during this period | No bandings during this period | No bandings during this period |
| 2010 | 2011 | 2012 | 2013 | 2014 |
| No bandings during this period | No bandings during this period | No bandings during this period | No bandings during this period | No bandings during this period |
| 2015 | 2016 | 2017 | 2018 | 2019 |
| No bandings during this period | No bandings during this period | No bandings during this period | No bandings during this period | No bandings during this period |

| WEATHER | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Mean high (°C) | 10.2 | 14.2 | 9.7 | 3.9 | 10.7 | 14.0 | 7.3 | 7.0 | 6.5 | 3.8 | 4.7 | 9.1 | 6.1 | 7.6 | 5.9 | 8.0 |
| Mean low (°C) | 1.8 | 0.7 | -1.1 | -5.3 | 2.4 | 2.6 | -1.8 | -2.7 | -2.5 | -1.4 | -4.1 | -0.6 | -0.1 | -0.6 | -2.3 | -1.0 |
| High temp (°C) | 12 | 22 | 14 | 13 | 16 | 26 | 11 | 11 | 12 | 6 | 13 | 17 | 10 | 10 | 10 | 13.5 |
| Low temp (°C) | 0 | -3 | -5 | -11 | 0 | -3 | -6 | -6 | -7 | -4 | -10 | -9 | -2 | -3 | -6 | -5.0 |
| # days with rain | 5 | 2 | 3 | 2 | 4 | 3 | 2 | 2 | 2 | 1 | 3 | 6 | 2 | 6 | 4 | 3.1 |
| Total rain (mm) | 45 | 6 | 10 | 9 | 39 | 23 | 1 | 7 | 6 | 9 | 8 | 55 | 6 | 17 | 15 | 17.1 |
| # days snowfall | 0 | 0 | 0 | 1 | 0 | 0 | 3 | 3 | 0 | 2 | 1 | 0 | 2 | 1 | 3 | 1.1 |
| Total snow (cm) | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 1 | 0 | 19 | 1 | 0 | 6 | 2 | 1 | 2.4 |

Weather notes: Weather during the first week of spring is more highly variable than in any other part of the season, with the mean daily high ranging over a span of more than 10 degrees Celsius. However, there has been a distinct trend over time toward colder temperatures in Week 1. All four of the warmest years were between 2005 and 2010, whereas four of the five coldest years were between 2014 and 2019; overall there is a substantial contrast between the mean daily high of 9.7 degrees Celsius over the first five years, versus 6.7 degrees Celsius in the last five years. Correspondingly, there has been at least some snowfall during Week 1 in five of the six most recent years, compared to in just three of the first nine years. The coldest and snowiest Week 1 was in 2014; the mildest was in 2010. There tends to be less rainfall in Week 1 than most other weeks in spring; the long-term average of 17 mm has been exceeded only in 2005, 2009, 2010, and 2016.



*Early spring at MBO can still be quite cold and snowy.
(Photo by Simon Duval)*

Observations, Spring Week 1 (March 28 - April 3):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|------------------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| No observations during this period | Canada Goose (715) | Canada Goose (1099) | Red-winged Blackbird (24) | Canada Goose (293) |
| | Red-winged Blackbird (25) | Red-winged Blackbird (47) | Cedar Waxwing (17) | Snow Goose (186) |
| | American Crow (24) | American Crow (17) | American Crow (14) | Bohemian Waxwing (55) |
| | Ring-billed Gull (17) | Ring-billed Gull (17) | Bohemian Waxwing (14) | Ring-billed Gull (26) |
| | Black-capped Chickadee (13) | Mallard (13) | Black-capped Chickadee (10) | Red-winged Blackbird (25) |
| | Dark-eyed Junco (12) | American Robin (13) | Dark-eyed Junco (4) | American Crow (20) |
| | American Robin (9) | Blue Jay (10) | American Robin (4) | American Robin (15) |
| | American Tree Sparrow (7) | Song Sparrow (7) | Canada Goose (3) | Black-capped Chickadee (10) |
| | Song Sparrow (7) | Black-capped Chickadee (6) | Northern Cardinal (3) | Song Sparrow (10) |
| Mallard (6) | European Starling (5) | Blue Jay (3) | Wood Duck (9) | |
| 2010 | 2011 | 2012 | 2013 | 2014 |
| Canada Goose (179) | Snow Goose (501) | Canada Goose (298) | Canada Goose (297) | Canada Goose (26) |
| Red-winged Blackbird (44) | Canada Goose (454) | Red-winged Blackbird (42) | Red-winged Blackbird (37) | Red-winged Blackbird (16) |
| Snow Goose (31) | Red-winged Blackbird (31) | American Crow (16) | Common Redpoll (23) | American Crow (10) |
| American Crow (25) | Bohemian Waxwing (27) | Black-capped Chickadee (15) | Black-capped Chickadee (11) | Black-capped Chickadee (9) |
| American Robin (13) | American Crow (16) | American Robin (13) | Ring-billed Gull (7) | Blue Jay (7) |
| Black-capped Chickadee (12) | Ring-billed Gull (15) | Ring-billed Gull (13) | Snow Goose (7) | European Starling (6) |
| Wood Duck (8) | Black-capped Chickadee (13) | Mallard (12) | American Crow (7) | Dark-eyed Junco (5) |
| Song Sparrow (7) | Dark-eyed Junco (13) | Song Sparrow (11) | Northern Cardinal (6) | American Robin (5) |
| American Tree Sparrow (7) | Cedar Waxwing (11) | Wood Duck (9) | Blue Jay (5) | Cedar Waxwing (5) |
| Ring-billed Gull (5) | Common Redpoll (11) | Blue Jay (8) | European Starling (5) | Northern Cardinal (4) |
| 2015 | 2016 | 2017 | 2018 | 2019 |
| Canada Goose (60) | Canada Goose (167) | Canada Goose (197) | Canada Goose (182) | Canada Goose (130) |
| Common Redpoll (22) | American Robin (44) | Red-winged Blackbird (26) | Red-winged Blackbird (20) | Red-winged Blackbird (25) |
| Red-winged Blackbird (17) | Red-winged Blackbird (37) | Black-capped Chickadee (14) | Blue Jay (10) | American Robin (13) |
| Black-capped Chickadee (13) | Snow Goose (29) | Dark-eyed Junco (13) | American Crow (10) | Song Sparrow (8) |
| American Crow (8) | Pine Siskin (14) | Northern Cardinal (10) | Black-capped Chickadee (9) | Black-capped Chickadee (8) |
| Northern Cardinal (7) | Ring-billed Gull (14) | American Crow (10) | Snow Goose (9) | Northern Cardinal (8) |
| Blue Jay (6) | Black-capped Chickadee (9) | American Robin (7) | Northern Cardinal (8) | Blue Jay (7) |
| American Robin (6) | Song Sparrow (8) | Blue Jay (7) | Dark-eyed Junco (7) | American Goldfinch (5) |
| Ring-billed Gull (4) | American Crow (6) | Ring-billed Gull (6) | Ring-billed Gull (5) | Cedar Waxwing (4) |
| Dark-eyed Junco (4) | Wood Duck (6) | American Tree Sparrow (3) | American Goldfinch (4) | American Tree Sparrow (3) |

Banding notes: Week 1 of spring is the only period during the spring and fall migration monitoring programs during which no banding has ever been done, recognizing that morning temperatures are routinely too cold for banding of migrants to be undertaken safely with any consistent amount of effort.

Observation notes: 20 species have occurred on the Week 1 top 10 lists between 2006 and 2019 (Week 1 was omitted in 2005), with only Canada Goose, Black-capped Chickadee, and Red-winged Blackbird on the list in all 14 years. Species represented on the list in multiple years are a mix of year-round residents (e.g., American Crow, Northern Cardinal), early spring migrants (e.g., Canada Goose, Song Sparrow), and lingering winter birds (e.g., Bohemian Waxwing, Common Redpoll). As many as three waterfowl species have been in the top ten in four years (2006, 2009, 2010, and 2016), though in four of the past six years, Canada Goose was the only member of that group abundant enough to make the list. Canada Goose has also been the top species in Week 1 every year except 2008, when Red-winged Blackbird was the most abundant. Pine Siskin (in 2016) is the lone species to appear in the top 10 for Week 1 in only one year.

Bandings, Spring Week 2 (April 4 - 10):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| American Goldfinch (5) | Dark-eyed Junco (3) | No bandings during this period | No bandings during this period | No bandings during this period |
| Song Sparrow (5) | Black-capped Chickadee (2) | | | |
| American Robin (2) | Golden-crowned Kinglet (2) | | | |
| American Tree Sparrow (2) | American Robin (2) | | | |
| Eastern Phoebe (1) | American Tree Sparrow (2) | | | |
| Black-capped Chickadee (1) | Song Sparrow (2) | | | |
| Swamp Sparrow (1) | Pileated Woodpecker (1) | | | |
| | Brown Creeper (1) | | | |
| | House Sparrow (1) | | | |
| | Fox Sparrow (1) | | | |
| 2010 | 2011 | 2012 | 2013 | 2014 |
| No bandings during this period | No bandings during this period | No bandings during this period | No bandings during this period | No bandings during this period |
| 2015 | 2016 | 2017 | 2018 | 2019 |
| No bandings during this period | No bandings during this period | No bandings during this period | No bandings during this period | No bandings during this period |

| WEATHER | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Mean high (°C) | 11.8 | 7.7 | 2.8 | 10.2 | 6.9 | 13.6 | 10.7 | 10.0 | 8.2 | 8.3 | 5.6 | 1.8 | 10.5 | 2.8 | 4.5 | 7.7 |
| Mean low (°C) | 0.4 | -1.9 | -2.8 | 0.8 | -0.6 | 6.2 | -0.5 | 2.0 | -1.2 | -0.6 | -2.8 | -5.8 | 2.2 | -5.9 | -2.7 | -0.9 |
| High temp (°C) | 13 | 15 | 6 | 16 | 9 | 20 | 16 | 13 | 10 | 16 | 12 | 4 | 26 | 7 | 11 | 12.9 |
| Low temp (°C) | -3 | -6 | -5 | -2 | -6 | 2 | -4 | -1 | -6 | -3 | -6 | -10 | -2 | -10 | -7 | -4.6 |
| # days with rain | 1 | 2 | 2 | 1 | 4 | 4 | 3 | 2 | 3 | 5 | 3 | 2 | 5 | 1 | 5 | 2.9 |
| Total rain (mm) | 11 | 19 | 25 | 3 | 26 | 21 | 20 | 4 | 16 | 51 | 23 | 45 | 86 | 20 | 17 | 25.8 |
| # days snowfall | 0 | 1 | 5 | 1 | 2 | 0 | 2 | 0 | 1 | 0 | 3 | 3 | 0 | 2 | 2 | 1.7 |
| Total snow (cm) | 0 | 8 | 11 | 7 | 1 | 0 | 2 | 0 | 1 | 0 | 8 | 12 | 0 | 5 | 3 | 4.5 |

Weather notes: On average, weather conditions in Week 2 are quite similar to those in Week 1, with the long-term mean daily high temperature for Week 2 actually being marginally less than in Week 1. As in Week 1, there has been a general tendency toward colder temperatures over the past five years (with 2017 being a notable exception), compared to the first five years (aside from a very cold 2007). Week 2 in 2016 was the coldest week ever for spring at MBO, accompanied by a record amount of snow for the week, as well as a substantial amount of cold rain. As in Week 1, 2010 was the mildest Week 2, though the record high temperature for Week 2 set that year was eventually surpassed in 2017. On average, Week 2 has had 9 mm more rain than Week 1; the three years with the greatest amount of rainfall have all been since 2014.



*By the second week of spring, snow has typically melted, but the landscape is only slowly starting to turn green.
(Photo by Simon Duval)*

Observations, Spring Week 2 (April 4 - 10):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|-----------------------------|-----------------------------|----------------------------|----------------------------|----------------------------|
| Canada Goose (241) | Canada Goose (854) | Canada Goose (178) | Canada Goose (174) | Canada Goose (112) |
| Snow Goose (53) | Ring-billed Gull (69) | Red-winged Blackbird (44) | Red-winged Blackbird (42) | Red-winged Blackbird (40) |
| Bohemian Waxwing (35) | Snow Goose (62) | American Crow (22) | Snow Goose (20) | Ring-billed Gull (22) |
| Red-winged Blackbird (28) | Red-winged Blackbird (38) | Ring-billed Gull (13) | American Crow (13) | American Robin (18) |
| Cedar Waxwing (18) | American Robin (21) | American Robin (10) | American Robin (10) | American Crow (17) |
| American Crow (17) | Dark-eyed Junco (20) | Song Sparrow (9) | Song Sparrow (7) | Bohemian Waxwing (14) |
| Song Sparrow (14) | Song Sparrow (20) | Black-capped Chickadee (9) | Black-capped Chickadee (6) | Song Sparrow (13) |
| Black-capped Chickadee (13) | American Crow (18) | Wood Duck (8) | Ring-billed Gull (6) | Black-capped Chickadee (9) |
| American Robin (10) | Black-capped Chickadee (16) | Mallard (8) | Blue Jay (5) | Snow Goose (7) |
| Common Grackle (8) | Blue Jay (10) | Blue Jay (7) | European Starling (4) | European Starling (7) |

| 2010 | 2011 | 2012 | 2013 | 2014 |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Canada Goose (61) | Canada Goose (510) | Canada Goose (162) | Canada Goose (236) | Canada Goose (90) |
| Red-winged Blackbird (35) | Snow Goose (36) | Red-winged Blackbird (29) | Snow Goose (84) | Red-winged Blackbird (41) |
| American Crow (21) | Bohemian Waxwing (31) | Ring-billed Gull (20) | Red-winged Blackbird (58) | Cedar Waxwing (35) |
| Cedar Waxwing (15) | Red-winged Blackbird (29) | Song Sparrow (13) | Ring-billed Gull (14) | Black-capped Chickadee (10) |
| Black-capped Chickadee (13) | Ring-billed Gull (29) | American Crow (12) | Black-capped Chickadee (14) | American Robin (9) |
| Song Sparrow (12) | Cedar Waxwing (18) | American Robin (12) | European Starling (14) | American Crow (8) |
| American Robin (11) | Wood Duck (13) | Black-capped Chickadee (11) | Mallard (11) | Dark-eyed Junco (6) |
| Wood Duck (8) | American Robin (12) | Wood Duck (9) | Dark-eyed Junco (9) | Song Sparrow (6) |
| Ring-billed Gull (4) | American Crow (12) | Dark-eyed Junco (8) | American Tree Sparrow (9) | Ring-billed Gull (5) |
| European Starling (4) | Black-capped Chickadee (11) | Mallard (7) | American Robin (8) | Northern Cardinal (5) |

| 2015 | 2016 | 2017 | 2018 | 2019 |
|-----------------------------|----------------------------|----------------------------|-----------------------------|----------------------------|
| Canada Goose (266) | Canada Goose (88) | Canada Goose (318) | Canada Goose (158) | Canada Goose (151) |
| Red-winged Blackbird (48) | American Robin (28) | Red-winged Blackbird (31) | Red-winged Blackbird (21) | Red-winged Blackbird (23) |
| Bohemian Waxwing (31) | Red-winged Blackbird (28) | Dark-eyed Junco (11) | Black-capped Chickadee (10) | American Robin (12) |
| American Robin (15) | Pine Siskin (23) | American Robin (10) | American Crow (10) | Song Sparrow (12) |
| Black-capped Chickadee (11) | Black-capped Chickadee (9) | Black-capped Chickadee (9) | Blue Jay (10) | Snow Goose (9) |
| Blue Jay (8) | Song Sparrow (9) | Song Sparrow (8) | Northern Cardinal (8) | Ring-billed Gull (7) |
| Northern Cardinal (7) | Golden-crowned Kinglet (8) | Northern Cardinal (7) | Ring-billed Gull (7) | Blue Jay (7) |
| Dark-eyed Junco (6) | Blue Jay (6) | American Crow (6) | Dark-eyed Junco (6) | Northern Cardinal (6) |
| American Crow (5) | American Goldfinch (6) | Ring-billed Gull (6) | American Robin (5) | American Crow (5) |
| Ring-billed Gull (5) | Northern Cardinal (6) | Blue Jay (6) | Song Sparrow (5) | Black-capped Chickadee (5) |

Banding notes: Banding was undertaken in Week 2 only in 2005 and 2006, after which it was concluded that weather was not suitable for banding often enough to continue during this period in future years. Cold temperatures limited banding effort and capture rates in the first two years, with various sparrows dominating the list of species banded.

Observation notes: 21 species have occurred on the Week 2 top 10 lists between 2005 and 2019, with four of them included in all 15 years (Canada Goose, Black-capped Chickadee, American Robin, and Red-winged Blackbird). Canada Goose has been the top species every year, followed by Red-winged Blackbird ten times and Snow Goose in another three years. This is the only week in spring during which Black-capped Chickadee has been in the top ten annually. There were at least two waterfowl species annually from 2005 through 2013, but only once since then, in 2019. Conversely, no finches were in the top 10 in any of the first nine years, but Northern Cardinal has been on the list annually since 2014, and in 2016 was joined by Pine Siskin and American Goldfinch. Five species have appeared on the Week 3 top ten list in just one year: Golden-crowned Kinglet (2016), Pine Siskin (2016), American Goldfinch (2016), American Tree Sparrow (2013), and Common Grackle (2005).

Bandings, Spring Week 3 (April 11 - 17):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|----------------------------|----------------------------|--------------------------------|--------------------------------|--------------------------------|
| Cedar Waxwing (7) | Dark-eyed Junco (20) | No bandings during this period | No bandings during this period | No bandings during this period |
| Song Sparrow (3) | American Robin (6) | | | |
| American Robin (2) | Golden-crowned Kinglet (5) | | | |
| Black-capped Chickadee (1) | Fox Sparrow (5) | | | |
| American Goldfinch (1) | Song Sparrow (5) | | | |
| Dark-eyed Junco (1) | Ruby-crowned Kinglet (4) | | | |
| Swamp Sparrow (1) | American Tree Sparrow (4) | | | |
| Northern Cardinal (1) | Red-winged Blackbird (4) | | | |
| | Eastern Phoebe (3) | | | |

| 2010 | 2011 | 2012 | 2013 | 2014 |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| No bandings during this period | No bandings during this period | No bandings during this period | No bandings during this period | No bandings during this period |

| 2015 | 2016 | 2017 | 2018 | 2019 |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| No bandings during this period | No bandings during this period | No bandings during this period | No bandings during this period | No bandings during this period |

| WEATHER | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Mean high (°C) | 14.1 | 15.9 | 5.0 | 10.7 | 11.7 | 12.1 | 10.8 | 18.0 | 8.7 | 12.4 | 16.4 | 11.7 | 13.7 | 5.6 | 10.8 | 11.8 |
| Mean low (°C) | -0.2 | 3.6 | 0.0 | 0.0 | -0.7 | 2.3 | 1.4 | 5.0 | 1.1 | -0.9 | 2.8 | -0.3 | 3.5 | -1.3 | 0.6 | 1.1 |
| High temp (°C) | 23 | 22 | 7 | 24 | 19 | 13 | 24 | 29 | 14 | 24 | 22 | 22 | 16 | 10 | 17 | 19.1 |
| Low temp (°C) | -4 | -1 | -4 | -3 | -3 | 0 | -4 | 1 | -2 | -7 | 0 | -2 | -1 | -6 | -4 | -2.7 |
| # days with rain | 0 | 3 | 5 | 2 | 0 | 3 | 5 | 4 | 3 | 3 | 1 | 2 | 5 | 5 | 3 | 2.9 |
| Total rain (mm) | 0 | 12 | 19 | 19 | 0 | 27 | 56 | 2 | 13 | 26 | 4 | 15 | 26 | 26 | 9 | 16.9 |
| # days snowfall | 0 | 0 | 5 | 1 | 0 | 0 | 2 | 0 | 1 | 1 | 0 | 1 | 0 | 2 | 2 | 1.3 |
| Total snow (cm) | 0 | 0 | 51 | 1 | 0 | 0 | 1 | 0 | 13 | 1 | 0 | 2 | 0 | 1 | 0 | 5.8 |

Weather notes: Week 3 is typically the first period when the mean daily low exceeds freezing. As in previous weeks, the mean daily high is somewhat lower in recent years, but the contrast is less pronounced. Both 2007 and 2018 were exceptionally cold for the period, with 2007 noteworthy for the 51 cm of snowfall, more than in any other week of spring. Conversely, 2012 was the warmest Week 3 ever, and was also exceptionally dry. Overall, Week 3 has the lowest average rainfall for any week of spring, marginally less than Week 1.

Observations, Spring Week 3 (April 11 - 17):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|----------------------------|---------------------------|----------------------------|----------------------------|----------------------------|
| Canada Goose (66) | Canada Goose (751) | Canada Goose (198) | Canada Goose (440) | Snow Goose (96) |
| Cedar Waxwing (36) | Ring-billed Gull (78) | Red-winged Blackbird (31) | Snow Goose (162) | Canada Goose (88) |
| Red-winged Blackbird (21) | Red-winged Blackbird (57) | Snow Goose (28) | Red-winged Blackbird (40) | Red-winged Blackbird (30) |
| Song Sparrow (17) | American Crow (28) | American Crow (20) | Ring-billed Gull (19) | American Robin (17) |
| American Robin (16) | American Robin (23) | American Robin (13) | American Robin (16) | American Crow (16) |
| American Crow (11) | Dark-eyed Junco (23) | Blue Jay (9) | American Crow (14) | Song Sparrow (11) |
| Black-capped Chickadee (6) | Song Sparrow (21) | Black-capped Chickadee (9) | Song Sparrow (13) | Ring-billed Gull (10) |
| American Goldfinch (6) | Mallard (12) | Mallard (8) | Mallard (8) | Black-capped Chickadee (9) |
| Tree Swallow (5) | Brown-head. Cowbird (11) | Ring-billed Gull (8) | Black-capped Chickadee (8) | Cedar Waxwing (8) |
| Ring-billed Gull (5) | House Sparrow (10) | Song Sparrow (6) | Dark-eyed Junco (5) | Wood Duck (6) |
| Brown-head. Cowbird (5) | | | | |

| 2010 | 2011 | 2012 | 2013 | 2014 |
|----------------------------|-----------------------------|-----------------------------|-----------------------------|----------------------------|
| Red-winged Blackbird (34) | Canada Goose (52) | Canada Goose (101) | Canada Goose (101) | Canada Goose (246) |
| American Crow (18) | Red-winged Blackbird (43) | Red-winged Blackbird (42) | Red-winged Blackbird (46) | Red-winged Blackbird (56) |
| Canada Goose (11) | Dark-eyed Junco (18) | Cedar Waxwing (19) | Song Sparrow (13) | Cedar Waxwing (26) |
| Song Sparrow (11) | American Crow (16) | American Crow (19) | Black-capped Chickadee (11) | American Robin (25) |
| Cedar Waxwing (9) | American Robin (12) | Mallard (19) | Ring-billed Gull (9) | Song Sparrow (15) |
| Wood Duck (8) | Song Sparrow (11) | Song Sparrow (16) | American Robin (8) | Snow Goose (14) |
| Black-capped Chickadee (7) | Bohemian Waxwing (11) | American Robin (14) | American Crow (8) | Ring-billed Gull (13) |
| American Robin (6) | Black-capped Chickadee (10) | Wood Duck (12) | Wood Duck (6) | Dark-eyed Junco (9) |
| Tree Swallow (5) | Wood Duck (10) | Black-capped Chickadee (12) | Mallard (6) | Black-capped Chickadee (8) |
| American Goldfinch (5) | Ring-billed Gull (9) | Ring-billed Gull (11) | Dark-eyed Junco (6) | Blue Jay (6) |

| 2015 | 2016 | 2017 | 2018 | 2019 |
|----------------------------|----------------------------|-----------------------------|----------------------------|----------------------------|
| Canada Goose (243) | Canada Goose (52) | Canada Goose (72) | Canada Goose (80) | Canada Goose (275) |
| Red-winged Blackbird (54) | Red-winged Blackbird (28) | Red-winged Blackbird (33) | Red-winged Blackbird (19) | Red-winged Blackbird (33) |
| Snow Goose (10) | American Robin (27) | Ring-billed Gull (13) | Wood Duck (18) | Song Sparrow (13) |
| Common Grackle (9) | Common Redpoll (23) | Black-capped Chickadee (11) | Black-capped Chickadee (9) | American Robin (12) |
| Black-capped Chickadee (9) | Ring-billed Gull (13) | Song Sparrow (10) | Blue Jay (8) | Black-capped Chickadee (9) |
| American Robin (9) | Song Sparrow (12) | American Robin (9) | Song Sparrow (8) | Ring-billed Gull (9) |
| Song Sparrow (8) | Pine Siskin (9) | American Crow (8) | American Crow (8) | Snow Goose (7) |
| Mallard (7) | Black-capped Chickadee (8) | Northern Cardinal (8) | Northern Cardinal (8) | Northern Cardinal (7) |
| American Crow (7) | Northern Cardinal (7) | Golden-crowned Kinglet (8) | Ring-billed Gull (5) | Blue Jay (6) |
| Northern Cardinal (7) | Wood Duck (6) | Blue Jay (6) | American Robin (5) | Cedar Waxwing (6) |

Banding notes: As for Week 2, banding was undertaken in Week 3 only in 2005 and 2006, after which it was concluded that weather was not suitable for banding often enough to continue during this period in future years. Sparrows again dominated the small sample size over the two years that banding occurred.

Observation notes: 23 species have occurred on the Week 3 top 10 lists between 2005 and 2019, with four of them included in all 15 years (Canada Goose, American Robin, Song Sparrow, and Red-winged Blackbird). Canada Goose has been the top species every year except 2009 (Snow Goose) and 2010 (Red-winged Blackbird). There was at least one additional waterfowl species on the list every year except 2005 and 2017. Although the mean daily count of Red-winged Blackbird has declined over time, it has been in second place for the past nine years in a row. Again, the recent increases in Northern Cardinal abundance are apparent, with the species included on the top ten list for Week 3 each year since its first appearance there in 2015. Only three times have Blue Jay and American Crow been in the top 10 in the same year, but one or the other has appeared on the list each year except 2016. Six species have appeared on the Week 3 top ten list in just one year: Golden-crowned Kinglet (2017), Bohemian Waxwing (2011), Common Redpoll (2016), Pine Siskin (2016), House Sparrow (2006), and Common Grackle (2015).

Bandings, Spring Week 4 (April 18 - 24):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|--------------------------|---------------------------|----------------------------|---------------------------|----------------------------|
| Cedar Waxwing (14) | Red-winged Blackbird (18) | Red-winged Blackbird (12) | Ruby-crowned Kinglet (56) | Dark-eyed Junco (8) |
| Song Sparrow (7) | Ruby-crowned Kinglet (15) | Song Sparrow (9) | Fox Sparrow (23) | Ruby-crowned Kinglet (5) |
| Ruby-crowned Kinglet (6) | Dark-eyed Junco (9) | American Robin (8) | Dark-eyed Junco (9) | Northern Cardinal (3) |
| American Goldfinch (4) | Song Sparrow (7) | Ruby-crowned Kinglet (6) | Red-winged Blackbird (9) | Brown Creeper (2) |
| Fox Sparrow (4) | White-thr. Sparrow (6) | American Goldfinch (4) | American Goldfinch (8) | Golden-crowned Kinglet (2) |
| Swamp Sparrow (4) | American Goldfinch (4) | Downy Woodpecker (3) | White-thr. Sparrow (8) | Cedar Waxwing (2) |
| White-thr. Sparrow (2) | Downy Woodpecker (3) | Eastern Phoebe (3) | Song Sparrow (8) | American Goldfinch (2) |
| Red-winged Blackbird (2) | American Robin (3) | Black-capped Chickadee (3) | Swamp Sparrow (7) | White-thr. Sparrow (2) |
| | Fox Sparrow (3) | | | Red-winged Blackbird (2) |
| | Swamp Sparrow (3) | | | |

| 2010 | 2011 | 2012 | 2013 | 2014 |
|---------------------------|----------------------------|---------------------------|-----------------------------|-----------------------------|
| Cedar Waxwing (23) | Dark-eyed Junco (24) | Red-winged Blackbird (21) | Fox Sparrow (32) | Cedar Waxwing (33) |
| Fox Sparrow (16) | American Robin (14) | Ruby-crowned Kinglet (20) | Black-capped Chickadee (14) | Ruby-crowned Kinglet (28) |
| Song Sparrow (14) | Fox Sparrow (12) | White-thr. Sparrow (18) | Ruby-crowned Kinglet (13) | Fox Sparrow (28) |
| Red-winged Blackbird (12) | American Tree Sparrow (6) | Song Sparrow (10) | Dark-eyed Junco (9) | American Robin (21) |
| Ruby-crowned Kinglet (6) | Cedar Waxwing (5) | Swamp Sparrow (7) | Song Sparrow (9) | Golden-crowned Kinglet (13) |
| Dark-eyed Junco (6) | Black-capped Chickadee (4) | American Goldfinch (5) | Red-winged Blackbird (8) | Song Sparrow (10) |
| Swamp Sparrow (5) | White-thr. Sparrow (3) | American Robin (4) | Eastern Phoebe (5) | White-thr. Sparrow (6) |
| American Goldfinch (4) | Song Sparrow (3) | Purple Finch (3) | American Tree Sparrow (5) | Black-capped Chickadee (5) |
| Tree Swallow (3) | Red-winged Blackbird (3) | | White-thr. Sparrow (5) | American Tree Sparrow (5) |
| | | | Swamp Sparrow (5) | Red-winged Blackbird (4) |

| 2015 | 2016 | 2017 | 2018 | 2019 |
|----------------------------|----------------------------|-----------------------------|----------------------------|-----------------------------|
| Fox Sparrow (22) | Ruby-crowned Kinglet (14) | Ruby-crowned Kinglet (56) | Cedar Waxwing (13) | Cedar Waxwing (23) |
| Dark-eyed Junco (19) | Bohemian Waxwing (14) | Fox Sparrow (17) | Song Sparrow (12) | Ruby-crowned Kinglet (19) |
| Ruby-crowned Kinglet (16) | American Tree Sparrow (12) | Golden-crowned Kinglet (15) | Ruby-crowned Kinglet (6) | Golden-crowned Kinglet (16) |
| American Robin (5) | White-thr. Sparrow (12) | Dark-eyed Junco (10) | Golden-crowned Kinglet (5) | White-thr. Sparrow (13) |
| Golden-crowned Kinglet (4) | American Robin (11) | White-thr. Sparrow (9) | American Robin (3) | Song Sparrow (13) |
| Brown Creeper (3) | Dark-eyed Junco (11) | Song Sparrow (8) | American Goldfinch (3) | American Tree Sparrow (10) |
| Song Sparrow (3) | Song Sparrow (9) | Swamp Sparrow (6) | White-thr. Sparrow (3) | Brown Creeper (8) |
| | Fox Sparrow (7) | Eastern Phoebe (4) | | Dark-eyed Junco (8) |
| | Swamp Sparrow (7) | Black-capped Chickadee (4) | | Fox Sparrow (6) |
| | Golden-crowned Kinglet (6) | American Goldfinch (4) | | Red-winged Blackbird (6) |
| | | American Tree Sparrow (4) | | |

| WEATHER | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Mean high (°C) | 15.8 | 16.8 | 19.2 | 21.8 | 13.9 | 15.8 | 9.5 | 10.4 | 14.8 | 13.2 | 9.2 | 14.3 | 11.2 | 12.5 | 13.8 | 14.1 |
| Mean low (°C) | 2.2 | 4.9 | 4.2 | 6.2 | 2.5 | 3.9 | 0.9 | 2.1 | 2.2 | 2.8 | 2.7 | 2.5 | 3.3 | 0.5 | 5.0 | 3.1 |
| High temp (°C) | 23 | 24 | 26 | 25 | 20 | 20 | 14 | 21 | 21 | 19 | 12 | 22 | 18 | 22 | 19 | 20.4 |
| Low temp (°C) | -2 | 4 | 2 | 4 | 0 | 1 | -2 | -1 | -2 | -3 | 1 | -1 | 0 | -1 | 3 | 0.2 |
| # days with rain | 3 | 3 | 2 | 1 | 4 | 2 | 3 | 5 | 4 | 3 | 4 | 3 | 3 | 2 | 5 | 3.1 |
| Total rain (mm) | 45 | 63 | 1 | 3 | 18 | 4 | 25 | 52 | 9 | 12 | 35 | 21 | 27 | 1 | 55 | 24.7 |
| # days snowfall | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1.1 |
| Total snow (cm) | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0.5 |

Weather notes: Week 4 is substantially warmer than previous weeks of spring, with the mean daily low above freezing in all years, and small amounts of snowfall in just four years. Again though, the earlier years were the warmest, with 2006-2008 the only three with substantially above average mean daily highs for the period, compared to substantially below average values four times between 2011 and 2017. Rainfall is highly variable from year to year, and there appears to be no pattern over time, with both very dry and very wet weeks in the early period as well as in the most recent years.

Observations, Spring Week 4 (April 18 - 24):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Canada Goose (92) | Canada Goose (899) | Snow Goose (791) | Canada Goose (561) | Snow Goose (156) |
| Cedar Waxwing (32) | Ring-billed Gull (51) | Canada Goose (322) | Snow Goose (139) | Canada Goose (151) |
| Red-winged Blackbird (24) | Red-winged Blackbird (46) | Red-winged Blackbird (73) | Ring-billed Gull (71) | Red-winged Blackbird (44) |
| American Crow (23) | American Crow (35) | American Crow (33) | Red-winged Blackbird (57) | American Crow (26) |
| Song Sparrow (17) | Dark-eyed Junco (24) | Ring-billed Gull (32) | Common Grackle (38) | Ring-billed Gull (19) |
| Tree Swallow (13) | American Robin (22) | American Robin (26) | Ruby-crowned Kinglet (28) | American Robin (18) |
| American Robin (10) | Mallard (19) | Song Sparrow (24) | Song Sparrow (20) | Song Sparrow (17) |
| Black-capped Chickadee (8) | Song Sparrow (19) | American Goldfinch (15) | American Crow (19) | Dark-eyed Junco (15) |
| American Goldfinch (7) | Tree Swallow (16) | Mallard (14) | American Robin (15) | Black-capped Chickadee (11) |
| Ring-billed Gull (6) | Brown-head. Cowbird (13) | Black-capped Chickadee (14) | Fox Sparrow (14) | Wood Duck (10) |
| 2010 | 2011 | 2012 | 2013 | 2014 |
| Canada Goose (48) | Canada Goose (147) | Canada Goose (158) | Canada Goose (110) | Canada Goose (372) |
| Red-winged Blackbird (48) | Red-winged Blackbird (59) | American Robin (57) | Red-winged Blackbird (57) | Cedar Waxwing (69) |
| Cedar Waxwing (34) | Bohemian Waxwing (42) | Red-winged Blackbird (55) | Song Sparrow (26) | Red-winged Blackbird (62) |
| American Crow (27) | Dark-eyed Junco (30) | American Crow (34) | Fox Sparrow (20) | American Robin (43) |
| Black-capped Chickadee (14) | Cedar Waxwing (24) | White-thr. Sparrow (23) | Black-capped Chickadee (17) | Ring-billed Gull (39) |
| Tree Swallow (13) | American Crow (23) | Black-capped Chickadee (20) | Ring-billed Gull (16) | Snow Goose (24) |
| Wood Duck (12) | Black-capped Chickadee (22) | Wood Duck (14) | American Crow (13) | Song Sparrow (19) |
| American Robin (12) | Snow Goose (21) | Song Sparrow (14) | American Robin (12) | Black-capped Chickadee (13) |
| Song Sparrow (11) | Ring-billed Gull (20) | Ring-billed Gull (13) | Wood Duck (12) | Fox Sparrow (13) |
| Fox Sparrow (8) | American Robin (19) | Mallard (12) | Ruby-crowned Kinglet (11) | Common Grackle (12) |
| | | Ruby-crowned Kinglet (12) | | |
| 2015 | 2016 | 2017 | 2018 | 2019 |
| Canada Goose (80) | Canada Goose (155) | Canada Goose (62) | Canada Goose (203) | Canada Goose (107) |
| Red-winged Blackbird (49) | Red-winged Blackbird (44) | Red-winged Blackbird (37) | Snow Goose (43) | Red-winged Blackbird (38) |
| Dark-eyed Junco (34) | Ring-billed Gull (32) | American Crow (35) | Red-winged Blackbird (29) | Cedar Waxwing (31) |
| Ring-billed Gull (22) | American Robin (29) | Ring-billed Gull (33) | Cedar Waxwing (21) | Ring-billed Gull (29) |
| American Crow (16) | Snow Goose (24) | Ruby-crowned Kinglet (20) | American Robin (17) | American Robin (19) |
| Fox Sparrow (16) | Song Sparrow (20) | Black-capped Chickadee (14) | Ring-billed Gull (17) | Song Sparrow (16) |
| Song Sparrow (14) | American Crow (18) | Dark-eyed Junco (13) | Wood Duck (16) | Tree Swallow (14) |
| Black-capped Chickadee (11) | Common Grackle (16) | Song Sparrow (13) | American Crow (14) | Black-capped Chickadee (12) |
| Tree Swallow (10) | American Goldfinch (12) | Tree Swallow (12) | Blue Jay (12) | White-thr. Sparrow (11) |
| Common Grackle (8) | Black-capped Chickadee (11) | American Robin (10) | Song Sparrow (12) | Golden-crowned Kinglet (11) |
| | White-thr. Sparrow (11) | | | |

Banding notes: 20 species have been among the annual top 10 banded in Week 4 between 2005 and 2019, with Ruby-crowned Kinglet and Song Sparrow the most frequent, appearing on the list in 14 of 15 years. Four species have appeared on the week's list only once: Tree Swallow (2010), Bohemian Waxwing (2016), Purple Finch (2012), and Northern Cardinal (2009). Sparrows remain dominant in Week 4, with at least 5 species among the top 10 in 7 of 15 years. Ruby-crowned Kinglet has been among the top three species for each of the past 8 years, and for 12 out of 15 years overall. Including Ruby-crowned Kinglet, five species have topped the list in at least one year, with Cedar Waxwing most often (5 years).

Observation notes: 22 species have occurred on the Week 4 top 10 lists between 2005 and 2019, with only Canada Goose and Red-winged Blackbird included in all 15 years. Canada Goose has been the top species every year except 2007 and 2009, when Snow Goose was more numerous. Red-winged Blackbird has been the most abundant songbird in 12 of 15 years, with the only exceptions being when Cedar Waxwing was more numerous in 2005 and 2014, and American Robin had a slightly higher count in 2012. Blue Jay has only been among the top 10 in Week 4 once, in 2018, compared to at least five times in each of the first three weeks of spring. Golden-crowned Kinglet (2019), Bohemian Waxwing (2011), and Brown-headed Cowbird (2006) have also each appeared only once.

Bandings, Spring Week 5 (April 25 - May 1):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| Red-winged Blackbird (24) | Red-winged Blackbird (35) | Red-winged Blackbird (11) | White-thr. Sparrow (27) | Ruby-crowned Kinglet (53) |
| White-thr. Sparrow (16) | Dark-eyed Junco (14) | Brown Thrasher (1) | Red-winged Blackbird (11) | White-thr. Sparrow (7) |
| American Goldfinch (12) | Common Grackle (9) | American Goldfinch (1) | Ruby-crowned Kinglet (6) | Song Sparrow (6) |
| Ruby-crowned Kinglet (8) | White-thr. Sparrow (4) | | Swamp Sparrow (6) | Swamp Sparrow (6) |
| Song Sparrow (7) | Ruby-crowned Kinglet (3) | | Tree Swallow (5) | Red-winged Blackbird (3) |
| Cedar Waxwing (5) | House Sparrow (3) | | American Goldfinch (5) | American Robin (2) |
| Swamp Sparrow (4) | American Robin (2) | | Yellow-bel. Sapsucker (2) | Rusty Blackbird (2) |
| | American Goldfinch (2) | | Song Sparrow (2) | Northern Waterthrush (2) |
| | Swamp Sparrow (2) | | Myrtle Warbler (2) | Yellow Warbler (2) |

| 2010 | 2011 | 2012 | 2013 | 2014 |
|---------------------------|---------------------------|----------------------------|---------------------------|--------------------------|
| Red-winged Blackbird (15) | Dark-eyed Junco (10) | American Robin (13) | White-thr. Sparrow (12) | Cedar Waxwing (147) |
| Ruby-crowned Kinglet (8) | American Tree Sparrow (9) | Red-winged Blackbird (12) | Red-winged Blackbird (12) | American Robin (8) |
| Cedar Waxwing (6) | White-thr. Sparrow (8) | White-thr. Sparrow (11) | Ruby-crowned Kinglet (10) | Fox Sparrow (6) |
| American Goldfinch (5) | Red-winged Blackbird (8) | Swamp Sparrow (7) | Fox Sparrow (10) | White-thr. Sparrow (6) |
| Swamp Sparrow (5) | Ruby-crowned Kinglet (6) | Common Grackle (5) | Swamp Sparrow (10) | Song Sparrow (6) |
| Tree Swallow (3) | American Robin (6) | Ruby-crowned Kinglet (4) | Eastern Phoebe (2) | Ruby-crowned Kinglet (5) |
| White-thr. Sparrow (3) | Fox Sparrow (4) | Fox Sparrow (4) | Purple Finch (2) | Red-winged Blackbird (4) |
| American Robin (2) | Myrtle Warbler (4) | Song Sparrow (4) | Dark-eyed Junco (2) | Brown Creeper (3) |
| Dark-eyed Junco (2) | Brown-head. Cowbird (3) | Black-capped Chickadee (3) | Song Sparrow (2) | |
| Common Grackle (2) | | | | |

| 2015 | 2016 | 2017 | 2018 | 2019 |
|---------------------------|---------------------------|---------------------------|----------------------------|---------------------------|
| Cedar Waxwing (49) | Ruby-crowned Kinglet (38) | Ruby-crowned Kinglet (51) | Ruby-crowned Kinglet (11) | Ruby-crowned Kinglet (46) |
| Fox Sparrow (25) | White-thr. Sparrow (29) | White-thr. Sparrow (39) | White-thr. Sparrow (10) | White-thr. Sparrow (18) |
| Dark-eyed Junco (23) | American Robin (14) | Fox Sparrow (8) | Song Sparrow (9) | Fox Sparrow (17) |
| Ruby-crowned Kinglet (13) | Purple Finch (10) | Dark-eyed Junco (5) | Tree Swallow (3) | Dark-eyed Junco (11) |
| Red-winged Blackbird (9) | Song Sparrow (5) | American Goldfinch (4) | Cedar Waxwing (3) | Swamp Sparrow (6) |
| White-thr. Sparrow (2) | Swamp Sparrow (5) | Swamp Sparrow (4) | Red-winged Blackbird (3) | Song Sparrow (5) |
| Brown-head. Cowbird (2) | Red-winged Blackbird (5) | Red-winged Blackbird (3) | Black-capped Chickadee (2) | American Robin (4) |
| | American Goldfinch (4) | Eastern Phoebe (2) | Brown Thrasher (2) | Red-winged Blackbird (3) |
| | Northern Cardinal (3) | Brown Thrasher (2) | | |
| | | Northern Cardinal (2) | | |

| WEATHER | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Mean high (°C) | 13.3 | 14.7 | 13.0 | 15.1 | 22.2 | 15.4 | 17.2 | 9.8 | 18.3 | 12.3 | 16.0 | 9.9 | 16.2 | 13.0 | 10.3 | 14.4 |
| Mean low (°C) | 5.6 | 1.4 | 4.8 | 4.9 | 6.5 | 4.1 | 5.9 | 1.2 | 6.0 | 3.4 | 4.6 | 0.3 | 6.0 | 6.6 | 2.9 | 4.3 |
| High temp (°C) | 18 | 23 | 15 | 21 | 29 | 20 | 24 | 13 | 26 | 16 | 20 | 15 | 25 | 17 | 14 | 19.7 |
| Low temp (°C) | 4 | -3 | 1 | 0 | 1 | 0 | 3 | -2 | 2 | 0 | 1 | -2 | 2 | 5 | -1 | 0.7 |
| # days with rain | 6 | 2 | 4 | 3 | 4 | 3 | 4 | 5 | 1 | 5 | 1 | 1 | 5 | 5 | 3 | 3.5 |
| Total rain (mm) | 71 | 5 | 16 | 32 | 24 | 9 | 27 | 10 | 1 | 55 | 1 | 10 | 55 | 51 | 39 | 27.1 |
| # days snowfall | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 |
| Total snow (cm) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 |

Weather notes: On average, weather in Week 5 is remarkably similar to that in Week 4. Mean daily temperatures are only marginally warmer, and the average peak temperature is actually slightly cooler. However, it has only snowed in Week 5 once, in 2012, which was among the coldest years for Week 5, very similar to 2016. The average amount of rainfall is marginally greater in Week 5 than in previous weeks, though that is influenced by four particularly wet weeks in 2005, 2014, 2017, and 2018, each of which had >50 mm of rain. Conversely, total rainfall for the week was 10 mm or less in six years, more than any week earlier in the season.

Observations, Spring Week 5 (April 25 - May 1):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Canada Goose (102) | Canada Goose (541) | Canada Goose (109) | Canada Goose (203) | Canada Goose (201) |
| Red-winged Blackbird (30) | Red-winged Blackbird (79) | Red-winged Blackbird (65) | Red-winged Blackbird (49) | Red-winged Blackbird (43) |
| White-thr. Sparrow (20) | American Crow (37) | American Crow (25) | American Crow (24) | Snow Goose (29) |
| Cedar Waxwing (19) | Ring-billed Gull (35) | Tree Swallow (16) | Ring-billed Gull (22) | American Robin (20) |
| American Robin (15) | Dark-eyed Junco (25) | Song Sparrow (15) | White-thr. Sparrow (20) | American Crow (19) |
| Song Sparrow (13) | Mallard (20) | American Goldfinch (13) | Tree Swallow (12) | Ring-billed Gull (19) |
| Black-capped Chickadee (12) | Common Grackle (19) | Ruby-crowned Kinglet (12) | Song Sparrow (11) | Ruby-crowned Kinglet (17) |
| American Crow (11) | Northern Pintail (17) | American Robin (11) | American Goldfinch (11) | Tree Swallow (14) |
| Tree Swallow (10) | Tree Swallow (17) | Black-capped Chickadee (8) | Ruby-crowned Kinglet (11) | Song Sparrow (13) |
| American Goldfinch (10) | Song Sparrow (15) | White-thr. Sparrow (8) | Black-capped Chickadee (9) | Black-capped Chickadee (9) |
| 2010 | 2011 | 2012 | 2013 | 2014 |
| Canada Goose (79) | Canada Goose (96) | Red-winged Blackbird (86) | Canada Goose (183) | Cedar Waxwing (154) |
| Red-winged Blackbird (38) | Red-winged Blackbird (45) | Canada Goose (69) | Red-winged Blackbird (49) | Canada Goose (101) |
| American Crow (25) | Dark-eyed Junco (26) | American Crow (26) | Song Sparrow (16) | Red-winged Blackbird (51) |
| Cedar Waxwing (24) | American Crow (25) | White-thr. Sparrow (21) | White-thr. Sparrow (15) | American Robin (24) |
| Tree Swallow (12) | White-thr. Sparrow (16) | American Robin (21) | Black-capped Chickadee (13) | Ring-billed Gull (22) |
| Black-capped Chickadee (10) | Black-capped Chickadee (16) | Black-capped Chickadee (18) | American Crow (11) | Snow Goose (21) |
| Song Sparrow (10) | American Robin (13) | Song Sparrow (18) | Wood Duck (10) | Song Sparrow (15) |
| American Goldfinch (10) | Tree Swallow (13) | Ruby-crowned Kinglet (13) | Ruby-crowned Kinglet (10) | American Crow (14) |
| Wood Duck (9) | Song Sparrow (11) | Snow Goose (13) | Ring-billed Gull (10) | Black-capped Chickadee (13) |
| American Robin (9) | Bohemian Waxwing (10) | Ring-billed Gull (12) | Fox Sparrow (10) | White-thr. Sparrow (12) |
| 2015 | 2016 | 2017 | 2018 | 2019 |
| Snow Goose (557) | Canada Goose (122) | Canada Goose (111) | Canada Goose (62) | Canada Goose (87) |
| Canada Goose (126) | Red-winged Blackbird (39) | Red-winged Blackbird (38) | Red-winged Blackbird (25) | Cedar Waxwing (32) |
| Red-winged Blackbird (46) | Ruby-crowned Kinglet (26) | White-thr. Sparrow (36) | Cedar Waxwing (23) | Red-winged Blackbird (31) |
| Cedar Waxwing (31) | White-thr. Sparrow (25) | Ruby-crowned Kinglet (32) | Tree Swallow (17) | Ruby-crowned Kinglet (25) |
| Ring-billed Gull (29) | American Robin (24) | American Crow (25) | Song Sparrow (14) | Tree Swallow (20) |
| Dark-eyed Junco (26) | Ring-billed Gull (18) | Dark-eyed Junco (22) | Common Grackle (11) | Ring-billed Gull (19) |
| American Crow (23) | Song Sparrow (15) | Rusty Blackbird (18) | Black-capped Chickadee (11) | White-thr. Sparrow (13) |
| Fox Sparrow (15) | American Crow (14) | Ring-billed Gull (17) | Ring-billed Gull (10) | Fox Sparrow (12) |
| Song Sparrow (14) | American Goldfinch (13) | Tree Swallow (13) | White-thr. Sparrow (10) | Song Sparrow (12) |
| Ruby-crowned Kinglet (13) | Cedar Waxwing (13) | American Robin (11) | Northern Cardinal (10) | American Robin (12) |

Banding notes: 26 species have been among the annual top 10 banded in Week 5 between 2005 and 2019, with only Red-winged Blackbird appearing on that list in all 15 years, and Ruby-crowned Kinglet and White-throated Sparrow missing just once. Ruby-crowned Kinglet has been the top species for the past four years, and five times overall; Red-winged Blackbird was the most banded species in four of the first six years, and four other species have topped the list in other years. Seven species have appeared on the week's list only once: Yellow-bellied Sapsucker (2008), Brown Creeper (2014), House Sparrow (2006), American Tree Sparrow (2011), Rusty Blackbird (2009), Northern Waterthrush (2009), and Yellow Warbler (2009). The only other warbler to appear in the top 10 in Week 5 is Myrtle Warbler, in 2008 and 2011. Sparrows remain common in Week 5, but there were only two years (2013 and 2019) with five species among the top 10.

Observation notes: As in Week 4, 22 species have occurred on the Week 5 top 10 lists between 2005 and 2019, with only Canada Goose and Red-winged Blackbird included in all 15 years. Canada Goose has been the top species in 12 years, taking second place behind Red-winged Blackbird in 2012, Cedar Waxwing in 2014, and Snow Goose in 2015. Five species have been among the top 10 observed in Week 5 just once: Mallard (2006), Northern Pintail (2006), Bohemian Waxwing (2011), Rusty Blackbird (2017), and Northern Cardinal (2018). It is the only week in either spring or fall that Northern Pintail has been among the top 10 species observed. In four years (2011, 2013, 2015, 2019), three sparrow species have been in the top 10.

Bandings, Spring Week 6 (May 2 - 8):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|---------------------------|---------------------------|---------------------------|---------------------------|--------------------------|
| Red-winged Blackbird (21) | Red-winged Blackbird (42) | Ruby-crowned Kinglet (31) | White-thr. Sparrow (13) | White-thr. Sparrow (16) |
| American Goldfinch (16) | Ruby-crowned Kinglet (32) | Red-winged Blackbird (27) | Red-winged Blackbird (13) | Ruby-crowned Kinglet (7) |
| Cedar Waxwing (15) | Common Grackle (24) | White-thr. Sparrow (7) | Ruby-crowned Kinglet (10) | Red-winged Blackbird (5) |
| White-thr. Sparrow (5) | White-thr. Sparrow (18) | American Goldfinch (6) | American Goldfinch (5) | Tree Swallow (4) |
| Swamp Sparrow (4) | Blue Jay (3) | Common Grackle (5) | Tree Swallow (3) | American Goldfinch (4) |
| Tree Swallow (3) | American Robin (3) | Downy Woodpecker (2) | White-cr. Sparrow (3) | Purple Finch (3) |
| Common Grackle (3) | American Goldfinch (3) | Savannah Sparrow (2) | Lincoln's Sparrow (2) | American Robin (2) |
| | White-cr. Sparrow (3) | | Swamp Sparrow (2) | Song Sparrow (2) |
| | Brown-head. Cowbird (3) | | Common Yellowthroat (2) | Brown-head. Cowbird (2) |
| | | | Yellow Warbler (2) | |

| 2010 | 2011 | 2012 | 2013 | 2014 |
|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| Red-winged Blackbird (19) | Ruby-crowned Kinglet (30) | Red-winged Blackbird (49) | Red-winged Blackbird (25) | Red-winged Blackbird (19) |
| Ruby-crowned Kinglet (14) | White-thr. Sparrow (30) | White-thr. Sparrow (24) | Ruby-crowned Kinglet (12) | White-thr. Sparrow (16) |
| White-thr. Sparrow (10) | Myrtle Warbler (26) | Ruby-crowned Kinglet (20) | White-thr. Sparrow (10) | Ruby-crowned Kinglet (14) |
| White-cr. Sparrow (4) | Red-winged Blackbird (15) | American Goldfinch (8) | Swamp Sparrow (7) | Cedar Waxwing (12) |
| Tree Swallow (3) | Swamp Sparrow (7) | Common Grackle (8) | Song Sparrow (5) | American Robin (6) |
| Cedar Waxwing (3) | American Robin (6) | Tree Swallow (4) | House Wren (3) | Song Sparrow (3) |
| Common Grackle (3) | Cedar Waxwing (3) | Swamp Sparrow (3) | Chipping Sparrow (2) | American Tree Sparrow (2) |
| Myrtle Warbler (3) | Common Yellowthroat (3) | Nashville Warbler (3) | Common Grackle (2) | Swamp Sparrow (2) |
| | | Yellow Warbler (3) | Nashville Warbler (2) | Northern Waterthrush (2) |
| | | | Northern Cardinal (2) | |

| 2015 | 2016 | 2017 | 2018 | 2019 |
|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| Ruby-crowned Kinglet (24) | White-thr. Sparrow (25) | White-thr. Sparrow (32) | Ruby-crowned Kinglet (43) | White-thr. Sparrow (36) |
| Red-winged Blackbird (17) | Ruby-crowned Kinglet (12) | Ruby-crowned Kinglet (20) | Cedar Waxwing (42) | Swamp Sparrow (14) |
| White-thr. Sparrow (12) | Purple Finch (12) | Red-winged Blackbird (7) | Red-winged Blackbird (16) | Ruby-crowned Kinglet (11) |
| Common Grackle (5) | Red-winged Blackbird (10) | Swamp Sparrow (3) | White-thr. Sparrow (15) | Fox Sparrow (11) |
| American Robin (4) | American Robin (8) | Tree Swallow (2) | Swamp Sparrow (9) | Red-winged Blackbird (8) |
| American Goldfinch (4) | American Goldfinch (6) | Northern Waterthrush (2) | American Goldfinch (4) | Northern Waterthrush (8) |
| White-cr. Sparrow (3) | Song Sparrow (6) | Common Yellowthroat (2) | Song Sparrow (3) | Blue Jay (3) |
| Myrtle Warbler (3) | Cedar Waxwing (5) | | | Tree Swallow (3) |
| | Common Grackle (5) | | | House Wren (3) |
| | Swamp Sparrow (4) | | | |

| WEATHER | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Mean high (°C) | 14.4 | 17.1 | 18.2 | 16.4 | 17.5 | 19.2 | 13.7 | 17.2 | 26.0 | 14.6 | 25.5 | 15.8 | 13.4 | 19.5 | 16.3 | 17.7 |
| Mean low (°C) | 4.9 | 5.3 | 4.8 | 5.2 | 7.6 | 8.5 | 6.6 | 7.5 | 10.7 | 6.0 | 10.2 | 5.2 | 4.3 | 8.1 | 5.5 | 6.7 |
| High temp (°C) | 20 | 24 | 26 | 19 | 21 | 26 | 19 | 21 | 29 | 17 | 30 | 22 | 22 | 26 | 24 | 23.1 |
| Low temp (°C) | 2 | 0 | 2 | 2 | 4 | 3 | 5 | 3 | 8 | 3 | 7 | 2 | 1 | 6 | 2 | 3.3 |
| # days with rain | 2 | 4 | 0 | 4 | 3 | 5 | 5 | 5 | 1 | 3 | 1 | 3 | 5 | 3 | 3 | 3.1 |
| Total rain (mm) | 3 | 31 | 0 | 18 | 13 | 23 | 40 | 22 | 1 | 21 | 2 | 11 | 38 | 19 | 5 | 16.5 |

Weather notes: After stalling in Week 5, average temperatures rise sharply in Week 6. Unlike over the first half of spring, there is no clear trend over the years – 2013 and 2015 were both particularly warm, whereas 2011 and 2017 were the coolest. Notably, the latter two years also had the most rainfall for Week 6, which by a small margin, is on average the driest week of the season. In five years, total rainfall for the week has been 5 mm or less.

Observations, Spring Week 6 (May 2 - 8):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|-----------------------------|---------------------------|---------------------------|-----------------------------|----------------------------|
| Canada Goose (219) | Snow Goose (582) | Canada Goose (431) | Canada Goose (459) | Canada Goose (292) |
| Cedar Waxwing (44) | Canada Goose (251) | Red-winged Blackbird (97) | Snow Goose (150) | Red-winged Blackbird (36) |
| Red-winged Blackbird (29) | Ring-billed Gull (97) | Snow Goose (57) | Red-winged Blackbird (39) | American Crow (18) |
| Tree Swallow (19) | Red-winged Blackbird (41) | American Crow (28) | Cliff Swallow (22) | Tree Swallow (15) |
| Song Sparrow (18) | Common Grackle (35) | Tree Swallow (27) | American Crow (21) | American Goldfinch (10) |
| American Goldfinch (13) | American Crow (27) | Ring-billed Gull (24) | Tree Swallow (15) | Black-capped Chickadee (9) |
| Ring-billed Gull (10) | American Goldfinch (18) | Cliff Swallow (21) | Ring-billed Gull (14) | Common Grackle (9) |
| Black-capped Chickadee (10) | White-thr. Sparrow (17) | Ruby-crowned Kinglet (18) | Song Sparrow (12) | Song Sparrow (8) |
| American Crow (8) | Ruby-crowned Kinglet (16) | Song Sparrow (17) | White-thr. Sparrow (11) | American Robin (7) |
| American Robin (7) | Tree Swallow (15) | American Goldfinch (15) | Black-capped Chickadee (10) | Ring-billed Gull (6) |
| | | | | Northern Cardinal (6) |

| 2010 | 2011 | 2012 | 2013 | 2014 |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Canada Goose (328) | Canada Goose (143) | Canada Goose (195) | Canada Goose (262) | Canada Goose (188) |
| Red-winged Blackbird (42) | Red-winged Blackbird (54) | Red-winged Blackbird (71) | Red-winged Blackbird (60) | Red-winged Blackbird (54) |
| Cliff Swallow (23) | Cedar Waxwing (28) | American Crow (54) | Ring-billed Gull (26) | Cedar Waxwing (54) |
| Cedar Waxwing (18) | Ruby-crowned Kinglet (27) | Black-capped Chickadee (17) | American Crow (22) | Ring-billed Gull (20) |
| American Crow (17) | White-thr. Sparrow (26) | White-thr. Sparrow (16) | Blue Jay (19) | Song Sparrow (18) |
| American Goldfinch (16) | American Crow (20) | Common Grackle (16) | Black-capped Chickadee (15) | American Robin (18) |
| Tree Swallow (15) | Myrtle Warbler (18) | Ring-billed Gull (15) | Song Sparrow (15) | Black-capped Chickadee (13) |
| Ring-billed Gull (13) | Black-capped Chickadee (17) | Tree Swallow (14) | White-thr. Sparrow (12) | White-thr. Sparrow (13) |
| Black-capped Chickadee (13) | American Robin (14) | Ruby-crowned Kinglet (14) | American Goldfinch (11) | Tree Swallow (11) |
| Blue Jay (11) | Dark-eyed Junco (13) | Mallard (12) | Common Grackle (10) | Ruby-crowned Kinglet (11) |

| 2015 | 2016 | 2017 | 2018 | 2019 |
|-----------------------------|-----------------------------|---------------------------|-----------------------------|-----------------------------|
| Canada Goose (211) | Canada Goose (206) | Canada Goose (152) | Canada Goose (260) | Canada Goose (125) |
| Red-winged Blackbird (58) | Snow Goose (132) | White-thr. Sparrow (51) | Cedar Waxwing (55) | Red-winged Blackbird (31) |
| Snow Goose (32) | Ring-billed Gull (47) | Ring-billed Gull (38) | Red-winged Blackbird (29) | White-thr. Sparrow (28) |
| Ring-billed Gull (29) | Red-winged Blackbird (42) | Red-winged Blackbird (28) | Ruby-crowned Kinglet (23) | Tree Swallow (24) |
| Cliff Swallow (25) | American Robin (25) | American Crow (20) | Tree Swallow (18) | Ring-billed Gull (19) |
| American Crow (23) | White-thr. Sparrow (23) | Ruby-crowned Kinglet (15) | American Goldfinch (14) | Ruby-crowned Kinglet (17) |
| Black-capped Chickadee (13) | American Goldfinch (17) | Snow Goose (12) | Ring-billed Gull (12) | Black-capped Chickadee (13) |
| White-thr. Sparrow (12) | Song Sparrow (14) | Tree Swallow (12) | Black-capped Chickadee (12) | Song Sparrow (13) |
| Common Grackle (11) | Cedar Waxwing (13) | American Goldfinch (10) | Song Sparrow (11) | Northern Cardinal (9) |
| Song Sparrow (11) | Black-capped Chickadee (12) | Blue Jay (10) | American Crow (9) | American Robin (8) |

Banding notes: 27 species have been among the annual top 10 banded in Week 6 between 2005 and 2019, with only White-throated Sparrow and Red-winged Blackbird appearing on that list in all 15 years, and Ruby-crowned Kinglet missing just once; each of those three species has been the most frequently banded bird in Week 6 between four and six times. Seven species have appeared on the week's list only once: Downy Woodpecker (2007), American Tree Sparrow (2014), Chipping Sparrow (2013), Savannah Sparrow (2007), Lincoln's Sparrow (2008), Fox Sparrow (2019), and Northern Cardinal (2013). Warblers start to become more prominent in Week 6, with at least one species among the top 10 in 9 of 15 years, and two species in each of 2008, 2011, 2012, and 2017. Correspondingly, sparrows begin tapering off, with a maximum of four species among the top 10, in 2008, 2013, and 2014.

Observation notes: 20 species have occurred on the Week 6 top 10 lists between 2005 and 2019, and for the third week in a row, only Canada Goose and Red-winged Blackbird appeared in all 15 years. Canada Goose remains dominant, topping the list in every year except 2006 when outnumbered by Snow Goose. For the second year in a row, Mallard reached the top 10 in just one year (2012). It is the latest in spring that Dark-eyed Junco has appeared in the top 10 (2011), and the earliest in the season for Myrtle Warbler (also in 2011). American Crow was among the top 6 annually from 2005 through 2013, but in half of the more recent six years, it has missed the top 10.

Bandings, Spring Week 7 (May 9 - 15):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|---------------------------|---------------------------|----------------------------|---------------------------|---------------------------|
| Yellow Warbler (10) | Red-winged Blackbird (25) | Red-winged Blackbird (65) | Red-winged Blackbird (33) | Red-winged Blackbird (21) |
| Red-winged Blackbird (9) | Common Grackle (14) | Myrtle Warbler (19) | White-thr. Sparrow (29) | Common Grackle (12) |
| American Goldfinch (7) | American Goldfinch (8) | American Goldfinch (18) | Myrtle Warbler (24) | American Goldfinch (8) |
| White-thr. Sparrow (6) | White-thr. Sparrow (7) | Yellow Warbler (16) | Ruby-crowned Kinglet (20) | Yellow Warbler (8) |
| Baltimore Oriole (3) | Myrtle Warbler (5) | Ruby-crowned Kinglet (10) | White-cr. Sparrow (15) | Ruby-crowned Kinglet (7) |
| Common Grackle (3) | Baltimore Oriole (3) | Baltimore Oriole (8) | American Goldfinch (6) | White-thr. Sparrow (7) |
| Rose-breast. Grosbeak (3) | Yellow Warbler (3) | White-thr. Sparrow (5) | Baltimore Oriole (5) | Baltimore Oriole (7) |
| Least Flycatcher (2) | | Nashville Warbler (5) | Brown-head. Cowbird (5) | Nashville Warbler (6) |
| Ruby-crowned Kinglet (2) | | Magnolia Warbler (5) | Common Yellowthroat (4) | White-cr. Sparrow (5) |
| Gray Catbird (2) | | Black-capped Chickadee (4) | | Common Yellowthroat (5) |
| | | Lincoln's Sparrow (4) | | Myrtle Warbler (5) |
| | | Common Grackle (4) | | |

| 2010 | 2011 | 2012 | 2013 | 2014 |
|--------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| Myrtle Warbler (19) | Red-winged Blackbird (23) | Myrtle Warbler (41) | Red-winged Blackbird (24) | Myrtle Warbler (45) |
| White-cr. Sparrow (11) | Myrtle Warbler (22) | Red-winged Blackbird (19) | Myrtle Warbler (15) | American Goldfinch (26) |
| American Goldfinch (10) | Cedar Waxwing (9) | Tennessee Warbler (16) | Yellow Warbler (10) | Ruby-crowned Kinglet (24) |
| Red-winged Blackbird (9) | Common Yellowthroat (9) | Yellow Warbler (13) | White-thr. Sparrow (9) | Magnolia Warbler (19) |
| White-thr. Sparrow (7) | White-cr. Sparrow (7) | Ruby-crowned Kinglet (10) | Nashville Warbler (6) | Red-winged Blackbird (17) |
| Yellow Warbler (7) | White-thr. Sparrow (7) | Nashville Warbler (10) | Common Yellowthroat (5) | Northern Waterthrush (16) |
| Ruby-crowned Kinglet (6) | Yellow Warbler (7) | White-cr. Sparrow (8) | Chipping Sparrow (4) | Common Yellowthroat (16) |
| American Robin (6) | Magnolia Warbler (6) | Magnolia Warbler (8) | Common Grackle (4) | Yellow Warbler (15) |
| Common Grackle (5) | Ruby-crowned Kinglet (5) | Warbling Vireo (6) | Northern Waterthrush (4) | Least Flycatcher (14) |
| Gray Catbird (4) | Lincoln's Sparrow (5) | Gray Catbird (6) | | Baltimore Oriole (11) |
| Swamp Sparrow (4) | | Lincoln's Sparrow (6) | | |
| Nashville Warbler (4) | | Baltimore Oriole (6) | | |
| | | Northern Waterthrush (6) | | |

| 2015 | 2016 | 2017 | 2018 | 2019 |
|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| Tennessee Warbler (36) | White-thr. Sparrow (69) | White-thr. Sparrow (27) | Myrtle Warbler (81) | White-thr. Sparrow (33) |
| Magnolia Warbler (31) | Ruby-crowned Kinglet (25) | Ruby-crowned Kinglet (16) | Cedar Waxwing (26) | Ruby-crowned Kinglet (12) |
| Myrtle Warbler (26) | Myrtle Warbler (25) | Red-winged Blackbird (11) | Magnolia Warbler (26) | Red-winged Blackbird (9) |
| White-thr. Sparrow (22) | Red-winged Blackbird (16) | Common Yellowthroat (8) | Red-winged Blackbird (23) | Myrtle Warbler (8) |
| Red-winged Blackbird (18) | Northern Waterthrush (13) | Yellow Warbler (4) | American Goldfinch (12) | Gray Catbird (6) |
| Ruby-crowned Kinglet (13) | Yellow Warbler (12) | Veery (3) | Nashville Warbler (11) | Swamp Sparrow (5) |
| Nashville Warbler (12) | Swamp Sparrow (11) | American Goldfinch (3) | Yellow Warbler (11) | Common Grackle (4) |
| Yellow Warbler (12) | White-cr. Sparrow (7) | Lincoln's Sparrow (3) | Common Yellowthroat (9) | House Wren (3) |
| Common Yellowthroat (8) | Common Grackle (7) | | Gray Catbird (8) | Common Yellowthroat (3) |
| Northern Waterthrush (7) | American Goldfinch (6) | | Common Grackle (8) | |
| | Lincoln's Sparrow (6) | | | |

| WEATHER | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Mean high (°C) | 18.1 | 19.9 | 21.4 | 19.8 | 17.0 | 13.9 | 18.2 | 19.9 | 17.0 | 22.9 | 21.1 | 18.5 | 15.4 | 20.7 | 15.0 | 18.6 |
| Mean low (°C) | 5.9 | 11.3 | 8.2 | 8.0 | 6.8 | 4.0 | 7.9 | 9.3 | 6.7 | 11.5 | 8.9 | 6.3 | 6.2 | 6.7 | 5.8 | 7.6 |
| High temp (°C) | 26 | 24 | 30 | 26 | 20 | 17 | 25 | 24 | 25 | 28 | 28 | 25 | 23 | 27 | 18 | 24.4 |
| Low temp (°C) | 1 | 11 | 0 | 5 | 2 | 0 | 6 | 6 | 0 | 8 | 6 | 1 | 1 | 3 | 3 | 3.5 |
| # days with rain | 3 | 4 | 1 | 1 | 3 | 3 | 3 | 6 | 4 | 3 | 4 | 3 | 2 | 2 | 5 | 3.1 |
| Total rain (mm) | 11 | 32 | 11 | 5 | 17 | 12 | 43 | 8 | 19 | 10 | 38 | 10 | 7 | 2 | 46 | 18.1 |

Weather notes: Mean daily temperatures in Week 7 are another degree Celsius warmer than in Week 6. The coldest year for Week 6 was 2010, with 2017 and 2019 also well below average; 2014 was by far the warmest, with 2007 and 2015 not far behind. Average rainfall is slightly higher than in Week 6, but the weekly total has not reached 50 mm in any year, and in four years was less than 10 mm.

Observations, Spring Week 7 (May 9 - 15):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|----------------------------|---------------------------|----------------------------|---------------------------|---------------------------|
| Ring-billed Gull (39) | Ring-billed Gull (99) | Red-winged Blackbird (125) | Red-winged Blackbird (72) | Canada Goose (37) |
| Red-winged Blackbird (28) | Red-winged Blackbird (50) | Tree Swallow (28) | Canada Goose (39) | Cliff Swallow (35) |
| Tree Swallow (19) | Cliff Swallow (37) | Ring-billed Gull (24) | Cliff Swallow (30) | Red-winged Blackbird (33) |
| American Crow (18) | Mallard (30) | American Goldfinch (20) | Ring-billed Gull (21) | Ring-billed Gull (18) |
| Song Sparrow (12) | Common Grackle (28) | American Crow (19) | American Crow (21) | Tree Swallow (17) |
| Canada Goose (11) | American Crow (28) | Yellow Warbler (18) | White-thr. Sparrow (18) | Common Grackle (14) |
| American Goldfinch (11) | Tree Swallow (25) | Cliff Swallow (13) | Myrtle Warbler (16) | American Crow (11) |
| Common Grackle (9) | American Goldfinch (21) | Common Grackle (13) | American Goldfinch (15) | Song Sparrow (10) |
| White-thr. Sparrow (8) | Song Sparrow (13) | Canada Goose (13) | Tree Swallow (15) | American Goldfinch (9) |
| Black-capped Chickadee (6) | Yellow Warbler (12) | Song Sparrow (13) | Song Sparrow (12) | Yellow Warbler (9) |
| Yellow Warbler (6) | | | | |

| 2010 | 2011 | 2012 | 2013 | 2014 |
|---------------------------|----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Canada Goose (46) | Canada Goose (120) | Canada Goose (128) | Ring-billed Gull (81) | Canada Goose (96) |
| Red-winged Blackbird (43) | Red-winged Blackbird (47) | Red-winged Blackbird (58) | Canada Goose (58) | Ring-billed Gull (84) |
| Ring-billed Gull (31) | Myrtle Warbler (29) | Ring-billed Gull (43) | Red-winged Blackbird (56) | Red-winged Blackbird (51) |
| Cedar Waxwing (23) | Ring-billed Gull (22) | American Crow (30) | American Crow (24) | Myrtle Warbler (20) |
| Cliff Swallow (19) | American Crow (17) | Yellow Warbler (21) | Yellow Warbler (14) | Cedar Waxwing (18) |
| American Crow (18) | White-thr. Sparrow (14) | Baltimore Oriole (18) | Myrtle Warbler (12) | Song Sparrow (16) |
| Tree Swallow (15) | Cedar Waxwing (10) | Common Grackle (17) | Song Sparrow (11) | American Goldfinch (14) |
| American Goldfinch (14) | Tree Swallow (9) | Myrtle Warbler (16) | Black-capped Chickadee (11) | Black-capped Chickadee (11) |
| Myrtle Warbler (13) | Black-capped Chickadee (9) | Snow Goose (14) | Common Grackle (11) | Yellow Warbler (11) |
| Yellow Warbler (12) | American Goldfinch (8) | Black-capped Chickadee (14) | White-thr. Sparrow (9) | Cliff Swallow (11) |

| 2015 | 2016 | 2017 | 2018 | 2019 |
|-----------------------------|---------------------------|-----------------------------|-----------------------------|-----------------------------|
| Red-winged Blackbird (43) | Ring-billed Gull (165) | Canada Goose (176) | Myrtle Warbler (39) | Canada Goose (46) |
| Canada Goose (25) | Canada Goose (59) | Ring-billed Gull (55) | Red-winged Blackbird (29) | White-thr. Sparrow (28) |
| Tennessee Warbler (22) | White-thr. Sparrow (42) | Red-winged Blackbird (32) | Canada Goose (24) | Red-winged Blackbird (26) |
| American Crow (17) | Red-winged Blackbird (41) | American Crow (23) | Cedar Waxwing (18) | Tree Swallow (19) |
| Ring-billed Gull (16) | Common Grackle (18) | White-thr. Sparrow (22) | Tree Swallow (16) | Ring-billed Gull (15) |
| White-thr. Sparrow (16) | Myrtle Warbler (16) | American Goldfinch (14) | Ring-billed Gull (13) | Black-capped Chickadee (13) |
| Myrtle Warbler (14) | American Goldfinch (16) | Tree Swallow (14) | American Goldfinch (13) | Blue Jay (12) |
| Cliff Swallow (13) | Song Sparrow (15) | Ruby-crowned Kinglet (12) | Yellow Warbler (11) | Song Sparrow (10) |
| Magnolia Warbler (12) | Cliff Swallow (15) | Black-capped Chickadee (11) | Song Sparrow (10) | American Robin (9) |
| Black-capped Chickadee (11) | Cedar Waxwing (15) | Song Sparrow (11) | Black-capped Chickadee (10) | Northern Cardinal (8) |

Banding notes: 27 species have been among the annual top 10 banded in Week 7 between 2005 and 2019, with only Red-winged Blackbird appearing on that list in all 15 years; Yellow Warbler and Myrtle Warbler are next closed, occurring 13 times each. Red-winged Blackbird has topped the list in more years than any other species (6), but last did so in 2013. Conversely, White-throated Sparrow has been banded more than any other species in Week 7 in three years, all since 2016. Overall, warblers become substantially more dominant in Week 7, accounting for as many as 7 of the top 10 species in 2015, and at least 4 species in 7 other years. Eight species have appeared on the week's list only once: Warbling Vireo (2012), Black-capped Chickadee (2007), House Wren (2019), American Robin (2010), Veery (2017), Chipping Sparrow (2013), Brown-headed Cowbird (2008), and Rose-breasted Grosbeak (2005).

Observation notes: 23 species have occurred on the Week 7 top 10 lists between 2005 and 2019, tied with Week 3 for the greatest variety; Ring-billed Gull and Red-winged Blackbird are the only species to appear in all 15 years. In 7 years, the spring peak of Canada Goose migration extended long enough for it to remain most abundant for another week, but Ring-billed Gull (four times), Red-winged Blackbird (three times), and Myrtle Warbler (once) have also topped the week's list. Nine species have made the list for Week 7 only once: Snow Goose (2012), Mallard (2006), Blue Jay (2019), Ruby-crowned Kinglet (2017), American Robin (2019), Baltimore Oriole (2012), Tennessee Warbler (2015), Magnolia Warbler (2015), and Northern Cardinal (2019). At least one warbler has been on the list every year except 2017 and 2019.

Bandings, Spring Week 8 (May 16 - 22):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| American Goldfinch (34) | Red-winged Blackbird (20) | Red-winged Blackbird (22) | Yellow Warbler (24) | Tennessee Warbler (36) |
| Yellow Warbler (27) | Myrtle Warbler (13) | Tennessee Warbler (12) | Red-winged Blackbird (20) | Yellow Warbler (29) |
| Red-winged Blackbird (11) | Common Yellowthroat (11) | American Goldfinch (11) | Myrtle Warbler (11) | Magnolia Warbler (26) |
| Common Yellowthroat (11) | Magnolia Warbler (10) | Nashville Warbler (8) | White-cr. Sparrow (10) | Myrtle Warbler (26) |
| Rose-breast. Grosbeak (9) | Gray Catbird (7) | Myrtle Warbler (6) | American Goldfinch (9) | White-cr. Sparrow (20) |
| Myrtle Warbler (8) | Baltimore Oriole (6) | Ruby-crowned Kinglet (5) | Common Yellowthroat (8) | Common Yellowthroat (17) |
| Common Grackle (6) | Common Grackle (6) | Gray Catbird (5) | Baltimore Oriole (7) | Red-winged Blackbird (16) |
| Least Flycatcher (5) | White-cr. Sparrow (5) | Yellow Warbler (5) | Magnolia Warbler (7) | Northern Waterthrush (15) |
| Ruby-crowned Kinglet (4) | Yellow Warbler (5) | Warbling Vireo (4) | Gray Catbird (6) | Wilson's Warbler (15) |
| Cedar Waxwing (4) | White-thr. Sparrow (4) | Common Grackle (4) | Rose-breast. Grosbeak (5) | American Goldfinch (13) |
| | Lincoln's Sparrow (4) | Common Yellowthroat (4) | | |
| | Rose-breast. Grosbeak (4) | Magnolia Warbler (4) | | |

| 2010 | 2011 | 2012 | 2013 | 2014 |
|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| Red-winged Blackbird (18) | Myrtle Warbler (48) | Tennessee Warbler (48) | Magnolia Warbler (51) | Magnolia Warbler (39) |
| American Goldfinch (12) | Tennessee Warbler (23) | Magnolia Warbler (18) | Tennessee Warbler (38) | Tennessee Warbler (25) |
| Yellow Warbler (12) | Red-winged Blackbird (13) | American Goldfinch (17) | Yellow Warbler (25) | Yellow Warbler (16) |
| Cedar Waxwing (9) | Common Yellowthroat (10) | Yellow Warbler (17) | Northern Waterthrush (23) | American Goldfinch (15) |
| Northern Waterthrush (8) | Northern Waterthrush (8) | Northern Waterthrush (15) | White-cr. Sparrow (14) | Northern Waterthrush (15) |
| Common Yellowthroat (8) | Magnolia Warbler (8) | Common Yellowthroat (15) | Red-winged Blackbird (11) | Common Yellowthroat (12) |
| Myrtle Warbler (8) | Yellow Warbler (8) | Cedar Waxwing (9) | Gray Catbird (10) | Red-winged Blackbird (8) |
| White-cr. Sparrow (6) | Blackpoll Warbler (8) | Red-winged Blackbird (9) | Common Yellowthroat (9) | Myrtle Warbler (8) |
| Tennessee Warbler (6) | Baltimore Oriole (7) | Gray Catbird (7) | Least Flycatcher (8) | Wilson's Warbler (7) |
| Gray Catbird (5) | American Redstart (7) | Common Grackle (5) | Lincoln's Sparrow (5) | Gray Catbird (6) |
| Song Sparrow (5) | | American Redstart (5) | Nashville Warbler (5) | Baltimore Oriole (6) |
| Baltimore Oriole (5) | | | Myrtle Warbler (5) | |
| Wilson's Warbler (5) | | | Canada Warbler (5) | |

| 2015 | 2016 | 2017 | 2018 | 2019 |
|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| Tennessee Warbler (60) | Tennessee Warbler (37) | Tennessee Warbler (152) | Tennessee Warbler (80) | Myrtle Warbler (51) |
| Magnolia Warbler (46) | American Goldfinch (21) | Yellow Warbler (30) | Magnolia Warbler (51) | Magnolia Warbler (38) |
| Myrtle Warbler (40) | Northern Waterthrush (18) | Magnolia Warbler (24) | Yellow Warbler (24) | Common Yellowthroat (28) |
| Northern Waterthrush (23) | Magnolia Warbler (17) | Common Yellowthroat (20) | Myrtle Warbler (19) | Yellow Warbler (28) |
| Wilson's Warbler (21) | Yellow Warbler (16) | Northern Waterthrush (18) | Northern Waterthrush (15) | Northern Waterthrush (26) |
| American Goldfinch (20) | Myrtle Warbler (16) | Myrtle Warbler (16) | Common Yellowthroat (15) | Least Flycatcher (21) |
| American Redstart (17) | Red-winged Blackbird (15) | Red-winged Blackbird (13) | Wilson's Warbler (15) | American Redstart (20) |
| Trail's Flycatcher (12) | Ruby-crowned Kinglet (8) | Trail's Flycatcher (12) | American Goldfinch (14) | Ruby-crowned Kinglet (19) |
| Yellow Warbler (12) | Baltimore Oriole (7) | Baltimore Oriole (12) | Swainson's Thrush (13) | White-thr. Sparrow (13) |
| Least Flycatcher (8) | American Redstart (7) | Least Flycatcher (11) | Red-winged Blackbird (13) | Lincoln's Sparrow (12) |
| Chest-sided Warbler (8) | | | | |

| WEATHER | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Mean high (°C) | 15.3 | 13.5 | 15.7 | 16.0 | 18.6 | 24.0 | 18.9 | 24.5 | 20.8 | 20.0 | 21.4 | 19.5 | 22.1 | 20.9 | 17.8 | 19.3 |
| Mean low (°C) | 7.0 | 8.8 | 3.8 | 6.2 | 6.5 | 9.6 | 10.3 | 11.3 | 10.1 | 9.4 | 10.2 | 7.2 | 10.3 | 7.1 | 8.1 | 8.4 |
| High temp (°C) | 19 | 17 | 22 | 21 | 29 | 27 | 24 | 31 | 23 | 24 | 29 | 27 | 30 | 25 | 23 | 24.7 |
| Low temp (°C) | 3 | 5 | 2 | 5 | 2 | 6 | 6 | 6 | 7 | 6 | 4 | 4 | 6 | 4 | 6 | 4.8 |
| # days with rain | 3 | 7 | 3 | 6 | 3 | 0 | 7 | 3 | 4 | 3 | 2 | 2 | 3 | 3 | 4 | 3.5 |
| Total rain (mm) | 5 | 85 | 26 | 16 | 18 | 0 | 27 | 24 | 20 | 42 | 10 | 1 | 11 | 18 | 14 | 21.1 |

Weather notes: Average temperatures continue to rise in Week 8, almost another degree Celsius warmer than Week 7. Contrary to earlier in spring, the first four years were the coldest for this period, with a mean high temperature of 15.1 degrees Celsius, compared to 20.9 degrees Celsius from 2010 to 2019. The warmest year was 2012, with 2010, 2015, and 2017 all well above average too. The 85 mm of rain in Week 8 of 2006 was a single-week record for spring; aside from that year, mean rainfall for the week would be below average for spring.

Observations, Spring Week 8 (May 16 - 22):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|---------------------------|---------------------------|----------------------------|---------------------------|---------------------------|
| Ring-billed Gull (48) | Red-winged Blackbird (36) | Red-winged Blackbird (57) | Red-winged Blackbird (54) | Ring-billed Gull (79) |
| Tree Swallow (21) | American Crow (31) | Greater Scaup (25) | Yellow Warbler (17) | Red-winged Blackbird (36) |
| Red-winged Blackbird (21) | Ring-billed Gull (23) | Tree Swallow (22) | Cliff Swallow (16) | Cliff Swallow (22) |
| Yellow Warbler (17) | Mallard (19) | American Crow (22) | American Crow (16) | American Crow (15) |
| American Goldfinch (13) | American Goldfinch (15) | American Goldfinch (16) | Tree Swallow (13) | Yellow Warbler (14) |
| Song Sparrow (12) | Yellow Warbler (15) | Yellow Warbler (16) | Ring-billed Gull (12) | Tree Swallow (14) |
| Common Grackle (10) | Common Grackle (14) | Wood Duck (13) | American Goldfinch (12) | Tennessee Warbler (13) |
| American Crow (9) | Tree Swallow (13) | Ring-billed Gull (11) | Baltimore Oriole (10) | Common Grackle (10) |
| Canada Goose (6) | Canada Goose (11) | Canada Goose (9) | Song Sparrow (9) | American Goldfinch (10) |
| Baltimore Oriole (6) | Myrtle Warbler (11) | Black-capped Chickadee (9) | Common Grackle (9) | Canada Goose (10) |
| | | Song Sparrow (9) | | |

| 2010 | 2011 | 2012 | 2013 | 2014 |
|---------------------------|---------------------------|---------------------------|-----------------------------|---------------------------|
| Ring-billed Gull (44) | Red-winged Blackbird (48) | Red-winged Blackbird (41) | Ring-billed Gull (53) | Ring-billed Gull (55) |
| Red-winged Blackbird (41) | Myrtle Warbler (26) | American Crow (25) | Red-winged Blackbird (51) | Red-winged Blackbird (44) |
| Cliff Swallow (38) | American Crow (15) | Cedar Waxwing (20) | American Crow (27) | Yellow Warbler (15) |
| Tree Swallow (18) | Ring-billed Gull (14) | Tennessee Warbler (18) | Yellow Warbler (20) | Song Sparrow (13) |
| American Goldfinch (14) | Cedar Waxwing (13) | Yellow Warbler (16) | Cliff Swallow (15) | Tennessee Warbler (13) |
| American Crow (13) | Yellow Warbler (12) | American Goldfinch (13) | Baltimore Oriole (15) | Baltimore Oriole (12) |
| Yellow Warbler (13) | Baltimore Oriole (11) | Common Grackle (11) | Common Grackle (14) | Common Yellowthroat (12) |
| Cedar Waxwing (13) | Canada Goose (10) | Tree Swallow (10) | Black-capped Chickadee (12) | American Goldfinch (11) |
| Canada Goose (8) | Tree Swallow (9) | Baltimore Oriole (10) | Canada Goose (11) | American Crow (11) |
| Common Grackle (8) | American Goldfinch (9) | Ring-billed Gull (9) | American Goldfinch (10) | Magnolia Warbler (10) |

| 2015 | 2016 | 2017 | 2018 | 2019 |
|---------------------------|-----------------------------|---------------------------|---------------------------|-----------------------------|
| Red-winged Blackbird (37) | Ring-billed Gull (219) | Tennessee Warbler (46) | Ring-billed Gull (40) | Myrtle Warbler (42) |
| Ring-billed Gull (33) | Red-winged Blackbird (34) | Red-winged Blackbird (25) | Red-winged Blackbird (28) | Ring-billed Gull (26) |
| Cliff Swallow (24) | American Goldfinch (18) | Ring-billed Gull (22) | Tennessee Warbler (27) | Red-winged Blackbird (24) |
| Tennessee Warbler (21) | Common Grackle (17) | Yellow Warbler (18) | Myrtle Warbler (17) | Tree Swallow (20) |
| American Crow (21) | Cliff Swallow (16) | Black Scoter (17) | Tree Swallow (15) | Yellow Warbler (19) |
| Myrtle Warbler (12) | Yellow Warbler (12) | American Crow (14) | Magnolia Warbler (13) | Canada Goose (14) |
| Magnolia Warbler (11) | Song Sparrow (12) | Tree Swallow (13) | Cedar Waxwing (13) | Common Yellowthroat (12) |
| American Goldfinch (10) | American Crow (12) | Baltimore Oriole (12) | Yellow Warbler (13) | Song Sparrow (11) |
| Yellow Warbler (10) | Cedar Waxwing (11) | American Goldfinch (12) | American Crow (13) | Black-capped Chickadee (11) |
| Baltimore Oriole (10) | Black-capped Chickadee (11) | Blue Jay (11) | American Goldfinch (13) | American Goldfinch (10) |
| | Tennessee Warbler (11) | | | |

Banding notes: 28 species have been among the annual top 10 banded in Week 8 between 2005 and 2019, with only Yellow Warbler appearing on that list in all 15 years; Red-winged Blackbird and three other warblers (Common Yellowthroat, Magnolia Warbler, Myrtle Warbler) also qualified in at least 13 years. Red-winged Blackbird was the top species in three of the first six years, but except for 2010, a warbler species has been number one in every year since 2008: Tennessee Warbler six times, Magnolia and Myrtle Warbler twice each, and Yellow Warbler once. The top ten list has included at least 6 warbler species annually since 2009, as well as in 2007; over the past few years, the only non-warbler in the top 5 was American Goldfinch in 2016. The only year with three sparrow species in the top 10 was 2006. Six species have appeared on the week's list only once: Warbling Vireo (2007), Swainson's Thrush (2018), Song Sparrow (2010), Chestnut-sided Warbler (2015), Blackpoll Warbler (2011), and Canada Warbler (2013).

Observation notes: 22 species have occurred on the Week 8 top 10 lists between 2005 and 2019; it is the only week of spring with four species that have been in the top 10 in all 15 years: Ring-billed Gull, American Goldfinch, Red-winged Blackbird, and Yellow Warbler. Two species reached the top 10 this week for the only time in any season: Greater Scaup (2007) and Black Scoter (2017); three others also were in the top 10 for Week 8 only once: Wood Duck (2007), Mallard (2006), and Blue Jay (2016). Warblers have become more dominant over time, with only one or two species among the top 10 annually from 2005 through 2013, but at least three species in five of the past six years.

Bandings, Spring Week 9 (May 23 - 29):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|--------------------------|---------------------------|---------------------------|---------------------------|--------------------------|
| American Goldfinch (20) | Red-winged Blackbird (21) | Blackpoll Warbler (34) | Red-winged Blackbird (21) | Tennessee Warbler (44) |
| Myrtle Warbler (11) | Common Yellowthroat (13) | Red-winged Blackbird (12) | Wilson's Warbler (19) | Blackpoll Warbler (25) |
| Common Yellowthroat (9) | Yellow Warbler (13) | Cedar Waxwing (10) | Blackpoll Warbler (17) | American Goldfinch (18) |
| Yellow Warbler (9) | Wilson's Warbler (12) | Northern Waterthrush (9) | Cedar Waxwing (11) | Magnolia Warbler (12) |
| American Robin (6) | Magnolia Warbler (11) | Gray Catbird (8) | Magnolia Warbler (11) | Cedar Waxwing (10) |
| Baltimore Oriole (6) | American Goldfinch (9) | American Goldfinch (8) | Common Yellowthroat (10) | Wilson's Warbler (9) |
| Red-winged Blackbird (5) | Cedar Waxwing (8) | Baltimore Oriole (7) | Yellow Warbler (9) | Traill's Flycatcher (8) |
| Common Grackle (4) | Common Grackle (4) | Yellow Warbler (7) | Myrtle Warbler (9) | Northern Waterthrush (7) |
| American Redstart (4) | Northern Waterthrush (4) | Myrtle Warbler (7) | American Goldfinch (8) | Myrtle Warbler (6) |
| | | Wilson's Warbler (7) | Northern Waterthrush (8) | Common Grackle (4) |
| | | | | Common Yellowthroat (4) |

| 2010 | 2011 | 2012 | 2013 | 2014 |
|--------------------------|---------------------------|--------------------------|---------------------------|---------------------------|
| Cedar Waxwing (23) | Tennessee Warbler (46) | Cedar Waxwing (38) | Northern Waterthrush (14) | Tennessee Warbler (100) |
| American Goldfinch (13) | Blackpoll Warbler (31) | Tennessee Warbler (30) | Magnolia Warbler (14) | Traill's Flycatcher (25) |
| Red-winged Blackbird (8) | Cedar Waxwing (24) | Wilson's Warbler (16) | Blackpoll Warbler (14) | Cedar Waxwing (24) |
| Baltimore Oriole (6) | Traill's Flycatcher (17) | American Goldfinch (14) | Tennessee Warbler (11) | Wilson's Warbler (24) |
| Traill's Flycatcher (5) | Northern Waterthrush (15) | Magnolia Warbler (13) | Traill's Flycatcher (10) | Magnolia Warbler (21) |
| Gray Catbird (4) | Yellow Warbler (13) | American Redstart (12) | Wilson's Warbler (9) | Northern Waterthrush (13) |
| Song Sparrow (4) | Magnolia Warbler (12) | Traill's Flycatcher (11) | Common Yellowthroat (7) | Red-winged Blackbird (11) |
| Common Yellowthroat (4) | Wilson's Warbler (8) | Blackpoll Warbler (9) | Gray Catbird (6) | Common Yellowthroat (10) |
| Yellow Warbler (4) | American Goldfinch (7) | Gray Catbird (6) | Cedar Waxwing (6) | Common Grackle (9) |
| Blackpoll Warbler (4) | Common Yellowthroat (7) | Northern Waterthrush (6) | Yellow Warbler (6) | Blackpoll Warbler (9) |
| | Canada Warbler (7) | | | |

| 2015 | 2016 | 2017 | 2018 | 2019 |
|--------------------------|-------------------------|--------------------------|--------------------------|---------------------------|
| Wilson's Warbler (15) | Tennessee Warbler (62) | Tennessee Warbler (55) | Tennessee Warbler (58) | Tennessee Warbler (135) |
| Tennessee Warbler (14) | American Goldfinch (19) | Magnolia Warbler (29) | Cedar Waxwing (25) | Magnolia Warbler (127) |
| Traill's Flycatcher (13) | Cedar Waxwing (17) | Cedar Waxwing (28) | Common Grackle (21) | Myrtle Warbler (110) |
| American Goldfinch (11) | Magnolia Warbler (17) | American Goldfinch (23) | Magnolia Warbler (11) | Yellow Warbler (38) |
| Magnolia Warbler (10) | American Redstart (11) | Wilson's Warbler (7) | Wilson's Warbler (10) | Wilson's Warbler (33) |
| Northern Waterthrush (9) | Traill's Flycatcher (9) | Red-eyed Vireo (6) | Common Yellowthroat (8) | Bay-breasted Warbler (30) |
| Common Yellowthroat (9) | Gray Catbird (9) | Gray Catbird (6) | American Goldfinch (7) | American Redstart (29) |
| American Redstart (9) | Wilson's Warbler (9) | Northern Waterthrush (6) | Red-winged Blackbird (7) | Canada Warbler (29) |
| Yellow Warbler (7) | Common Yellowthroat (8) | Chest-sided Warbler (6) | Northern Waterthrush (7) | Swainson's Thrush (25) |
| Gray Catbird (6) | Blackpoll Warbler (7) | Traill's Flycatcher (5) | Myrtle Warbler (6) | Common Yellowthroat (25) |
| Blackpoll Warbler (6) | | Common Yellowthroat (5) | | |

| WEATHER | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Mean high (°C) | 17.7 | 23.0 | 24.2 | 20.1 | 18.1 | 28.9 | 19.8 | 24.5 | 17.1 | 20.5 | 24.1 | 27.8 | 21.2 | 23.2 | 18.5 | 21.9 |
| Mean low (°C) | 9.1 | 11.8 | 12.5 | 7.8 | 9.2 | 16.3 | 11.7 | 13.4 | 7.6 | 10.1 | 12.7 | 13.3 | 11.4 | 13.2 | 9.7 | 11.3 |
| High temp (°C) | 23 | 28 | 31 | 23 | 24 | 35 | 24 | 28 | 23 | 25 | 29 | 32 | 26 | 26 | 24 | 26.7 |
| Low temp (°C) | 8 | 6 | 10 | 3 | 5 | 13 | 10 | 11 | 4 | 6 | 3 | 11 | 10 | 11 | 7 | 7.9 |
| # days with rain | 4 | 1 | 1 | 2 | 3 | 0 | 6 | 5 | 5 | 4 | 2 | 2 | 3 | 4 | 5 | 3.1 |
| Total rain (mm) | 18 | 2 | 16 | 2 | 28 | 0 | 36 | 32 | 66 | 13 | 31 | 3 | 21 | 11 | 23 | 20.1 |

Weather notes: As in Weeks 4 and 6, average temperatures jump significantly again in Week 9, by nearly 3 degrees Celsius. There is considerable variability among years though. 2010 was exceptionally hot, setting season records for the mean daily high and overall high temperature; 2016 was only slightly cooler. Week 9 in 2010 was also dry, with no rain at all; three other years (2006, 2008, and 2016) had only a few millimetres of rain, while 2013 was the only year with more than double the 15-year average of rainfall for the week. There is no clear pattern over time regarding temperature or rainfall during Week 9.

Observations, Spring Week 9 (May 23 - 29):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| Ring-billed Gull (33) | Ring-billed Gull (43) | Red-winged Blackbird (49) | Red-winged Blackbird (41) | Ring-billed Gull (41) |
| Red-winged Blackbird (23) | Red-winged Blackbird (38) | Tree Swallow (22) | Cliff Swallow (32) | Red-winged Blackbird (28) |
| Tree Swallow (18) | Canada Goose (32) | American Crow (21) | Ring-billed Gull (18) | Cliff Swallow (21) |
| Yellow Warbler (15) | Mallard (26) | Wood Duck (17) | Yellow Warbler (17) | American Crow (19) |
| American Goldfinch (13) | American Crow (23) | Yellow Warbler (15) | Tree Swallow (14) | American Goldfinch (13) |
| Song Sparrow (12) | American Goldfinch (21) | Cliff Swallow (13) | American Crow (14) | Tree Swallow (13) |
| American Crow (11) | Yellow Warbler (21) | American Goldfinch (13) | Canada Goose (13) | Yellow Warbler (12) |
| Cedar Waxwing (8) | Cedar Waxwing (15) | Canada Goose (11) | American Goldfinch (10) | Cedar Waxwing (11) |
| Baltimore Oriole (8) | Tree Swallow (14) | Common Grackle (9) | Cedar Waxwing (9) | Blackpoll Warbler (11) |
| Common Yellowthroat (8) | Song Sparrow (11) | Cedar Waxwing (9) | Common Grackle (8) | Common Grackle (9) |
| | | Baltimore Oriole (9) | | |
| | | Blackpoll Warbler (9) | | |

| 2010 | 2011 | 2012 | 2013 | 2014 |
|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| Cliff Swallow (33) | Red-winged Blackbird (39) | Red-winged Blackbird (32) | Red-winged Blackbird (34) | Ring-billed Gull (129) |
| Red-winged Blackbird (23) | Cedar Waxwing (25) | Cedar Waxwing (23) | American Crow (18) | Red-winged Blackbird (34) |
| Cedar Waxwing (16) | Tree Swallow (20) | American Crow (18) | Yellow Warbler (13) | Cedar Waxwing (34) |
| American Crow (15) | Ring-billed Gull (17) | Yellow Warbler (12) | Tennessee Warbler (8) | American Crow (29) |
| Tree Swallow (14) | Cliff Swallow (16) | American Goldfinch (11) | Common Yellowthroat (8) | Tennessee Warbler (28) |
| American Goldfinch (12) | Blackpoll Warbler (15) | Tennessee Warbler (10) | Song Sparrow (8) | Yellow Warbler (13) |
| Ring-billed Gull (11) | American Crow (15) | Tree Swallow (9) | Baltimore Oriole (8) | Song Sparrow (12) |
| Yellow Warbler (9) | Yellow Warbler (15) | Ring-billed Gull (9) | Cliff Swallow (7) | American Goldfinch (11) |
| Mallard (8) | Tennessee Warbler (14) | Baltimore Oriole (8) | Blackpoll Warbler (7) | Common Grackle (11) |
| Baltimore Oriole (8) | American Goldfinch (11) | Common Grackle (8) | American Goldfinch (6) | Common Yellowthroat (10) |

| 2015 | 2016 | 2017 | 2018 | 2019 |
|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| Red-winged Blackbird (33) | Ring-billed Gull (173) | Cedar Waxwing (35) | Ring-billed Gull (76) | Ring-billed Gull (39) |
| Ring-billed Gull (24) | Red-winged Blackbird (32) | Red-winged Blackbird (23) | Cedar Waxwing (30) | Tennessee Warbler (34) |
| American Crow (18) | Cedar Waxwing (28) | American Crow (23) | Red-winged Blackbird (20) | Myrtle Warbler (32) |
| Cliff Swallow (16) | Tennessee Warbler (23) | Ring-billed Gull (20) | Tennessee Warbler (20) | Magnolia Warbler (32) |
| American Goldfinch (13) | American Goldfinch (21) | Tennessee Warbler (19) | American Crow (13) | Red-winged Blackbird (25) |
| Common Grackle (11) | Cliff Swallow (21) | American Goldfinch (16) | Tree Swallow (13) | Yellow Warbler (21) |
| Cedar Waxwing (10) | American Crow (19) | Tree Swallow (14) | American Goldfinch (11) | Tree Swallow (19) |
| Baltimore Oriole (9) | Yellow Warbler (14) | Yellow Warbler (12) | Common Grackle (10) | Cedar Waxwing (17) |
| Yellow Warbler (8) | Common Yellowthroat (13) | Canada Goose (11) | Yellow Warbler (10) | Common Yellowthroat (17) |
| Common Yellowthroat (8) | Common Grackle (12) | Common Yellowthroat (10) | Cliff Swallow (9) | Cliff Swallow (14) |

Banding notes: 23 species have been among the annual top 10 banded in Week 9 between 2005 and 2019, fewer than in any other part of spring. Despite that, no species have been in the top 10 every year; the closest are Common Yellowthroat and Wilson’s Warbler in 13 years each, followed by Cedar Waxwing, American Goldfinch, and Magnolia Warbler in 12 years each. However, Tennessee Warbler has been the top species more often than any other (7 years, including the last four years in a row). Three other warbler species have each topped the week’s list once (Blackpoll Warbler in 2007, Northern Waterthrush in 2013, and Wilson’s Warbler in 2015). Overall, 12 warbler species account for 61% of all top 10 list entries for Week 9. They dominated most in 2019, when Swainson’s Thrush was the only non-warbler among the top 10; warblers were scarcest in 2010, when there were none among the top seven. Six species have appeared on the week’s list only once: Red-eyed Vireo (2017), American Robin (2005), Swainson’s Thrush (2019), Song Sparrow (2010), Chestnut-sided Warbler (2017), and Bay-breasted Warbler (2019).

Observation notes: 19 species have occurred on the Week 9 top 10 lists between 2005 and 2019, fewer than in any other part of the season. Red-winged Blackbird and Yellow Warbler have been on the list in all 15 years, while American Crow, Cedar Waxwing, and American Goldfinch missed only one year each, but Ring-billed Gull has been the top species more often than any other. Only three species have been on the top 10 list just once in Week 9: Wood Duck (2007), Magnolia Warbler (2019), and Myrtle Warbler (2019). Over the first six years, only one or two warbler species appeared in the top 10 annually; since 2011, there have been three or more in six of nine years, including three among the top five in both 2013 and 2019.

Bandings, Spring Week 10 (May 30 - June 5):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|-------------------------|----------------------------|--------------------------|--------------------------|-------------------------|
| Cedar Waxwing (14) | Cedar Waxwing (6) | Blackpoll Warbler (10) | Cedar Waxwing (17) | Blackpoll Warbler (7) |
| American Goldfinch (12) | Red-winged Blackbird (4) | Cedar Waxwing (7) | Red-winged Blackbird (7) | Traill's Flycatcher (4) |
| Common Grackle (4) | Traill's Flycatcher (2) | Red-winged Blackbird (6) | Blackpoll Warbler (7) | Wilson's Warbler (4) |
| Traill's Flycatcher (3) | Black-capped Chickadee (2) | American Goldfinch (3) | Traill's Flycatcher (6) | Red-eyed Vireo (2) |
| Gray Catbird (2) | White-thr. Sparrow (2) | Common Yellowthroat (3) | Wilson's Warbler (4) | Cedar Waxwing (2) |
| Chipping Sparrow (2) | Blackpoll Warbler (2) | Magnolia Warbler (3) | Tennessee Warbler (3) | American Goldfinch (2) |
| Baltimore Oriole (2) | | Traill's Flycatcher (2) | American Robin (2) | Tennessee Warbler (2) |
| Wilson's Warbler (2) | | Northern Waterthrush (2) | Common Grackle (2) | Common Yellowthroat (2) |
| | | | | Magnolia Warbler (2) |

| 2010 | 2011 | 2012 | 2013 | 2014 |
|--------------------------|--------------------------|--------------------------|-------------------------|-------------------------|
| Cedar Waxwing (8) | Cedar Waxwing (7) | Cedar Waxwing (29) | Traill's Flycatcher (4) | Tennessee Warbler (16) |
| Red-winged Blackbird (4) | Blackpoll Warbler (5) | Blackpoll Warbler (7) | Wilson's Warbler (4) | Cedar Waxwing (11) |
| Yellow Warbler (3) | Common Grackle (3) | Traill's Flycatcher (4) | Gray Catbird (2) | Common Grackle (10) |
| Tree Swallow (2) | Northern Waterthrush (3) | Red-winged Blackbird (4) | Song Sparrow (2) | Traill's Flycatcher (7) |
| Baltimore Oriole (2) | Traill's Flycatcher (2) | Wilson's Warbler (4) | Baltimore Oriole (2) | American Goldfinch (7) |
| Magnolia Warbler (2) | Gray Catbird (2) | Least Flycatcher (2) | Indigo Bunting (2) | Magnolia Warbler (3) |
| | Red-winged Blackbird (2) | Gray Catbird (2) | | Wilson's Warbler (3) |
| | Yellow Warbler (2) | Yellow Warbler (2) | | |
| | Wilson's Warbler (2) | Chest.-sided Warbler (2) | | |

| 2015 | 2016 | 2017 | 2018 | 2019 |
|--------------------------|--------------------------|-------------------------|--------------------------|----------------------------|
| Blackpoll Warbler (3) | American Goldfinch (5) | Cedar Waxwing (10) | Cedar Waxwing (13) | Tennessee Warbler (30) |
| Cedar Waxwing (2) | Red-eyed Vireo (4) | Traill's Flycatcher (6) | Red-winged Blackbird (5) | Traill's Flycatcher (20) |
| Lincoln's Sparrow (1) | Traill's Flycatcher (3) | Tennessee Warbler (4) | Common Grackle (5) | Cedar Waxwing (13) |
| Baltimore Oriole (1) | Cedar Waxwing (3) | Magnolia Warbler (4) | American Goldfinch (3) | Wilson's Warbler (12) |
| Ovenbird (1) | Common Yellowthroat (3) | American Goldfinch (3) | Traill's Flycatcher (2) | Mourning Warbler (8) |
| Northern Waterthrush (1) | Magnolia Warbler (3) | Wilson's Warbler (3) | Baltimore Oriole (2) | Magnolia Warbler (8) |
| Tennessee Warbler (1) | Red-winged Blackbird (2) | Blackpoll Warbler (2) | Tennessee Warbler (2) | Swainson's Thrush (6) |
| Mourning Warbler (1) | Tennessee Warbler (2) | | | Canada Warbler (6) |
| Yellow Warbler (1) | American Redstart (2) | | | Yellow-bel. Flycatcher (5) |
| Chest.-sided Warbler (1) | Yellow Warbler (2) | | | Common Grackle (4) |
| | | | | American Redstart (4) |
| | | | | Yellow Warbler (4) |
| | | | | Blackpoll Warbler (4) |

| WEATHER | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Mean high (°C) | 26.3 | 23.9 | 22.4 | 19.6 | 18.3 | 22.8 | 23.9 | 19.9 | 24.5 | 23.5 | 19.9 | 24.9 | 18.9 | 24.3 | 17.6 | 22.0 |
| Mean low (°C) | 13.9 | 13.1 | 13.6 | 12.1 | 7.3 | 14.0 | 12.9 | 11.6 | 14.4 | 13.3 | 8.8 | 16.0 | 10.5 | 13.3 | 8.9 | 12.2 |
| High temp (°C) | 30 | 31 | 27 | 23 | 23 | 27 | 29 | 24 | 32 | 30 | 31 | 29 | 24 | 30 | 22 | 27.5 |
| Low temp (°C) | 12 | 9 | 7 | 9 | 5 | 12 | 8 | 9 | 7 | 9 | 4 | 13 | 8 | 8 | 6 | 8.4 |
| # days with rain | 1 | 3 | 6 | 7 | 3 | 5 | 1 | 7 | 2 | 4 | 5 | 2 | 4 | 4 | 4 | 3.9 |
| Total rain (mm) | 6 | 39 | 30 | 52 | 10 | 43 | 0 | 28 | 25 | 25 | 20 | 38 | 58 | 29 | 11 | 29.6 |

Weather notes: Mean temperatures in Week 10 are only marginally higher than in Week 9, and again there is variation among years but no clear pattern over time. 2005, 2013, and 2016 were the warmest years, with 2009 and 2019 the coolest. Week 10 is the wettest of spring, with a mean of nearly 30 mm of rain annually, and just two years (2005 and 2011) with less than 10 mm of rain.

Observations, Spring Week 10 (May 30 - June 5):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|---------------------------|---------------------------|----------------------------|---------------------------|----------------------------|
| Red-winged Blackbird (25) | Red-winged Blackbird (26) | Red-winged Blackbird (35) | Red-winged Blackbird (36) | Red-winged Blackbird (28) |
| Yellow Warbler (19) | Mallard (16) | American Crow (20) | American Crow (14) | Ring-billed Gull (14) |
| Ring-billed Gull (19) | Canada Goose (15) | Tree Swallow (16) | American Goldfinch (12) | American Crow (13) |
| Tree Swallow (17) | Yellow Warbler (15) | American Goldfinch (10) | Tree Swallow (12) | Tree Swallow (9) |
| American Crow (16) | Cedar Waxwing (13) | Cedar Waxwing (9) | Cedar Waxwing (11) | Yellow Warbler (9) |
| American Goldfinch (16) | American Goldfinch (13) | Yellow Warbler (9) | Yellow Warbler (10) | Cliff Swallow (8) |
| Song Sparrow (13) | Tree Swallow (10) | Common Yellowthroat (6) | Ring-billed Gull (9) | Cedar Waxwing (7) |
| Cedar Waxwing (12) | Song Sparrow (10) | Cliff Swallow (6) | Cliff Swallow (9) | Song Sparrow (7) |
| Common Grackle (8) | Ring-billed Gull (10) | Song Sparrow (6) | Song Sparrow (9) | American Goldfinch (6) |
| Baltimore Oriole (8) | American Crow (9) | Wood Duck (5) | European Starling (8) | Black-capped Chickadee (5) |
| 2010 | 2011 | 2012 | 2013 | 2014 |
| Red-winged Blackbird (22) | Canada Goose (36) | Red-winged Blackbird (32) | Red-winged Blackbird (32) | Ring-billed Gull (39) |
| Cedar Waxwing (13) | Red-winged Blackbird (32) | Cedar Waxwing (17) | Cedar Waxwing (19) | Red-winged Blackbird (29) |
| Tree Swallow (10) | Cedar Waxwing (26) | American Crow (15) | Yellow Warbler (13) | Cedar Waxwing (28) |
| Ring-billed Gull (9) | Ring-billed Gull (25) | Tree Swallow (8) | Cliff Swallow (12) | Song Sparrow (11) |
| American Crow (8) | American Crow (19) | Song Sparrow (8) | American Crow (9) | Yellow Warbler (10) |
| Yellow Warbler (7) | Yellow Warbler (10) | Yellow Warbler (8) | Blue Jay (9) | American Crow (10) |
| Song Sparrow (7) | Common Grackle (9) | Canada Goose (8) | Song Sparrow (8) | Cliff Swallow (10) |
| Baltimore Oriole (7) | Cliff Swallow (8) | Black-capped Chickadee (8) | Baltimore Oriole (7) | Tennessee Warbler (9) |
| American Goldfinch (7) | Tree Swallow (7) | American Goldfinch (7) | Common Yellowthroat (7) | American Goldfinch (8) |
| Cliff Swallow (5) | Baltimore Oriole (7) | House Wren (6) | American Goldfinch (6) | Common Grackle (8) |
| | Common Yellowthroat (7) | | Common Grackle (6) | |
| 2015 | 2016 | 2017 | 2018 | 2019 |
| Red-winged Blackbird (30) | Ring-billed Gull (42) | Red-winged Blackbird (22) | Red-winged Blackbird (20) | Ring-billed Gull (38) |
| American Crow (13) | Red-winged Blackbird (27) | Cedar Waxwing (17) | Ring-billed Gull (15) | Cedar Waxwing (35) |
| Cedar Waxwing (10) | American Goldfinch (15) | American Crow (13) | Cedar Waxwing (15) | Red-winged Blackbird (20) |
| American Goldfinch (9) | Cedar Waxwing (11) | American Goldfinch (11) | Canada Goose (11) | Yellow Warbler (12) |
| Cliff Swallow (8) | Cliff Swallow (9) | Yellow Warbler (11) | Tree Swallow (10) | Tree Swallow (12) |
| Common Yellowthroat (6) | Canada Goose (9) | Tree Swallow (10) | American Crow (7) | Cliff Swallow (11) |
| Yellow Warbler (6) | Yellow Warbler (8) | Ring-billed Gull (10) | American Goldfinch (7) | Song Sparrow (11) |
| Baltimore Oriole (5) | Tree Swallow (8) | Common Yellowthroat (9) | Cliff Swallow (6) | American Goldfinch (11) |
| Tree Swallow (5) | Song Sparrow (7) | Baltimore Oriole (7) | Song Sparrow (6) | Common Grackle (10) |
| Northern Cardinal (5) | Common Yellowthroat (7) | Red-eyed Vireo (6) | Common Grackle (6) | Tennessee Warbler (9) |
| | | Song Sparrow (6) | | |
| | | Common Grackle (6) | | |
| | | Tennessee Warbler (6) | | |
| | | Northern Cardinal (6) | | |

Banding notes: Week 10 includes only three days of banding; this reduced sample size compared to other weeks results in greater variability, such that 31 species have appeared within the top 10 list for the week between 2005 and 2019, only two of them more than 10 times (Cedar Waxwing in 14 years, and Traill’s Flycatcher in 13 years). At the opposite extreme, 13 species have been in the top 10 for the week in just one year, more than in any other part of spring. Despite the overall variability, Cedar Waxwing has been the top species in 8 of 15 years. Warblers have become more dominant over time, averaging fewer than three species per year from 2005 to 2009, compared to an average of five per year from 2015 to 2019.

Observation notes: 22 species have occurred on the Week 10 top 10 lists between 2005 and 2019, with only Red-winged Blackbird and Cedar Waxwing appearing in all 15 years. Red-winged Blackbird was the top species annually over the first six years, and again in five of the nine remaining years, but was outnumbered by Canada Goose in 2011 and by Ring-billed Gull in 2014, 2016, and 2019. Six species have been on the top 10 list just once in Week 9: Wood Duck (2007), Mallard (2006), Blue Jay (2013), Red-eyed Vireo (2017), House Wren (2012), and European Starling (2008). There is wide variety at this time of year, with no more than two species from any category in any year, except three blackbird species in 2005 and three warbler species in 2017.

Bandings, Spring Season (March 28 - June 5):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|---------------------------|----------------------------|----------------------------|----------------------------|---------------------------|
| American Goldfinch (111) | Red-winged Blackbird (169) | Red-winged Blackbird (155) | Red-winged Blackbird (114) | Tennessee Warbler (82) |
| Red-winged Blackbird (73) | Common Grackle (59) | Ruby-crowned Kinglet (52) | Ruby-crowned Kinglet (92) | Ruby-crowned Kinglet (73) |
| Cedar Waxwing (59) | Ruby-crowned Kinglet (58) | American Goldfinch (51) | White-thr. Sparrow (79) | Red-winged Blackbird (50) |
| Yellow Warbler (47) | Dark-eyed Junco (48) | Blackpoll Warbler (47) | Myrtle Warbler (47) | American Goldfinch (47) |
| Song Sparrow (30) | White-thr. Sparrow (42) | Myrtle Warbler (32) | American Goldfinch (41) | Yellow Warbler (43) |
| White-thr. Sparrow (29) | American Goldfinch (32) | Yellow Warbler (29) | Yellow Warbler (36) | Magnolia Warbler (41) |
| Myrtle Warbler (25) | Common Yellowthroat (25) | Baltimore Oriole (18) | White-cr. Sparrow (30) | Blackpoll Warbler (39) |
| Common Yellowthroat (22) | Magnolia Warbler (22) | Common Grackle (18) | Cedar Waxwing (29) | Myrtle Warbler (37) |
| Ruby-crowned Kinglet (20) | Myrtle Warbler (22) | Cedar Waxwing (17) | Common Yellowthroat (25) | White-thr. Sparrow (34) |
| Common Grackle (20) | Yellow Warbler (21) | Magnolia Warbler (17) | Blackpoll Warbler (24) | Common Yellowthroat (28) |
| | | | Wilson's Warbler (24) | Wilson's Warbler (28) |

| 2010 | 2011 | 2012 | 2013 | 2014 |
|---------------------------|---------------------------|----------------------------|---------------------------|---------------------------|
| Red-winged Blackbird (85) | Myrtle Warbler (102) | Red-winged Blackbird (116) | Red-winged Blackbird (83) | Cedar Waxwing (232) |
| Cedar Waxwing (72) | Tennessee Warbler (71) | Tennessee Warbler (94) | Magnolia Warbler (66) | Tennessee Warbler (142) |
| American Goldfinch (45) | Red-winged Blackbird (70) | Cedar Waxwing (77) | Tennessee Warbler (49) | Magnolia Warbler (82) |
| Ruby-crowned Kinglet (36) | White-thr. Sparrow (51) | White-thr. Sparrow (57) | Northern Waterthrush (43) | Ruby-crowned Kinglet (71) |
| Myrtle Warbler (30) | Cedar Waxwing (50) | Ruby-crowned Kinglet (54) | Yellow Warbler (43) | Red-winged Blackbird (63) |
| Song Sparrow (27) | Blackpoll Warbler (45) | American Goldfinch (51) | Fox Sparrow (42) | American Goldfinch (60) |
| Yellow Warbler (26) | Ruby-crowned Kinglet (43) | Myrtle Warbler (46) | White-thr. Sparrow (40) | Myrtle Warbler (56) |
| White-thr. Sparrow (22) | Dark-eyed Junco (36) | Magnolia Warbler (39) | Ruby-crowned Kinglet (39) | Northern Waterthrush (48) |
| White-cr. Sparrow (21) | American Robin (30) | Yellow Warbler (37) | Swamp Sparrow (26) | American Robin (44) |
| American Robin (17) | Common Yellowthroat (30) | Northern Waterthrush (28) | Common Yellowthroat (23) | White-thr. Sparrow (40) |
| Common Yellowthroat (17) | Yellow Warbler (30) | | Myrtle Warbler (23) | Common Yellowthroat (40) |

| 2015 | 2016 | 2017 | 2018 | 2019 |
|---------------------------|---------------------------|----------------------------|---------------------------|----------------------------|
| Tennessee Warbler (111) | White-thr. Sparrow (138) | Tennessee Warbler (211) | Tennessee Warbler (141) | Magnolia Warbler (173) |
| Magnolia Warbler (87) | Tennessee Warbler (101) | Ruby-crowned Kinglet (147) | Cedar Waxwing (122) | Myrtle Warbler (171) |
| Myrtle Warbler (69) | Ruby-crowned Kinglet (97) | White-thr. Sparrow (110) | Myrtle Warbler (108) | Tennessee Warbler (166) |
| Ruby-crowned Kinglet (68) | American Goldfinch (64) | Magnolia Warbler (57) | Magnolia Warbler (88) | White-thr. Sparrow (114) |
| Cedar Waxwing (61) | Red-winged Blackbird (55) | American Goldfinch (46) | Red-winged Blackbird (69) | Ruby-crowned Kinglet (107) |
| Red-winged Blackbird (57) | Myrtle Warbler (45) | Cedar Waxwing (38) | Ruby-crowned Kinglet (65) | Yellow Warbler (70) |
| Fox Sparrow (47) | Magnolia Warbler (42) | Yellow Warbler (37) | American Goldfinch (43) | Northern Waterthrush (61) |
| Dark-eyed Junco (42) | Northern Waterthrush (37) | Red-winged Blackbird (36) | Yellow Warbler (40) | Common Yellowthroat (59) |
| Northern Waterthrush (42) | American Robin (36) | Common Yellowthroat (36) | Common Grackle (39) | Wilson's Warbler (54) |
| American Goldfinch (40) | Yellow Warbler (36) | Northern Waterthrush (29) | White-thr. Sparrow (35) | American Redstart (53) |

| WEATHER | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Mean high (°C) | 15.7 | 16.7 | 15.2 | 15.3 | 15.5 | 18.0 | 15.0 | 16.1 | 16.2 | 15.2 | 16.4 | 15.3 | 14.9 | 15.0 | 13.0 | 15.6 |
| Mean low (°C) | 5.0 | 5.9 | 4.8 | 4.6 | 4.7 | 7.2 | 5.5 | 6.1 | 5.5 | 5.4 | 5.4 | 4.4 | 5.8 | 4.8 | 4.1 | 5.3 |
| High temp (°C) | 30 | 31 | 31 | 26 | 29 | 35 | 29 | 31 | 32 | 30 | 31 | 32 | 30 | 30 | 24 | 30.1 |
| Low temp (°C) | -4 | -6 | -5 | -11 | -6 | -3 | -6 | -6 | -7 | -7 | -10 | -10 | -2 | -10 | -7 | -6.7 |
| # days with rain | 28 | 35 | 27 | 29 | 31 | 28 | 39 | 44 | 29 | 34 | 26 | 26 | 37 | 35 | 41 | 32.6 |
| Total rain (mm) | 214 | 295 | 154 | 158 | 194 | 163 | 274 | 189 | 176 | 263 | 171 | 209 | 333 | 192 | 235 | 214.7 |
| # days snowfall | 0 | 1 | 10 | 3 | 2 | 0 | 10 | 8 | 2 | 3 | 4 | 4 | 2 | 6 | 6 | 4.1 |
| Total snow (cm) | 0 | 8 | 62 | 10 | 1 | 0 | 6 | 3 | 14 | 20 | 9 | 14 | 6 | 9 | 15 | 11.8 |

Weather notes: At a seasonal scale, there is only modest variability in temperatures among years, reflecting that at the weekly level there is greater fluctuation. Overall, only 2010 was considerably warmer than average, and 2019 was the lone year with a mean daily high more than one degree Celsius cooler than the 15-year average (and by a large margin). The full season mean high temperature has been at least slightly below average for the past four years, likely reflecting the increasing frequency of cold weather during the first few weeks of the season. The number of days with rain has varied considerably, from a low of 26 in 2016 to a maximum of 44 in 2012. However, this is poorly correlated with total rainfall, which tends to be influenced heavily by individual weeks with high amounts. 2017 was the wettest spring, followed by 2006 and 2011, whereas 2007 and 2008 were the driest.

Observations, Spring Season (March 28 - June 5):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Canada Goose (83) | Canada Goose (401) | Canada Goose (237) | Canada Goose (190) | Canada Goose (119) |
| Red-winged Blackbird (25) | Snow Goose (64) | Snow Goose (88) | Snow Goose (47) | Snow Goose (48) |
| Cedar Waxwing (20) | Ring-billed Gull (52) | Red-winged Blackbird (62) | Red-winged Blackbird (46) | Red-winged Blackbird (34) |
| Ring-billed Gull (20) | Red-winged Blackbird (44) | American Crow (23) | Ring-billed Gull (19) | Ring-billed Gull (25) |
| Song Sparrow (14) | American Crow (26) | Ring-billed Gull (15) | American Crow (17) | American Crow (17) |
| Tree Swallow (14) | Mallard (17) | Tree Swallow (14) | Cliff Swallow (11) | American Robin (11) |
| American Crow (14) | Song Sparrow (14) | Song Sparrow (11) | Song Sparrow (10) | Song Sparrow (10) |
| American Goldfinch (11) | Common Grackle (13) | American Goldfinch (11) | Tree Swallow (10) | Cliff Swallow (10) |
| American Robin (8) | American Robin (13) | American Robin (10) | Common Grackle (8) | Tree Swallow (9) |
| Black-capped Chickadee (8) | American Goldfinch (12) | Black-capped Chickadee (9) | American Goldfinch (8) | Black-capped Chickadee (8) |
| 2010 | 2011 | 2012 | 2013 | 2014 |
| Canada Goose (77) | Canada Goose (157) | Canada Goose (112) | Canada Goose (126) | Canada Goose (116) |
| Red-winged Blackbird (37) | Snow Goose (56) | Red-winged Blackbird (49) | Red-winged Blackbird (48) | Red-winged Blackbird (44) |
| American Crow (19) | Red-winged Blackbird (43) | American Crow (25) | Ring-billed Gull (23) | Cedar Waxwing (44) |
| Cedar Waxwing (17) | American Crow (18) | Ring-billed Gull (15) | American Crow (15) | Ring-billed Gull (42) |
| Ring-billed Gull (13) | Cedar Waxwing (17) | American Robin (14) | Black-capped Chickadee (12) | American Robin (15) |
| Cliff Swallow (12) | Ring-billed Gull (16) | Black-capped Chickadee (13) | Song Sparrow (11) | Song Sparrow (13) |
| Tree Swallow (11) | Bohemian Waxwing (12) | Song Sparrow (11) | Snow Goose (10) | American Crow (11) |
| Black-capped Chickadee (10) | Black-capped Chickadee (12) | Mallard (10) | Blue Jay (7) | Black-capped Chickadee (10) |
| American Goldfinch (9) | Dark-eyed Junco (11) | Cedar Waxwing (10) | American Robin (7) | American Goldfinch (7) |
| Song Sparrow (9) | American Robin (10) | Wood Duck (10) | Common Grackle (7) | Snow Goose (6) |
| 2015 | 2016 | 2017 | 2018 | 2019 |
| Canada Goose (103) | Canada Goose (87) | Canada Goose (111) | Canada Goose (100) | Canada Goose (95) |
| Snow Goose (60) | Ring-billed Gull (72) | Red-winged Blackbird (29) | Red-winged Blackbird (24) | Red-winged Blackbird (28) |
| Red-winged Blackbird (41) | Red-winged Blackbird (35) | Ring-billed Gull (22) | Ring-billed Gull (20) | Ring-billed Gull (20) |
| Ring-billed Gull (17) | American Robin (21) | American Crow (18) | Cedar Waxwing (17) | Cedar Waxwing (14) |
| American Crow (15) | Snow Goose (19) | White-thr. Sparrow (13) | Tree Swallow (10) | Tree Swallow (13) |
| Black-capped Chickadee (10) | American Goldfinch (13) | Black-capped Chickadee (10) | American Crow (9) | Song Sparrow (12) |
| Cliff Swallow (9) | Song Sparrow (12) | Tree Swallow (9) | Black-capped Chickadee (9) | American Robin (10) |
| Common Grackle (8) | White-thr. Sparrow (11) | American Goldfinch (9) | Song Sparrow (8) | Black-capped Chickadee (9) |
| Dark-eyed Junco (8) | American Crow (10) | Ruby-crowned Kinglet (8) | American Goldfinch (8) | White-thr. Sparrow (9) |
| Cedar Waxwing (8) | Black-capped Chickadee (10) | Song Sparrow (8) | Northern Cardinal (7) | Myrtle Warbler (8) |

Banding notes: 22 species have been among the annual top 10 banded for entire spring seasons between 2005 and 2019, with only Ruby-crowned Kinglet on that list in all 15 years, ranking as high as second place from 2007 through 2009 and again in 2017, and as low as ninth in 2005. American Goldfinch, White-throated Sparrow, Red-winged Blackbird, Yellow Warbler, and Myrtle Warbler have all been in the season-long top 10 at least in at least 12 years. Seven species have topped the list in at least one year, with only Red-winged Blackbird (6 years) and Tennessee Warbler (4 years) doing so multiple times. Three species only reached the top 10 banded for spring in one year: Swamp Sparrow (2013), Baltimore Oriole (2007), and American Redstart (2019). On average, warblers have accounted for just under 5 entries per year, ranging from a low of 3 in 2010 to a high of 8 in 2019. Sparrows ranged from 0 in 2007 to 3 in 2010. Red-winged Blackbird topped the season list 6 times, followed by Tennessee Warbler 4 times; 5 other species were most numerous in a single year each.

Observation notes: 22 species have occurred on the spring season total top 10 list between 2005 and 2019, with Canada Goose, Ring-billed Gull, and Red-winged Blackbird included in all 15 years; American Crow, Black-capped Chickadee, and Song Sparrow each cracked the top ten in at least 13 years. In all 15 years, Canada Goose outnumbered all other species over the course of the season, often by a wide margin. Snow Goose was second-most abundant five times out of the first seven years, but only once more since (in 2015); Red-winged Blackbird has been in second place the past three years, and eight times overall. Six species were among the top 10 observed for all of spring in just a single year: Wood Duck (2012), Blue Jay (2013), Ruby-crowned Kinglet (2017), Bohemian Waxwing (2011), Myrtle Warbler (2019), and Northern Cardinal (2018).

Bandings, Fall Week 1 (August 1 - 7):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| Song Sparrow (17) | Song Sparrow (34) | Song Sparrow (57) | Yellow Warbler (24) | Song Sparrow (25) |
| Black-capped Chickadee (9) | Yellow Warbler (23) | Yellow Warbler (27) | Song Sparrow (21) | Yellow Warbler (25) |
| Yellow Warbler (6) | Baltimore Oriole (14) | Baltimore Oriole (17) | Baltimore Oriole (16) | Rose-breast. Grosbeak (16) |
| American Robin (4) | Gray Catbird (8) | Rose-breast. Grosbeak (14) | Rose-breast. Grosbeak (15) | American Redstart (15) |
| Gray Catbird (4) | Rose-breast. Grosbeak (8) | House Wren (11) | Gray Catbird (12) | House Wren (13) |
| Swamp Sparrow (4) | Black-capped Chickadee (6) | Swamp Sparrow (10) | Traill's Flycatcher (10) | Cedar Waxwing (12) |
| White-thr. Sparrow (3) | Downy Woodpecker (5) | American Redstart (9) | Black-capped Chickadee (9) | American Robin (11) |
| Tennessee Warbler (3) | Traill's Flycatcher (5) | Black-capped Chickadee (7) | Tennessee Warbler (9) | White-thr. Sparrow (11) |
| | Tennessee Warbler (5) | Nashville Warbler (7) | White-thr. Sparrow (8) | Red-eyed Vireo (10) |
| | House Wren (4) | Cedar Waxwing (6) | Common Yellowthroat (7) | Gray Catbird (10) |
| | American Robin (4) | Common Yellowthroat (6) | | |
| | Cedar Waxwing (4) | | | |
| | White-thr. Sparrow (4) | | | |
| | Swamp Sparrow (4) | | | |
| | Ovenbird (4) | | | |

| 2010 | 2011 | 2012 | 2013 | 2014 |
|-----------------------------|-----------------------------|-----------------------------|----------------------------|-----------------------------|
| Song Sparrow (34) | Yellow Warbler (52) | Song Sparrow (56) | Song Sparrow (95) | American Redstart (29) |
| Yellow Warbler (29) | Song Sparrow (31) | Yellow Warbler (31) | Cedar Waxwing (56) | Song Sparrow (26) |
| American Redstart (22) | American Redstart (20) | Common Yellowthroat (28) | Yellow Warbler (19) | Gray Catbird (18) |
| American Robin (17) | Cedar Waxwing (14) | American Redstart (23) | Gray Catbird (13) | Red-eyed Vireo (16) |
| Cedar Waxwing (15) | Nashville Warbler (12) | Red-eyed Vireo (13) | American Redstart (10) | Black-capped Chickadee (11) |
| Black-capped Chickadee (13) | Black-capped Chickadee (10) | Cedar Waxwing (13) | Red-eyed Vireo (9) | American Robin (8) |
| Rose-breast. Grosbeak (13) | American Robin (9) | White-thr. Sparrow (11) | Black-capped Chickadee (8) | Northern Waterthrush (7) |
| Red-eyed Vireo (12) | Common Yellowthroat (9) | Black-capped Chickadee (10) | Common Yellowthroat (8) | Tennessee Warbler (7) |
| Common Yellowthroat (11) | Baltimore Oriole (8) | Gray Catbird (10) | Rose-breast. Grosbeak (8) | Yellow Warbler (7) |
| Tennessee Warbler (10) | Tennessee Warbler (8) | Baltimore Oriole (8) | Downy Woodpecker (6) | Rose-breast. Grosbeak (7) |
| | Blk-thr. Blue Warbler (8) | | American Robin (6) | |
| | | | Swamp Sparrow (6) | |

| 2015 | 2016 | 2017 | 2018 | 2019 |
|----------------------------|----------------------------|-----------------------------|----------------------------|---------------------------|
| American Redstart (34) | American Redstart (53) | American Redstart (54) | Song Sparrow (57) | American Redstart (36) |
| Song Sparrow (30) | Song Sparrow (36) | Song Sparrow (22) | American Redstart (53) | Song Sparrow (29) |
| Gray Catbird (17) | Rose-breast. Grosbeak (22) | Gray Catbird (20) | Gray Catbird (24) | Yellow Warbler (26) |
| Ovenbird (13) | Baltimore Oriole (19) | Cedar Waxwing (16) | Purple Finch (23) | Red-eyed Vireo (18) |
| Yellow Warbler (12) | Yellow Warbler (18) | Red-eyed Vireo (13) | Baltimore Oriole (23) | Ovenbird (12) |
| Common Yellowthroat (9) | Gray Catbird (14) | Baltimore Oriole (12) | Rose-breast. Grosbeak (18) | House Wren (10) |
| Red-eyed Vireo (8) | Red-eyed Vireo (13) | Yellow Warbler (12) | Ovenbird (17) | Eastern Phoebe (7) |
| Veery (7) | Ovenbird (9) | Black-capped Chickadee (11) | Tennessee Warbler (12) | Veery (7) |
| Black-capped Chickadee (6) | White-thr. Sparrow (8) | Common Yellowthroat (10) | Cape May Warbler (12) | Gray Catbird (6) |
| Northern Waterthrush (6) | House Wren (6) | Rose-breast. Grosbeak (10) | Red-eyed Vireo (9) | Rose-breast. Grosbeak (6) |
| Blk-and-white Warbler (6) | Swainson's Thrush (6) | | House Wren (9) | |
| | Common Yellowthroat (6) | | Cedar Waxwing (9) | |
| | | | Common Yellowthroat (9) | |
| | | | Yellow Warbler (9) | |

| WEATHER | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Mean high (°C) | 28.7 | 28.5 | 27.4 | 24.1 | 24.5 | 25.6 | 27.9 | 29.3 | 24.7 | 26.2 | 24.8 | 29.8 | 26.4 | 28.8 | 27.8 | 27.0 |
| Mean low (°C) | 17.8 | 17.4 | 17.1 | 16.8 | 16.1 | 15.5 | 17.7 | 19.2 | 15.1 | 16.3 | 15.6 | 18.9 | 16.5 | 21.3 | 16.2 | 17.2 |
| High temp (°C) | 32 | 34 | 33 | 27 | 28 | 29 | 31 | 33 | 27 | 28 | 27 | 34 | 30 | 32 | 31 | 30.4 |
| Low temp (°C) | 15 | 13 | 12 | 16 | 11 | 10 | 16 | 16 | 11 | 15 | 12 | 17 | 13 | 20 | 11 | 13.9 |
| # days with rain | 4 | 5 | 2 | 4 | 3 | 4 | 4 | 4 | 5 | 3 | 3 | 0 | 2 | 4 | 1 | 3.2 |
| Total rain (mm) | 22 | 74 | 38 | 42 | 27 | 82 | 34 | 17 | 12 | 8 | 12 | 0 | 35 | 17 | 1 | 28.1 |

Weather notes: The hottest ever start to fall in 2012 was followed by the coolest in 2013. Overall though, temperatures vary relatively little from year to year. Precipitation fluctuates more, with 2006 and 2010 being exceptionally wet, whereas seven of the past eight years have been drier than average.

Observations, Fall Week 1 (August 1 - 7):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Song Sparrow (21) | Red-winged Blackbird (120) | Red-winged Blackbird (71) | American Goldfinch (17) | Common Grackle (42) |
| Black-capped Chickadee (18) | Song Sparrow (35) | Song Sparrow (25) | American Robin (16) | Black-capped Chickadee (14) |
| American Goldfinch (15) | American Goldfinch (20) | American Goldfinch (23) | Red-winged Blackbird (15) | American Robin (14) |
| Red-winged Blackbird (10) | Cedar Waxwing (18) | Common Grackle (19) | Song Sparrow (14) | Cedar Waxwing (13) |
| American Robin (10) | Black-capped Chickadee (15) | Black-capped Chickadee (16) | American Crow (13) | Song Sparrow (12) |
| Yellow Warbler (8) | American Robin (13) | Cedar Waxwing (14) | Black-capped Chickadee (11) | American Goldfinch (12) |
| Cedar Waxwing (6) | Common Grackle (13) | American Crow (13) | Common Grackle (9) | House Wren (8) |
| American Crow (5) | American Crow (12) | American Robin (11) | Cedar Waxwing (9) | Yellow Warbler (7) |
| Blue Jay (4) | Yellow Warbler (10) | Yellow Warbler (8) | Gray Catbird (7) | Red-winged Blackbird (6) |
| Common Grackle (4) | European Starling (10) | Baltimore Oriole (8) | Blue Jay (7) | Gray Catbird (6) |
| 2010 | 2011 | 2012 | 2013 | 2014 |
| Cedar Waxwing (25) | Red-winged Blackbird (27) | American Crow (21) | Cedar Waxwing (37) | American Robin (27) |
| American Robin (22) | Cedar Waxwing (24) | American Goldfinch (21) | Song Sparrow (37) | Black-capped Chickadee (20) |
| Black-capped Chickadee (19) | Yellow Warbler (18) | Cedar Waxwing (20) | American Robin (29) | American Goldfinch (16) |
| Song Sparrow (16) | Black-capped Chickadee (18) | American Robin (18) | American Crow (21) | Song Sparrow (16) |
| Common Grackle (13) | American Robin (17) | Black-capped Chickadee (16) | American Goldfinch (18) | Common Grackle (13) |
| American Crow (12) | Song Sparrow (14) | Song Sparrow (13) | Black-capped Chickadee (16) | Blue Jay (12) |
| American Goldfinch (9) | Common Grackle (14) | Red-winged Blackbird (13) | Blue Jay (10) | Cedar Waxwing (11) |
| Red-winged Blackbird (9) | American Goldfinch (13) | Yellow Warbler (11) | Common Grackle (9) | American Crow (11) |
| Indigo Bunting (8) | American Crow (12) | Common Yellowthroat (10) | Gray Catbird (7) | Red-winged Blackbird (9) |
| Yellow Warbler (7) | Common Yellowthroat (8) | Common Grackle (7) | Red-winged Blackbird (7) | American Redstart (8) |
| 2015 | 2016 | 2017 | 2018 | 2019 |
| Common Grackle (22) | American Goldfinch (22) | Black-capped Chickadee (14) | American Crow (21) | American Goldfinch (13) |
| American Crow (21) | Cedar Waxwing (18) | Cedar Waxwing (14) | Song Sparrow (14) | American Robin (13) |
| American Robin (19) | Common Grackle (17) | American Goldfinch (14) | Cedar Waxwing (12) | Black-capped Chickadee (12) |
| Cedar Waxwing (14) | American Robin (15) | Common Grackle (12) | American Redstart (12) | Song Sparrow (11) |
| American Goldfinch (12) | American Redstart (15) | American Redstart (12) | American Robin (10) | Red-eyed Vireo (10) |
| Song Sparrow (12) | Song Sparrow (14) | American Robin (11) | American Goldfinch (10) | House Wren (10) |
| Black-capped Chickadee (11) | Black-capped Chickadee (14) | Song Sparrow (11) | Northern Cardinal (8) | Blue Jay (10) |
| Blue Jay (10) | Red-winged Blackbird (14) | Red-eyed Vireo (10) | Red-eyed Vireo (8) | Cedar Waxwing (9) |
| Gray Catbird (9) | Red-eyed Vireo (14) | Northern Cardinal (8) | Black-capped Chickadee (8) | American Redstart (9) |
| American Redstart (9) | Baltimore Oriole (12) | Gray Catbird (7) | Gray Catbird (8) | Northern Cardinal (8) |
| | | | Baltimore Oriole (8) | |
| | | | Common Grackle (8) | |

Banding notes: 27 species have been among the annual top 10 banded in Week 1 of fall, with only Song Sparrow and Yellow Warbler included annually. Song Sparrow has been the top species for the week eight times. Yellow Warbler was among the top three species annually from 2005 through 2013, but has ranked fifth or lower in every year since. Conversely, American Redstart was on the top 10 only twice in the first five years, but has ranked first in five of six years since 2014, the only exception being in 2018 when there were slightly more Song Sparrows. This is the only week of fall during which Eastern Phoebe has been in the top 10 (once, in 2019). Ten warbler species have appeared on the Week 1 list, and warblers account for just over one-third of all entries across the years.

Observation notes: Only 18 species have occurred on the Week 1 top 10 lists between 2005 and 2019, fewer than any other week in the first half of fall. Half of the list has been occupied by the same five species every year: Black-capped Chickadee, American Robin, Cedar Waxwing, American Goldfinch, and Song Sparrow. However, eight species have topped the list over the years, with only American Goldfinch managing to do so three times. European Starling is the only species to appear in the top 10 for Week 1 just once, in 2006.

Bandings, Fall Week 2 (August 8 - 14):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|----------------------------|----------------------------|----------------------------|----------------------------|---------------------------|
| Yellow Warbler (19) | Song Sparrow (78) | Song Sparrow (20) | American Redstart (21) | Song Sparrow (32) |
| Nashville Warbler (18) | Baltimore Oriole (25) | American Redstart (15) | Baltimore Oriole (14) | Yellow Warbler (18) |
| Song Sparrow (17) | Rose-breast. Grosbeak (17) | Traill's Flycatcher (10) | Traill's Flycatcher (13) | Gray Catbird (11) |
| American Redstart (13) | Yellow Warbler (14) | Downy Woodpecker (9) | Red-eyed Vireo (12) | White-thr. Sparrow (11) |
| Indigo Bunting (13) | Cedar Waxwing (6) | Yellow Warbler (9) | Song Sparrow (12) | American Redstart (10) |
| Rose-breast. Grosbeak (11) | Ovenbird (6) | Red-eyed Vireo (8) | Canada Warbler (10) | Traill's Flycatcher (8) |
| Red-eyed Vireo (7) | American Redstart (6) | Black-capped Chickadee (7) | Rose-breast. Grosbeak (8) | Common Yellowthroat (5) |
| Tennessee Warbler (7) | Canada Warbler (6) | Gray Catbird (7) | Black-capped Chickadee (7) | Rose-breast. Grosbeak (5) |
| Gray Catbird (6) | Traill's Flycatcher (4) | Cedar Waxwing (5) | Ovenbird (7) | Red-eyed Vireo (4) |
| White-thr. Sparrow (6) | Northern Waterthrush (4) | Nashville Warbler (5) | Yellow-bel. Flycatcher (6) | House Wren (4) |
| Swamp Sparrow (6) | Chest.-sided Warbler (4) | Common Yellowthroat (5) | American Robin (6) | Chest.-sided Warbler (4) |
| Baltimore Oriole (6) | Indigo Bunting (4) | | | |

| 2010 | 2011 | 2012 | 2013 | 2014 |
|----------------------------|----------------------------|--------------------------|----------------------------|----------------------------|
| Song Sparrow (49) | American Redstart (22) | American Redstart (39) | Song Sparrow (33) | American Redstart (38) |
| Common Yellowthroat (14) | Song Sparrow (16) | Song Sparrow (37) | American Redstart (22) | Song Sparrow (20) |
| American Redstart (14) | Yellow Warbler (15) | Traill's Flycatcher (15) | Cedar Waxwing (10) | Gray Catbird (15) |
| Yellow Warbler (10) | Common Yellowthroat (10) | Baltimore Oriole (11) | Black-capped Chickadee (9) | American Robin (8) |
| Red-eyed Vireo (9) | Cedar Waxwing (7) | Cedar Waxwing (10) | Common Yellowthroat (9) | Red-eyed Vireo (6) |
| Indigo Bunting (8) | Ovenbird (6) | Common Yellowthroat (10) | Ovenbird (8) | Black-capped Chickadee (6) |
| Cedar Waxwing (7) | Tennessee Warbler (6) | Red-eyed Vireo (9) | Traill's Flycatcher (7) | Cedar Waxwing (6) |
| Tennessee Warbler (6) | Traill's Flycatcher (5) | Swainson's Thrush (9) | Red-eyed Vireo (7) | White-thr. Sparrow (6) |
| Downy Woodpecker (5) | Baltimore Oriole (5) | Yellow Warbler (9) | Rose-breast. Grosbeak (7) | Tennessee Warbler (6) |
| Traill's Flycatcher (5) | Red-eyed Vireo (4) | Gray Catbird (8) | Canada Warbler (5) | Common Yellowthroat (6) |
| Black-capped Chickadee (5) | Black-capped Chickadee (4) | | | Rose-breast. Grosbeak (6) |
| Veery (5) | Rose-breast. Grosbeak (4) | | | |
| Ovenbird (5) | | | | |

| 2015 | 2016 | 2017 | 2018 | 2019 |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| American Redstart (28) | American Redstart (29) | American Redstart (44) | American Redstart (69) | American Redstart (40) |
| Swainson's Thrush (14) | Baltimore Oriole (13) | Song Sparrow (17) | Song Sparrow (44) | Yellow Warbler (24) |
| Rose-breast. Grosbeak (8) | Song Sparrow (12) | Red-eyed Vireo (12) | Red-eyed Vireo (17) | Song Sparrow (16) |
| Black-capped Chickadee (7) | Red-eyed Vireo (10) | Gray Catbird (10) | Baltimore Oriole (17) | Ovenbird (12) |
| Gray Catbird (7) | Cedar Waxwing (9) | Ovenbird (9) | Rose-breast. Grosbeak (17) | Red-eyed Vireo (8) |
| Ovenbird (7) | Rose-breast. Grosbeak (8) | Swainson's Thrush (8) | Ovenbird (16) | Northern Waterthrush (8) |
| Song Sparrow (6) | Gray Catbird (5) | Northern Waterthrush (8) | Swainson's Thrush (11) | Ruby-th. Hummingbird (6) |
| Blk-and-white Warbler (6) | Tennessee Warbler (5) | Yellow Warbler (7) | Veery (9) | Yellow-bel. Flycatcher (6) |
| Cedar Waxwing (5) | Traill's Flycatcher (4) | Black-capped Chickadee (6) | Common Yellowthroat (9) | Traill's Flycatcher (6) |
| Common Yellowthroat (5) | Black-capped Chickadee (4) | Cedar Waxwing (6) | Cedar Waxwing (8) | Gray Catbird (6) |
| Yellow Warbler (5) | House Wren (4) | | Cape May Warbler (8) | Rose-breast. Grosbeak (6) |
| Canada Warbler (5) | American Robin (4) | | Chest.-sided Warbler (8) | |
| | Blk-and-white Warbler (4) | | | |
| | Yellow Warbler (4) | | | |

| WEATHER | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Mean high (°C) | 28.4 | 23.4 | 26.0 | 23.5 | 27.1 | 26.4 | 26.4 | 26.0 | 24.7 | 25.8 | 24.2 | 28.0 | 25.8 | 28.2 | 25.8 | 26.0 |
| Mean low (°C) | 19.2 | 12.4 | 15.3 | 14.6 | 16.7 | 16.9 | 17.2 | 18.2 | 16.2 | 15.8 | 15.6 | 17.6 | 16.4 | 18.7 | 16.1 | 16.5 |
| High temp (°C) | 31 | 25 | 29 | 26 | 30 | 29 | 28 | 29 | 28 | 30 | 27 | 33 | 28 | 30 | 29 | 28.8 |
| Low temp (°C) | 18 | 9 | 12 | 12 | 9 | 14 | 15 | 16 | 13 | 12 | 13 | 16 | 13 | 16 | 14 | 13.5 |
| # days with rain | 3 | 2 | 2 | 3 | 2 | 1 | 5 | 6 | 3 | 2 | 4 | 3 | 2 | 3 | 4 | 3.0 |
| Total rain (mm) | 7 | 8 | 1 | 19 | 7 | 20 | 69 | 27 | 21 | 47 | 80 | 52 | 8 | 17 | 26 | 27.3 |

Weather notes: Mean temperatures in Week 2 are already nearly 1 degree Celsius cooler than in Week 1, but remain consistently warm, with only a 5-degree span in mean high temperatures from the coldest year (2006) to the warmest (2005). As in Week 1, Week 2 has had two years with particularly high rainfall, in this case 2011, and 2015, offset by a number of others with very little (five years with <10 mm of rain).

Observations, Fall Week 2 (August 8 - 14):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| American Crow (27) | Song Sparrow (47) | American Crow (26) | Common Grackle (23) | Common Grackle (18) |
| Red-winged Blackbird (26) | Red-winged Blackbird (35) | American Goldfinch (23) | American Crow (17) | American Crow (17) |
| Black-capped Chickadee (18) | American Goldfinch (22) | Cedar Waxwing (18) | Black-capped Chickadee (15) | Black-capped Chickadee (16) |
| American Goldfinch (15) | American Crow (22) | Song Sparrow (18) | American Goldfinch (15) | American Goldfinch (13) |
| Song Sparrow (13) | American Robin (18) | American Robin (15) | Cedar Waxwing (14) | Song Sparrow (13) |
| American Robin (10) | Cedar Waxwing (17) | Black-capped Chickadee (15) | Blue Jay (12) | Cedar Waxwing (11) |
| Blue Jay (7) | Baltimore Oriole (16) | Common Grackle (14) | American Robin (11) | Canada Goose (9) |
| Yellow Warbler (6) | Black-capped Chickadee (16) | Red-winged Blackbird (11) | Song Sparrow (9) | American Robin (9) |
| Nashville Warbler (6) | Blue Jay (11) | Ring-billed Gull (7) | Canada Goose (7) | House Wren (8) |
| Ruby-th. Hummingbird (5) | Common Grackle (10) | Gray Catbird (6) | Gray Catbird (6) | Gray Catbird (8) |

| 2010 | 2011 | 2012 | 2013 | 2014 |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| American Crow (20) | Red-winged Blackbird (31) | Common Grackle (69) | Cedar Waxwing (30) | American Robin (22) |
| Black-capped Chickadee (18) | Cedar Waxwing (24) | American Goldfinch (24) | Song Sparrow (22) | Cedar Waxwing (16) |
| Song Sparrow (13) | Black-capped Chickadee (18) | Cedar Waxwing (22) | Black-capped Chickadee (20) | Common Grackle (16) |
| American Goldfinch (12) | American Crow (17) | Song Sparrow (18) | American Goldfinch (18) | American Goldfinch (16) |
| Cedar Waxwing (10) | American Robin (16) | Black-capped Chickadee (17) | American Robin (14) | Black-capped Chickadee (14) |
| Common Grackle (8) | Song Sparrow (13) | American Crow (16) | American Crow (13) | Blue Jay (11) |
| American Robin (8) | American Goldfinch (12) | American Robin (15) | Blue Jay (7) | Song Sparrow (10) |
| Gray Catbird (6) | Yellow Warbler (10) | Canada Goose (12) | American Redstart (7) | American Redstart (10) |
| Northern Cardinal (6) | Common Grackle (9) | European Starling (10) | Northern Cardinal (7) | Red-eyed Vireo (8) |
| Indigo Bunting (6) | Common Yellowthroat (7) | Baltimore Oriole (7) | Gray Catbird (5) | Red-winged Blackbird (7) |

| 2015 | 2016 | 2017 | 2018 | 2019 |
|-----------------------------|-----------------------------|----------------------------|-----------------------------|-----------------------------|
| American Crow (19) | American Goldfinch (23) | Common Grackle (28) | American Crow (19) | American Robin (16) |
| American Goldfinch (17) | American Crow (22) | American Robin (24) | American Robin (19) | Canada Goose (13) |
| Cedar Waxwing (14) | Common Grackle (17) | Cedar Waxwing (16) | Cedar Waxwing (16) | American Goldfinch (13) |
| Black-capped Chickadee (11) | Cedar Waxwing (17) | American Goldfinch (16) | American Redstart (16) | Black-capped Chickadee (12) |
| American Redstart (11) | American Robin (14) | American Redstart (12) | American Goldfinch (16) | Blue Jay (12) |
| Blue Jay (10) | American Redstart (11) | American Crow (10) | Song Sparrow (13) | American Crow (12) |
| American Robin (10) | Red-eyed Vireo (11) | Red-eyed Vireo (10) | Common Grackle (13) | Red-eyed Vireo (11) |
| Common Grackle (8) | Black-capped Chickadee (10) | Black-capped Chickadee (9) | Red-winged Blackbird (13) | American Redstart (11) |
| Gray Catbird (8) | European Starling (10) | Blue Jay (7) | Black-capped Chickadee (11) | Song Sparrow (11) |
| European Starling (7) | Ring-billed Gull (9) | Red-winged Blackbird (7) | Red-eyed Vireo (10) | Cedar Waxwing (10) |

Banding notes: 28 species have been among the annual top 10 banded in Week 2 of fall, with only Song Sparrow and American Redstart included annually. Yellow Warbler was the top species in 2005, but since then it has always been either Song Sparrow (five times between 2006 and 2013) or American Redstart (2008, 2011, 2012, and 2014 through 2019). Three species have appeared in the top 10 of Week 2 just once: Ruby-throated Hummingbird (2019), Swamp Sparrow (2005), and Cape May Warbler (2018). Ten warbler species have appeared on the Week 2 list, and warblers comprise 37% of all entries across the years.

Observation notes: 23 species have occurred on the Week 2 top 10 lists between 2005 and 2019, tied for Weeks 3 and 7 for the most in fall. Three species have appeared annually: Black-capped Chickadee, American Robin, and American Goldfinch; American Crow, Cedar Waxwing, Song Sparrow, and Common Grackle have also been included in at least 12 of 15 years. American Crow has topped the list more times than any other (five), followed by Common Grackle (four). Five species have appeared in the top 10 for Week 2 just once: Ruby-throated Hummingbird (2005), House Wren (2009), Nashville Warbler (2005), Common Yellowthroat (2011), and Indigo Bunting (2010).

Bandings, Fall Week 3 (August 15 - 21):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|----------------------------|-------------------------|----------------------------|---------------------------|----------------------------|
| Song Sparrow (23) | Song Sparrow (49) | American Redstart (12) | American Redstart (22) | Song Sparrow (37) |
| Baltimore Oriole (7) | Baltimore Oriole (18) | Song Sparrow (9) | Magnolia Warbler (12) | American Redstart (20) |
| American Redstart (7) | Magnolia Warbler (12) | Common Yellowthroat (8) | Song Sparrow (11) | Blk-and-white Warbler (10) |
| Magnolia Warbler (7) | Ovenbird (8) | Rose-breast. Grosbeak (8) | Chest.-sided Warbler (10) | Common Yellowthroat (10) |
| Yellow Warbler (7) | Nashville Warbler (7) | Yellow Warbler (6) | Baltimore Oriole (9) | Red-eyed Vireo (9) |
| Canada Warbler (6) | American Redstart (6) | Red-eyed Vireo (5) | Common Yellowthroat (9) | Gray Catbird (9) |
| Rose-breast. Grosbeak (6) | Common Yellowthroat (5) | Mourning Warbler (5) | Canada Warbler (9) | Traill's Flycatcher (8) |
| Traill's Flycatcher (5) | Traill's Flycatcher (4) | Black-capped Chickadee (4) | Ovenbird (7) | American Goldfinch (7) |
| Black-capped Chickadee (5) | House Wren (4) | House Wren (4) | Yellow Warbler (7) | Yellow Warbler (7) |
| Nashville Warbler (5) | Gray Catbird (4) | Swainson's Thrush (4) | Nashville Warbler (6) | Rose-breast. Grosbeak (7) |
| | Yellow Warbler (4) | Nashville Warbler (4) | | |
| | Canada Warbler (4) | | | |

| 2010 | 2011 | 2012 | 2013 | 2014 |
|----------------------------|----------------------------|----------------------------|---------------------------|--------------------------|
| American Redstart (41) | American Redstart (25) | Common Yellowthroat (21) | American Redstart (29) | American Redstart (13) |
| Magnolia Warbler (37) | Song Sparrow (22) | American Redstart (19) | Song Sparrow (22) | Tennessee Warbler (9) |
| Song Sparrow (27) | Common Yellowthroat (10) | Song Sparrow (14) | Baltimore Oriole (10) | Magnolia Warbler (9) |
| Canada Warbler (16) | Traill's Flycatcher (7) | Magnolia Warbler (12) | Tennessee Warbler (8) | Song Sparrow (8) |
| Chest.-sided Warbler (13) | Cedar Waxwing (6) | Red-eyed Vireo (8) | Common Yellowthroat (8) | Ovenbird (8) |
| Blk-and-white Warbler (12) | Ovenbird (6) | Northern Waterthrush (6) | Cedar Waxwing (7) | American Robin (7) |
| Common Yellowthroat (12) | Yellow-bel. Flycatcher (5) | Mourning Warbler (6) | Canada Warbler (7) | Gray Catbird (7) |
| Indigo Bunting (12) | Tennessee Warbler (5) | Swainson's Thrush (5) | Traill's Flycatcher (6) | Red-eyed Vireo (6) |
| Tennessee Warbler (11) | Yellow Warbler (5) | Tennessee Warbler (5) | Yellow Warbler (6) | Northern Waterthrush (6) |
| Ovenbird (8) | Black-capped Chickadee (4) | Black-capped Chickadee (4) | Rose-breast. Grosbeak (6) | Common Yellowthroat (6) |
| | Blk-and-white Warbler (4) | Veery (4) | | |
| | Nashville Warbler (4) | Gray Catbird (4) | | |
| | Magnolia Warbler (4) | Ovenbird (4) | | |

| 2015 | 2016 | 2017 | 2018 | 2019 |
|----------------------------|---------------------------|----------------------------|----------------------------|---------------------------|
| American Redstart (42) | American Redstart (38) | American Redstart (35) | American Redstart (54) | American Redstart (55) |
| Song Sparrow (21) | Red-eyed Vireo (16) | Blk-and-white Warbler (17) | Red-eyed Vireo (17) | Red-eyed Vireo (19) |
| Cape May Warbler (15) | Swainson's Thrush (12) | Ovenbird (13) | Swainson's Thrush (12) | Song Sparrow (12) |
| Common Yellowthroat (14) | Cedar Waxwing (12) | Magnolia Warbler (11) | Song Sparrow (12) | Ovenbird (10) |
| Canada Warbler (14) | Ovenbird (11) | Common Yellowthroat (9) | Common Yellowthroat (8) | Yellow Warbler (10) |
| Rose-breast. Grosbeak (14) | Tennessee Warbler (8) | Gray Catbird (8) | Yellow-bel. Flycatcher (7) | Common Yellowthroat (8) |
| Ovenbird (9) | Song Sparrow (7) | Northern Waterthrush (8) | House Wren (6) | Rose-breast. Grosbeak (7) |
| Blk-and-white Warbler (7) | Rose-breast. Grosbeak (7) | Song Sparrow (7) | Gray Catbird (5) | Traill's Flycatcher (6) |
| Mourning Warbler (7) | American Robin (6) | Veery (6) | Ovenbird (5) | Veery (6) |
| Red-eyed Vireo (6) | Gray Catbird (6) | Canada Warbler (6) | Tennessee Warbler (5) | Baltimore Oriole (6) |
| Gray Catbird (6) | Northern Waterthrush (6) | | Nashville Warbler (5) | |
| American Goldfinch (6) | | | Canada Warbler (5) | |
| Chest.-sided Warbler (6) | | | | |

| WEATHER | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Mean high (°C) | 24.6 | 25.8 | 22.5 | 24.5 | 28.9 | 24.9 | 26.1 | 25.1 | 26.2 | 22.1 | 29.4 | 27.3 | 25.3 | 26.4 | 27.2 | 25.8 |
| Mean low (°C) | 14.8 | 16.0 | 10.7 | 13.6 | 19.5 | 15.8 | 16.4 | 14.9 | 15.4 | 13.5 | 19.8 | 17.2 | 16.7 | 17.0 | 16.3 | 15.8 |
| High temp (°C) | 28 | 30 | 26 | 29 | 33 | 29 | 29 | 27 | 29 | 27 | 31 | 30 | 28 | 28 | 30 | 28.9 |
| Low temp (°C) | 8 | 13 | 7 | 10 | 15 | 10 | 11 | 12 | 12 | 11 | 17 | 15 | 15 | 14 | 12 | 12.1 |
| # days with rain | 2 | 3 | 3 | 1 | 3 | 3 | 6 | 3 | 0 | 2 | 4 | 3 | 2 | 2 | 4 | 2.7 |
| Total rain (mm) | 19 | 34 | 8 | 15 | 20 | 28 | 53 | 2 | 0 | 18 | 20 | 82 | 24 | 4 | 9 | 22.4 |

Weather notes: Mean temperatures for Week 3 are again slightly lower than the previous week, but remain generally warm. There has been little pattern in temperatures over time, with 2009 and 2015 particularly hot, whereas 2007 and 2014 were the coolest years. On average, Week 3 is drier than the first two weeks of fall, especially considering that 40% of the rain total for Week 3 occurred in just two years (2011 and 2016); across other years the average total rain fall was only 15.5 mm.

Observations, Fall Week 3 (August 15 - 21):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| American Crow (42) | Song Sparrow (41) | American Crow (54) | American Crow (20) | Black-capped Chickadee (17) |
| Black-capped Chickadee (15) | American Crow (27) | American Goldfinch (24) | Common Grackle (19) | Cedar Waxwing (16) |
| Song Sparrow (14) | American Goldfinch (18) | Black-capped Chickadee (17) | Black-capped Chickadee (16) | American Goldfinch (16) |
| American Goldfinch (13) | Bobolink (15) | Tree Swallow (11) | American Goldfinch (15) | Red-winged Blackbird (12) |
| Common Grackle (11) | Cedar Waxwing (15) | Common Grackle (10) | American Robin (13) | Song Sparrow (12) |
| American Robin (9) | American Robin (13) | Song Sparrow (10) | Cedar Waxwing (12) | American Crow (11) |
| Red-winged Blackbird (8) | Black-capped Chickadee (11) | American Robin (9) | Blue Jay (8) | American Robin (8) |
| Blue Jay (6) | Baltimore Oriole (11) | Gray Catbird (8) | Song Sparrow (7) | House Wren (8) |
| Gray Catbird (5) | Blue Jay (10) | Cedar Waxwing (8) | Ruby-th. Hummingbird (6) | Common Grackle (7) |
| Baltimore Oriole (4) | Common Grackle (10) | Ring-billed Gull (7) | Common Yellowthroat (6) | Ring-billed Gull (6) |
| | | | | Gray Catbird (6) |

| 2010 | 2011 | 2012 | 2013 | 2014 |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| American Crow (24) | Cedar Waxwing (29) | Common Grackle (186) | Cedar Waxwing (41) | Common Grackle (36) |
| Common Grackle (24) | Black-capped Chickadee (28) | Canada Goose (46) | American Goldfinch (31) | American Robin (28) |
| Black-capped Chickadee (18) | Song Sparrow (17) | Cedar Waxwing (26) | Black-capped Chickadee (21) | American Goldfinch (19) |
| American Goldfinch (13) | American Crow (17) | American Goldfinch (22) | Song Sparrow (19) | American Crow (17) |
| Cedar Waxwing (12) | American Robin (13) | American Robin (21) | American Crow (18) | Tree Swallow (17) |
| American Redstart (11) | American Goldfinch (12) | American Crow (17) | American Robin (15) | Cedar Waxwing (15) |
| Song Sparrow (10) | American Redstart (11) | Black-capped Chickadee (17) | Canada Goose (15) | Red-winged Blackbird (14) |
| Blue Jay (7) | Common Yellowthroat (10) | Song Sparrow (13) | Blue Jay (10) | Black-capped Chickadee (13) |
| American Robin (7) | Red-eyed Vireo (6) | Blue Jay (10) | American Redstart (9) | Blue Jay (11) |
| Magnolia Warbler (7) | Ruby-th. Hummingbird (6) | Baltimore Oriole (8) | Ruby-th. Hummingbird (8) | Broad-winged Hawk (11) |
| | | | Baltimore Oriole (8) | |

| 2015 | 2016 | 2017 | 2018 | 2019 |
|-----------------------------|-----------------------------|----------------------------|-----------------------------|-----------------------------|
| American Goldfinch (22) | Common Grackle (54) | Common Grackle (19) | American Crow (45) | Canada Goose (34) |
| Canada Goose (22) | American Crow (28) | American Crow (16) | American Goldfinch (17) | American Robin (18) |
| American Crow (17) | Cedar Waxwing (25) | American Robin (14) | Common Grackle (15) | American Crow (15) |
| Red-winged Blackbird (15) | American Goldfinch (18) | Cedar Waxwing (14) | Black-capped Chickadee (14) | American Goldfinch (13) |
| Common Grackle (13) | American Robin (16) | American Goldfinch (13) | Red-winged Blackbird (14) | American Redstart (13) |
| Black-capped Chickadee (12) | Black-capped Chickadee (14) | Blue Jay (10) | American Redstart (13) | Red-eyed Vireo (13) |
| American Robin (11) | Tree Swallow (11) | American Redstart (10) | Cedar Waxwing (12) | Blue Jay (12) |
| American Redstart (10) | American Redstart (11) | Black-capped Chickadee (8) | Red-eyed Vireo (9) | Black-capped Chickadee (10) |
| Blue Jay (8) | Red-eyed Vireo (9) | Red-winged Blackbird (6) | Blue Jay (9) | Cedar Waxwing (9) |
| Cedar Waxwing (7) | Blue Jay (8) | Northern Cardinal (6) | Canada Goose (7) | Song Sparrow (9) |

Banding notes: As in Week 2, 28 species have been among the annual top 10 banded in Week 3 of fall, with only Song Sparrow and American Redstart included annually. Song Sparrow was the top species in three of the first five years, but in all other years it has been American Redstart; since 2015, the number of American Redstarts banded has been at least double that of the second-place species each year. Two species have appeared in the top 10 of Week 3 just once: Cape May Warbler (2015), and Indigo Bunting (2010). Canada Warbler has appeared in the top 10 in Week 3 more frequently than any other week (8 years). Thirteen warbler species have appeared on the Week 3 list, and warblers comprise 56% of all entries across the years.

Observation notes: 23 species have occurred on the Week 3 top 10 lists between 2005 and 2019, tied for Weeks 2 and 7 for the most in fall. Three species have appeared annually: American Crow, Black-capped Chickadee, and American Goldfinch; Blue Jay, American Robin, Cedar Waxwing, and Common Grackle have also been included in at least 12 of 15 years. As in Week 2, American Crow has topped the list more times than any other (five), followed by Common Grackle (four), although the years do not align across the two weeks. Five species have appeared in the top 10 for Week 3 just once: Broad-winged Hawk (2014), House Wren (2009), Bobolink (2006), Magnolia Warbler (2010), and Northern Cardinal (2017).

Bandings, Fall Week 4 (August 22 - 28):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|---------------------------|---------------------------|---------------------------|---------------------------|-----------------------------|
| Magnolia Warbler (48) | Magnolia Warbler (39) | Magnolia Warbler (24) | Magnolia Warbler (19) | Song Sparrow (30) |
| Nashville Warbler (16) | Song Sparrow (27) | American Redstart (14) | American Redstart (17) | American Redstart (18) |
| Song Sparrow (13) | Northern Waterthrush (20) | Red-eyed Vireo (11) | Common Yellowthroat (14) | Common Yellowthroat (16) |
| Baltimore Oriole (13) | American Redstart (12) | Song Sparrow (9) | Nashville Warbler (11) | Red-eyed Vireo (14) |
| Common Yellowthroat (8) | Ovenbird (10) | Wilson's Warbler (8) | Song Sparrow (8) | Black-capped Chickadee (11) |
| Tennessee Warbler (7) | Tennessee Warbler (10) | Least Flycatcher (6) | Tennessee Warbler (6) | Magnolia Warbler (11) |
| Gray Catbird (6) | Nashville Warbler (9) | House Wren (5) | Mourning Warbler (6) | Ovenbird (8) |
| Ovenbird (6) | Wilson's Warbler (9) | Northern Waterthrush (5) | Wilson's Warbler (6) | Blk-and-white Warbler (8) |
| Blk-and-white Warbler (6) | American Goldfinch (7) | Nashville Warbler (5) | Veery (5) | Yellow-bel. Flycatcher (7) |
| American Redstart (6) | Common Yellowthroat (7) | Traill's Flycatcher (4) | Baltimore Oriole (5) | Cedar Waxwing (7) |
| Chest.-sided Warbler (6) | | Common Yellowthroat (4) | Ovenbird (5) | |
| Rose-breast. Grosbeak (6) | | Blk-thr. Blue Warbler (4) | Blk-thr. Blue Warbler (5) | |
| | | Canada Warbler (4) | | |

| 2010 | 2011 | 2012 | 2013 | 2014 |
|----------------------------|----------------------------|----------------------------|---------------------------|-----------------------------|
| Magnolia Warbler (44) | Magnolia Warbler (43) | Magnolia Warbler (36) | Tennessee Warbler (74) | Tennessee Warbler (56) |
| American Redstart (22) | American Redstart (31) | American Redstart (28) | Magnolia Warbler (45) | Magnolia Warbler (40) |
| Red-eyed Vireo (14) | Tennessee Warbler (23) | Tennessee Warbler (21) | Common Yellowthroat (19) | Northern Waterthrush (18) |
| Song Sparrow (10) | Chest.-sided Warbler (15) | Song Sparrow (16) | American Redstart (19) | Common Yellowthroat (16) |
| Tennessee Warbler (10) | Ovenbird (12) | Common Yellowthroat (15) | Song Sparrow (17) | Yellow-bel. Flycatcher (15) |
| Ovenbird (7) | Common Yellowthroat (11) | Rose-breast. Grosbeak (15) | Northern Waterthrush (17) | American Redstart (15) |
| Northern Waterthrush (7) | Nashville Warbler (10) | Red-eyed Vireo (9) | Myrtle Warbler (13) | Song Sparrow (13) |
| Chest.-sided Warbler (5) | Song Sparrow (9) | Ovenbird (9) | American Goldfinch (12) | Nashville Warbler (13) |
| Wilson's Warbler (5) | Indigo Bunting (9) | Indigo Bunting (9) | Baltimore Oriole (10) | Red-eyed Vireo (11) |
| Black-capped Chickadee (4) | Black-capped Chickadee (6) | Black-capped Chickadee (6) | Ovenbird (10) | Least Flycatcher (10) |
| Gray Catbird (4) | Blk-thr. Blue Warbler (6) | Gray Catbird (6) | Cape May Warbler (10) | |
| Common Yellowthroat (4) | | | | |
| Canada Warbler (4) | | | | |
| Indigo Bunting (4) | | | | |

| 2015 | 2016 | 2017 | 2018 | 2019 |
|----------------------------|---------------------------|----------------------------|---------------------------|----------------------------|
| Magnolia Warbler (24) | Red-eyed Vireo (26) | American Redstart (46) | American Redstart (57) | American Redstart (26) |
| American Goldfinch (23) | American Redstart (26) | Magnolia Warbler (40) | Magnolia Warbler (24) | Ovenbird (16) |
| American Redstart (22) | Magnolia Warbler (16) | Common Yellowthroat (15) | Red-eyed Vireo (18) | Red-eyed Vireo (13) |
| Common Yellowthroat (16) | Veery (15) | Song Sparrow (11) | Chest.-sided Warbler (18) | Yellow-bel. Flycatcher (7) |
| Song Sparrow (13) | Common Yellowthroat (13) | Veery (10) | Cape May Warbler (14) | Song Sparrow (7) |
| Northern Waterthrush (13) | Ovenbird (12) | Ovenbird (10) | Tennessee Warbler (11) | Common Yellowthroat (7) |
| Gray Catbird (11) | Chest.-sided Warbler (10) | Yellow-bel. Flycatcher (8) | Nashville Warbler (9) | Ruby-th. Hummingbird (6) |
| Ovenbird (9) | Canada Warbler (10) | Northern Waterthrush (8) | Canada Warbler (9) | Gray Catbird (6) |
| Yellow-bel. Flycatcher (8) | Song Sparrow (7) | Chest.-sided Warbler (8) | Rose-breast. Grosbeak (8) | Northern Waterthrush (6) |
| Cape May Warbler (7) | Northern Waterthrush (7) | Blk-and-white Warbler (6) | American Goldfinch (7) | Canada Warbler (6) |
| | | | Song Sparrow (7) | |
| | | | Ovenbird (7) | |

| WEATHER | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Mean high (°C) | 25.8 | 21.4 | 26.1 | 25.9 | 24.0 | 23.3 | 23.3 | 28.3 | 25.1 | 26.1 | 25.1 | 26.6 | 23.0 | 27.4 | 24.6 | 25.1 |
| Mean low (°C) | 14.2 | 11.8 | 16.0 | 13.3 | 13.9 | 14.9 | 15.0 | 17.7 | 15.4 | 16.2 | 15.6 | 17.6 | 12.3 | 17.1 | 14.0 | 15.0 |
| High temp (°C) | 29 | 25 | 29 | 29 | 28 | 27 | 27 | 32 | 30 | 29 | 29 | 29 | 27 | 31 | 27 | 28.5 |
| Low temp (°C) | 12 | 9 | 11 | 9 | 8 | 11 | 12 | 11 | 10 | 14 | 14 | 13 | 9 | 12 | 12 | 11.1 |
| # days with rain | 2 | 2 | 3 | 1 | 1 | 3 | 4 | 3 | 3 | 1 | 2 | 2 | 1 | 4 | 1 | 2.2 |
| Total rain (mm) | 12 | 38 | 22 | 1 | 18 | 9 | 68 | 1 | 17 | 1 | 1 | 3 | 10 | 26 | 17 | 16.3 |

Weather notes: The mean daily temperature in Week 4 is another 0.7 degrees Celsius lower than in Week 3, but remains distinctly summer-like. As in previous weeks, temperatures have fluctuated from year to year, without any pattern over time; 2006 and 2017 have been the coolest years for Week 4, whereas 2012 and 2018 were warmest. There has been heavy rainfall in Week 4 just once, in 2011; in five years the total rainfall for the week has been 3 mm or less.

Observations, Fall Week 4 (August 22 - 28):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Common Grackle (82) | Common Grackle (49) | American Crow (85) | Common Grackle (28) | American Crow (22) |
| Black-capped Chickadee (18) | American Crow (41) | American Goldfinch (23) | American Crow (26) | Black-capped Chickadee (20) |
| American Crow (18) | Song Sparrow (33) | Black-capped Chickadee (17) | Blue Jay (15) | Cedar Waxwing (20) |
| Magnolia Warbler (13) | American Goldfinch (22) | Cedar Waxwing (13) | Black-capped Chickadee (15) | American Goldfinch (16) |
| Blue Jay (12) | Cedar Waxwing (19) | Song Sparrow (10) | American Robin (11) | Song Sparrow (11) |
| Song Sparrow (9) | Red-winged Blackbird (17) | Common Grackle (9) | American Goldfinch (10) | Gray Catbird (8) |
| American Goldfinch (8) | Blue Jay (13) | Blue Jay (7) | Song Sparrow (8) | American Robin (8) |
| American Robin (7) | Black-capped Chickadee (12) | House Wren (6) | Cedar Waxwing (7) | Red-winged Blackbird (7) |
| Baltimore Oriole (6) | Bobolink (12) | Red-eyed Vireo (5) | Common Yellowthroat (6) | Common Grackle (7) |
| Gray Catbird (5) | Magnolia Warbler (10) | American Redstart (5) | Gray Catbird (5) | American Redstart (7) |
| 2010 | 2011 | 2012 | 2013 | 2014 |
| American Crow (27) | Cedar Waxwing (25) | Common Grackle (115) | Cedar Waxwing (40) | American Robin (30) |
| Black-capped Chickadee (23) | Red-winged Blackbird (19) | Canada Goose (73) | American Goldfinch (39) | American Goldfinch (25) |
| Common Grackle (20) | Black-capped Chickadee (17) | Cedar Waxwing (31) | Black-capped Chickadee (24) | American Crow (22) |
| American Goldfinch (14) | American Crow (17) | American Goldfinch (20) | American Robin (14) | Cedar Waxwing (21) |
| Magnolia Warbler (10) | Common Grackle (16) | Black-capped Chickadee (18) | American Crow (14) | Black-capped Chickadee (19) |
| American Robin (9) | American Goldfinch (14) | Blue Jay (15) | Tennessee Warbler (14) | Common Grackle (14) |
| Blue Jay (8) | American Robin (14) | American Robin (15) | Blue Jay (12) | Tennessee Warbler (14) |
| Canada Goose (7) | American Redstart (10) | Song Sparrow (14) | Song Sparrow (11) | Blue Jay (12) |
| American Redstart (6) | Blue Jay (8) | American Crow (11) | Common Grackle (10) | Red-eyed Vireo (9) |
| Gray Catbird (6) | Magnolia Warbler (8) | Red-winged Blackbird (8) | Magnolia Warbler (9) | Magnolia Warbler (9) |
| Cedar Waxwing (6) | | | | |
| Song Sparrow (6) | | | | |
| 2015 | 2016 | 2017 | 2018 | 2019 |
| American Crow (35) | Cedar Waxwing (29) | American Crow (23) | Common Grackle (116) | Canada Goose (22) |
| Common Grackle (33) | American Crow (26) | American Goldfinch (23) | Canada Goose (22) | American Robin (14) |
| American Goldfinch (27) | American Goldfinch (24) | American Redstart (18) | American Redstart (18) | American Goldfinch (13) |
| American Robin (18) | Black-capped Chickadee (15) | Black-capped Chickadee (16) | American Crow (17) | Red-eyed Vireo (12) |
| Black-capped Chickadee (13) | Common Grackle (12) | American Robin (15) | American Goldfinch (16) | American Crow (12) |
| Cedar Waxwing (13) | Red-eyed Vireo (11) | Blue Jay (12) | Black-capped Chickadee (14) | Black-capped Chickadee (12) |
| Canada Goose (12) | Blue Jay (11) | Common Grackle (12) | Cedar Waxwing (12) | Blue Jay (11) |
| Blue Jay (11) | American Redstart (9) | Cedar Waxwing (11) | Blue Jay (11) | Cedar Waxwing (10) |
| American Redstart (9) | American Robin (9) | Magnolia Warbler (11) | Red-eyed Vireo (9) | Common Grackle (7) |
| Gray Catbird (8) | Gray Catbird (6) | Northern Cardinal (8) | American Robin (8) | House Wren (7) |

Banding notes: 30 species have been among the annual top 10 banded in Week 4 of fall; for the third week in a row, only Song Sparrow and American Redstart were included annually. However, it is Magnolia Warbler that has been the week's top species more than any other, 8 times (2005-2008, 2010-2012, and 2015). American Redstart has increased over time, topping the list for the past three years, and ranking second 7 times between 2007 and 2016. Six species have appeared in the top 10 of Week 4 just once: Ruby-throated Hummingbird (2019), Traill's Flycatcher (2007), House Wren (2007), Cedar Waxwing (2009), Mourning Warbler (2008), and Myrtle Warbler (2013). Chestnut-sided Warbler has appeared in the top 10 in Week 4 more frequently than any other week (6 years), and it is the only week in fall during which Least Flycatcher has reached the top 10 (in 2007 and 2014). Fifteen warbler species have appeared on the Week 4 list, and warblers comprise 64% of all entries across the years, more than in any other week.

Observation notes: 20 species have occurred on the Week 4 top 10 lists between 2005 and 2019. Four species have appeared annually: American Crow, Black-capped Chickadee, American Goldfinch, and Common Grackle; Blue Jay, American Robin, and Cedar Waxwing have also been included in at least 13 of 15 years. American Crow and Common Grackle have each topped the week's list in five years, similar to Weeks 2 and 3. Four species have appeared in the top 10 for Week 4 just once: Bobolink (2006), Baltimore Oriole (2005), Common Yellowthroat (2008), and Northern Cardinal (2017).

Bandings, Fall Week 5 (August 29 - September 4):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|----------------------------|---------------------------|---------------------------|----------------------------|----------------------------|
| Magnolia Warbler (53) | Magnolia Warbler (21) | Magnolia Warbler (19) | Magnolia Warbler (62) | Magnolia Warbler (31) |
| Nashville Warbler (28) | Song Sparrow (16) | American Redstart (14) | Wilson's Warbler (22) | American Redstart (26) |
| Red-eyed Vireo (27) | Common Yellowthroat (12) | Red-eyed Vireo (13) | Common Yellowthroat (19) | Song Sparrow (10) |
| American Redstart (26) | American Redstart (10) | Wilson's Warbler (9) | Blackpoll Warbler (16) | Common Yellowthroat (8) |
| Song Sparrow (24) | Red-eyed Vireo (8) | Common Yellowthroat (7) | American Redstart (15) | Blk-thr. Blue Warbler (8) |
| Common Yellowthroat (13) | Northern Waterthrush (8) | House Wren (6) | Red-eyed Vireo (14) | Yellow-bel. Flycatcher (6) |
| Black-capped Chickadee (9) | Tennessee Warbler (7) | Song Sparrow (6) | Ovenbird (12) | Black-capped Chickadee (6) |
| Wilson's Warbler (9) | Nashville Warbler (7) | Blk-thr. Blue Warbler (5) | Nashville Warbler (10) | Wilson's Warbler (5) |
| Indigo Bunting (8) | Wilson's Warbler (6) | Northern Waterthrush (4) | Northern Waterthrush (8) | Indigo Bunting (5) |
| Ovenbird (7) | Rose-breast. Grosbeak (5) | Blackpoll Warbler (4) | Yellow-bel. Flycatcher (7) | House Wren (4) |
| | | | Song Sparrow (7) | Gray Catbird (4) |
| | | | | Cedar Waxwing (4) |
| | | | | Northern Waterthrush (4) |
| | | | | Canada Warbler (4) |

| 2010 | 2011 | 2012 | 2013 | 2014 |
|----------------------------|----------------------------|--------------------------|--------------------------|----------------------------|
| Magnolia Warbler (23) | Magnolia Warbler (79) | Magnolia Warbler (31) | Tennessee Warbler (87) | Tennessee Warbler (47) |
| Northern Waterthrush (17) | Tennessee Warbler (52) | Common Yellowthroat (11) | Magnolia Warbler (53) | Magnolia Warbler (40) |
| Tennessee Warbler (17) | American Redstart (26) | Red-eyed Vireo (10) | American Redstart (24) | Red-eyed Vireo (23) |
| Common Yellowthroat (17) | Nashville Warbler (22) | White-thr. Sparrow (10) | Common Yellowthroat (20) | Common Yellowthroat (12) |
| Song Sparrow (16) | Northern Waterthrush (15) | American Redstart (10) | Red-eyed Vireo (13) | Ovenbird (10) |
| Blk-thr. Blue Warbler (10) | Wilson's Warbler (15) | Purple Finch (9) | Cape May Warbler (12) | American Redstart (10) |
| Blk-and-white Warbler (8) | Yellow-bel. Flycatcher (8) | Chipping Sparrow (8) | American Goldfinch (9) | American Goldfinch (8) |
| American Redstart (8) | Common Yellowthroat (8) | Northern Waterthrush (8) | Song Sparrow (8) | Blackpoll Warbler (8) |
| Indigo Bunting (8) | Ovenbird (7) | Tennessee Warbler (8) | Indigo Bunting (7) | Yellow-bel. Flycatcher (7) |
| Red-eyed Vireo (7) | Chest.-sided Warbler (7) | Swainson's Thrush (7) | Ovenbird (6) | Veery (7) |
| | Indigo Bunting (7) | | Nashville Warbler (6) | Gray Catbird (7) |

| 2015 | 2016 | 2017 | 2018 | 2019 |
|--------------------------|---------------------------|--------------------------|---------------------------|----------------------------|
| American Goldfinch (20) | Magnolia Warbler (34) | Magnolia Warbler (50) | American Redstart (42) | American Redstart (26) |
| Magnolia Warbler (20) | Ovenbird (15) | American Redstart (37) | Magnolia Warbler (34) | Magnolia Warbler (15) |
| Red-eyed Vireo (18) | American Redstart (15) | Common Yellowthroat (18) | Red-eyed Vireo (28) | Ovenbird (10) |
| American Redstart (16) | Red-eyed Vireo (14) | Red-eyed Vireo (9) | Common Yellowthroat (12) | Yellow-bel. Flycatcher (7) |
| Common Yellowthroat (13) | Northern Waterthrush (12) | Ovenbird (8) | Swainson's Thrush (11) | Red-eyed Vireo (7) |
| Gray Catbird (11) | Swainson's Thrush (9) | Northern Waterthrush (7) | Ovenbird (8) | Northern Waterthrush (7) |
| Song Sparrow (11) | Common Yellowthroat (8) | Veery (6) | Rose-breast. Grosbeak (8) | Chest.-sided Warbler (6) |
| Tennessee Warbler (10) | Gray Catbird (5) | Song Sparrow (6) | Nashville Warbler (7) | Ruby-th. Hummingbird (4) |
| Veery (7) | American Goldfinch (5) | Swainson's Thrush (5) | Canada Warbler (7) | Veery (4) |
| Swainson's Thrush (7) | Song Sparrow (5) | Gray Catbird (5) | American Goldfinch (6) | Purple Finch (4) |
| | | | Northern Waterthrush (6) | Canada Warbler (4) |
| | | | Blk-and-white Warbler (6) | |

| WEATHER | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Mean high (°C) | 25.2 | 20.9 | 23.9 | 27.3 | 22.4 | 29.8 | 25.7 | 26.5 | 23.6 | 26.1 | 26.0 | 24.0 | 20.3 | 26.9 | 22.9 | 24.8 |
| Mean low (°C) | 16.3 | 12.1 | 12.2 | 16.2 | 12.3 | 19.9 | 16.6 | 14.2 | 15.8 | 17.0 | 15.9 | 14.3 | 10.6 | 17.6 | 13.4 | 15.0 |
| High temp (°C) | 28 | 24 | 31 | 31 | 26 | 33 | 30 | 29 | 27 | 29 | 28 | 26 | 24 | 32 | 25 | 28.2 |
| Low temp (°C) | 12 | 8 | 9 | 12 | 9 | 14 | 13 | 9 | 11 | 11 | 13 | 11 | 6 | 11 | 10 | 10.6 |
| # days with rain | 2 | 2 | 2 | 1 | 2 | 1 | 4 | 2 | 3 | 4 | 0 | 2 | 3 | 4 | 4 | 2.4 |
| Total rain (mm) | 75 | 14 | 12 | 1 | 10 | 3 | 18 | 12 | 38 | 16 | 0 | 9 | 28 | 17 | 65 | 21.1 |

Weather notes: Temperatures in Week 5 are on average nearly identical to those in Week 4. Week 5 in 2010 was the warmest week ever in fall, nearly 10 degrees Celsius warmer than the coldest Week 5 to date, in 2017. For the fifth week in a row, there were only two years during which the amount of rainfall was more than double the 15-year average, in this case 2005 and 2019. Also, for the fifth straight week, there were five years during which rainfall for the week was less than half the long-term average.

Observations, Fall Week 5 (August 29 - September 4):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Common Grackle (137) | Common Grackle (205) | American Crow (132) | Common Grackle (60) | Canada Goose (24) |
| American Crow (27) | American Crow (71) | American Goldfinch (20) | Canada Goose (53) | Black-capped Chickadee (22) |
| Black-capped Chickadee (21) | Song Sparrow (23) | Black-capped Chickadee (17) | American Crow (33) | American Crow (18) |
| American Goldfinch (12) | American Goldfinch (19) | Cedar Waxwing (12) | Black-capped Chickadee (20) | Cedar Waxwing (16) |
| Blue Jay (12) | Black-capped Chickadee (17) | Common Grackle (10) | Magnolia Warbler (14) | American Goldfinch (12) |
| Magnolia Warbler (12) | Blue Jay (16) | American Robin (6) | Blue Jay (13) | Common Grackle (12) |
| European Starling (11) | Bobolink (9) | Blue Jay (6) | American Goldfinch (12) | American Redstart (8) |
| Cedar Waxwing (11) | Cedar Waxwing (8) | Song Sparrow (6) | Cedar Waxwing (10) | Blue Jay (8) |
| Song Sparrow (9) | White-thr. Sparrow (8) | Red-eyed Vireo (5) | Common Yellowthroat (8) | Gray Catbird (7) |
| Nashville Warbler (7) | Magnolia Warbler (8) | Gray Catbird (5) | American Robin (8) | Magnolia Warbler (7) |
| 2010 | 2011 | 2012 | 2013 | 2014 |
| Common Grackle (184) | Canada Goose (36) | Common Grackle (130) | American Goldfinch (48) | American Robin (46) |
| American Goldfinch (29) | Cedar Waxwing (32) | Canada Goose (28) | Cedar Waxwing (33) | American Crow (43) |
| Black-capped Chickadee (27) | American Crow (23) | Black-capped Chickadee (19) | American Crow (29) | American Goldfinch (30) |
| American Crow (21) | Black-capped Chickadee (23) | American Goldfinch (19) | Tennessee Warbler (25) | Cedar Waxwing (23) |
| Cedar Waxwing (19) | Magnolia Warbler (17) | American Crow (18) | Black-capped Chickadee (16) | Blue Jay (20) |
| Blue Jay (13) | American Goldfinch (15) | Blue Jay (17) | American Robin (12) | Black-capped Chickadee (19) |
| American Robin (12) | Tennessee Warbler (10) | Cedar Waxwing (13) | Blue Jay (12) | Canada Goose (11) |
| Canada Goose (10) | American Redstart (10) | Ring-billed Gull (10) | Magnolia Warbler (11) | Magnolia Warbler (11) |
| Song Sparrow (9) | American Robin (8) | White-thr. Sparrow (10) | Common Yellowthroat (9) | Tennessee Warbler (10) |
| Rock Pigeon (7) | Nashville Warbler (7) | American Robin (10) | Song Sparrow (7) | Red-eyed Vireo (10) |
| Common Yellowthroat (7) | | | | |
| 2015 | 2016 | 2017 | 2018 | 2019 |
| Common Grackle (63) | American Crow (38) | American Crow (35) | Common Grackle (162) | Canada Goose (47) |
| American Goldfinch (38) | American Goldfinch (31) | Canada Goose (30) | Canada Goose (93) | Common Grackle (25) |
| American Crow (18) | Cedar Waxwing (16) | American Goldfinch (26) | American Crow (30) | American Crow (25) |
| Canada Goose (18) | Black-capped Chickadee (16) | Common Grackle (26) | American Goldfinch (25) | American Goldfinch (12) |
| Black-capped Chickadee (15) | American Robin (15) | Magnolia Warbler (12) | Black-capped Chickadee (16) | Black-capped Chickadee (9) |
| Cedar Waxwing (14) | Red-eyed Vireo (13) | Black-capped Chickadee (11) | European Starling (14) | Northern Cardinal (8) |
| American Robin (14) | Common Grackle (13) | American Redstart (10) | American Redstart (14) | Blue Jay (8) |
| Blue Jay (14) | Canada Goose (13) | Blue Jay (9) | Red-eyed Vireo (11) | Cedar Waxwing (8) |
| Gray Catbird (8) | Blue Jay (11) | American Robin (8) | Cedar Waxwing (11) | Red-eyed Vireo (7) |
| Red-eyed Vireo (8) | Gray Catbird (8) | Cedar Waxwing (8) | Blue Jay (11) | American Redstart (6) |
| | | Common Yellowthroat (8) | | |

Banding notes: 30 species have been among the annual top 10 banded in Week 5 of fall; American Redstart and Magnolia Warbler are the only species to be included annually. Magnolia Warbler was the top species each year from 2005 through 2012, and again in 2016 and 2017; Tennessee Warbler (2013-2014) and American Redstart (2018-2019) each topped the list twice. Five species have appeared in the top 10 of Week 5 just once: Ruby-throated Hummingbird (2019), Cedar Waxwing (2009), Chipping Sparrow (2012), White-throated Sparrow (2012), and Cape May Warbler (2013). Fourteen warbler species have appeared on the Week 5 list, and warblers comprise 60% of all entries across the years.

Observation notes: 22 species have occurred on the Week 5 top 10 lists between 2005 and 2019, including four that have appeared annually: American Crow, Black-capped Chickadee, Cedar Waxwing, and American Goldfinch; Blue Jay and Common Grackle were also included in at least 12 of 15 years. Common Grackle was the most abundant species in Week 5 in 7 years, followed by Canada Goose and American Crow in three years each. Rock Pigeon was in the top 10 in 2010, the only time ever in fall; three other species also appeared in the top 10 for Week 5 just once: Ring-billed Gull (2012), Bobolink (2006), and Northern Cardinal (2019).

Bandings, Fall Week 6 (September 5 - 11):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|----------------------------|--------------------------|-------------------------|-----------------------------|----------------------------|
| Nashville Warbler (20) | Magnolia Warbler (39) | White-thr. Sparrow (21) | Magnolia Warbler (109) | White-thr. Sparrow (18) |
| Magnolia Warbler (20) | Common Grackle (33) | American Goldfinch (20) | Nashville Warbler (22) | Song Sparrow (10) |
| Common Yellowthroat (19) | Common Yellowthroat (27) | Wilson's Warbler (17) | Wilson's Warbler (20) | Magnolia Warbler (10) |
| White-thr. Sparrow (18) | Song Sparrow (21) | Red-eyed Vireo (16) | Tennessee Warbler (16) | American Redstart (7) |
| Song Sparrow (13) | Nashville Warbler (18) | American Redstart (10) | Common Yellowthroat (16) | Common Yellowthroat (6) |
| Yellow Palm Warbler (9) | White-thr. Sparrow (13) | Common Yellowthroat (9) | Red-eyed Vireo (14) | Indigo Bunting (6) |
| Gray Catbird (8) | Ovenbird (9) | Song Sparrow (7) | White-thr. Sparrow (13) | Red-eyed Vireo (5) |
| American Goldfinch (6) | Tennessee Warbler (9) | Gray Catbird (5) | American Goldfinch (11) | Blk-thr. Blue Warbler (5) |
| Ovenbird (6) | Wilson's Warbler (9) | Nashville Warbler (5) | Song Sparrow (11) | Black-capped Chickadee (4) |
| American Redstart (6) | Gray Catbird (8) | Magnolia Warbler (5) | American Redstart (11) | |
| Blk-thr. Green Warbler (6) | American Redstart (8) | | Blackpoll Warbler (11) | |
| | Blackpoll Warbler (8) | | Blk-thr. Green Warbler (11) | |
| | Myrtle Warbler (8) | | | |

| 2010 | 2011 | 2012 | 2013 | 2014 |
|---------------------------|-------------------------|-------------------------|---------------------------|----------------------------|
| Magnolia Warbler (74) | Magnolia Warbler (52) | Magnolia Warbler (44) | Magnolia Warbler (70) | American Goldfinch (44) |
| Nashville Warbler (47) | Tennessee Warbler (37) | Swainson's Thrush (24) | Tennessee Warbler (36) | Magnolia Warbler (27) |
| West. Palm Warbler (37) | Nashville Warbler (22) | Blackpoll Warbler (21) | American Redstart (18) | Red-eyed Vireo (26) |
| American Redstart (32) | Wilson's Warbler (18) | Tennessee Warbler (20) | American Goldfinch (13) | Tennessee Warbler (12) |
| Common Yellowthroat (24) | Red-eyed Vireo (11) | Song Sparrow (14) | Wilson's Warbler (11) | Gray Catbird (11) |
| Red-eyed Vireo (20) | American Redstart (10) | Wilson's Warbler (14) | Common Yellowthroat (10) | American Redstart (11) |
| Tennessee Warbler (20) | White-thr. Sparrow (9) | American Goldfinch (13) | Indigo Bunting (8) | White-thr. Sparrow (10) |
| Wilson's Warbler (18) | Indigo Bunting (9) | American Redstart (12) | Blackpoll Warbler (7) | Northern Waterthrush (8) |
| Northern Waterthrush (17) | Blackpoll Warbler (8) | Gray Catbird (11) | Red-eyed Vireo (6) | Black-capped Chickadee (7) |
| Blackpoll Warbler (14) | Cedar Waxwing (7) | Nashville Warbler (11) | Cedar Waxwing (5) | Song Sparrow (6) |
| | Common Yellowthroat (7) | | Ovenbird (5) | Ovenbird (6) |
| | | | Rose-breast. Grosbeak (5) | Common Yellowthroat (6) |

| 2015 | 2016 | 2017 | 2018 | 2019 |
|---------------------------|--------------------------|--------------------------|----------------------------|----------------------------|
| Swainson's Thrush (25) | Red-eyed Vireo (14) | Magnolia Warbler (89) | Magnolia Warbler (28) | Magnolia Warbler (102) |
| Magnolia Warbler (24) | Swainson's Thrush (10) | Swainson's Thrush (21) | American Goldfinch (22) | American Redstart (31) |
| Common Yellowthroat (17) | Gray Catbird (9) | Tennessee Warbler (18) | Swainson's Thrush (15) | Ovenbird (13) |
| Red-eyed Vireo (12) | Common Yellowthroat (8) | Red-eyed Vireo (17) | Red-eyed Vireo (14) | Wilson's Warbler (13) |
| Gray Catbird (11) | Northern Waterthrush (7) | American Redstart (13) | Gray Catbird (9) | Bay-breasted Warbler (10) |
| Northern Waterthrush (11) | Magnolia Warbler (7) | Common Yellowthroat (11) | American Redstart (8) | Red-eyed Vireo (8) |
| Tennessee Warbler (9) | Ovenbird (6) | White-thr. Sparrow (10) | Tennessee Warbler (7) | Yellow-bel. Flycatcher (7) |
| White-thr. Sparrow (7) | American Redstart (4) | Ovenbird (10) | White-thr. Sparrow (6) | Northern Waterthrush (7) |
| American Redstart (7) | | Wilson's Warbler (9) | Trail's Flycatcher (4) | Tennessee Warbler (7) |
| Ovenbird (6) | | Gray Catbird (8) | Philadelphia Vireo (4) | Blackpoll Warbler (6) |
| Nashville Warbler (6) | | | Black-capped Chickadee (4) | |
| Rose-breast. Grosbeak (6) | | | Song Sparrow (4) | |
| | | | Ovenbird (4) | |

| WEATHER | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Mean high (°C) | 22.5 | 20.2 | 23.9 | 22.5 | 22.8 | 21.5 | 21.4 | 24.0 | 21.0 | 24.8 | 28.1 | 26.7 | 19.9 | 21.9 | 21.0 | 22.8 |
| Mean low (°C) | 10.2 | 11.1 | 12.5 | 12.3 | 10.8 | 11.7 | 12.8 | 12.6 | 11.0 | 13.1 | 17.1 | 15.8 | 11.1 | 11.7 | 10.3 | 12.3 |
| High temp (°C) | 27 | 26 | 32 | 33 | 26 | 26 | 26 | 29 | 31 | 31 | 32 | 30 | 23 | 32 | 27 | 28.7 |
| Low temp (°C) | 6 | 6 | 7 | 6 | 8 | 8 | 9 | 6 | 6 | 10 | 12 | 10 | 6 | 6 | 7 | 7.5 |
| # days with rain | 1 | 2 | 2 | 4 | 0 | 5 | 3 | 2 | 2 | 3 | 2 | 4 | 5 | 3 | 3 | 2.7 |
| Total rain (mm) | 29 | 2 | 18 | 21 | 0 | 21 | 16 | 12 | 18 | 15 | 16 | 20 | 21 | 27 | 17 | 16.9 |

Weather notes: For the first time in fall, there is a distinct drop in mean temperatures from Week 5 to Week 6, of approximately 2 degrees Celsius. However, the mean daily high has remained above 20 degrees Celsius every year except 2017, while the daily high averaged over 28 degrees Celsius during the warmest Week 6 on record in 2015. Precipitation has been much more consistent across years than in previous weeks of the season, ranging from 12 to 29 mm annually, except for two particularly dry years in 2006 and 2009.

Observations, Fall Week 6 (September 5 - 11):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Common Grackle (425) | American Crow (179) | American Crow (74) | American Crow (83) | Canada Goose (43) |
| American Crow (63) | Common Grackle (111) | American Goldfinch (25) | Common Grackle (42) | American Crow (31) |
| Black-capped Chickadee (26) | Blue Jay (22) | Cedar Waxwing (20) | Cedar Waxwing (33) | Cedar Waxwing (25) |
| American Goldfinch (19) | Black-capped Chickadee (22) | Black-capped Chickadee (15) | Canada Goose (29) | Black-capped Chickadee (23) |
| White-thr. Sparrow (17) | American Goldfinch (21) | Canada Goose (14) | Magnolia Warbler (23) | Common Grackle (21) |
| Blue Jay (16) | Song Sparrow (20) | Blue Jay (14) | Black-capped Chickadee (21) | American Goldfinch (16) |
| Song Sparrow (10) | Cedar Waxwing (14) | White-thr. Sparrow (11) | American Robin (20) | Blue Jay (13) |
| Nashville Warbler (10) | Magnolia Warbler (11) | Common Grackle (10) | American Goldfinch (16) | American Robin (13) |
| Canada Goose (9) | White-thr. Sparrow (10) | Song Sparrow (8) | Blue Jay (13) | White-thr. Sparrow (10) |
| Common Yellowthroat (8) | Common Yellowthroat (9) | European Starling (7) | Common Yellowthroat (8) | Song Sparrow (10) |

| 2010 | 2011 | 2012 | 2013 | 2014 |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| American Crow (39) | Canada Goose (65) | Common Grackle (319) | American Crow (49) | American Goldfinch (34) |
| Black-capped Chickadee (21) | Broad-winged Hawk (44) | Canada Goose (46) | American Goldfinch (35) | American Robin (27) |
| Blue Jay (18) | American Crow (33) | American Goldfinch (30) | Cedar Waxwing (20) | American Crow (24) |
| Cedar Waxwing (13) | Black-capped Chickadee (26) | American Crow (22) | Black-capped Chickadee (18) | Black-capped Chickadee (18) |
| Magnolia Warbler (13) | American Goldfinch (20) | Black-capped Chickadee (18) | Red-winged Blackbird (15) | Cedar Waxwing (16) |
| American Goldfinch (12) | Cedar Waxwing (17) | Blue Jay (16) | Magnolia Warbler (15) | Canada Goose (16) |
| American Robin (11) | Magnolia Warbler (14) | White-thr. Sparrow (14) | Blue Jay (14) | Blue Jay (14) |
| West. Palm Warbler (10) | Tennessee Warbler (12) | Magnolia Warbler (11) | European Starling (12) | Red-eyed Vireo (9) |
| White-thr. Sparrow (10) | Blue Jay (9) | Song Sparrow (8) | Canada Goose (11) | Gray Catbird (8) |
| Common Grackle (9) | Song Sparrow (8) | Gray Catbird (8) | Tennessee Warbler (11) | Magnolia Warbler (8) |

| 2015 | 2016 | 2017 | 2018 | 2019 |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| American Crow (31) | Cedar Waxwing (25) | Canada Goose (38) | Common Grackle (236) | American Crow (51) |
| Black-capped Chickadee (20) | Red-winged Blackbird (25) | American Crow (38) | American Goldfinch (47) | Broad-winged Hawk (36) |
| Common Grackle (17) | American Goldfinch (23) | Magnolia Warbler (23) | Canada Goose (36) | Canada Goose (33) |
| American Goldfinch (17) | American Crow (20) | Red-winged Blackbird (16) | American Crow (16) | Magnolia Warbler (25) |
| Canada Goose (14) | Black-capped Chickadee (16) | Black-capped Chickadee (15) | Black-capped Chickadee (16) | American Goldfinch (18) |
| Broad-winged Hawk (14) | Blue Jay (15) | American Goldfinch (14) | Blue Jay (16) | Black-capped Chickadee (16) |
| Blue Jay (14) | American Robin (13) | Blue Jay (11) | American Robin (16) | American Robin (15) |
| Red-winged Blackbird (11) | Common Grackle (9) | Common Grackle (10) | Cedar Waxwing (12) | Blue Jay (12) |
| Common Yellowthroat (9) | Gray Catbird (7) | American Robin (10) | Magnolia Warbler (9) | Northern Cardinal (9) |
| Gray Catbird (8) | Red-eyed Vireo (6) | Cedar Waxwing (9) | Gray Catbird (8) | American Redstart (9) |

Banding notes: 29 species have been among the annual top 10 banded in Week 6 of fall. It is the fifth and final week during which American Redstart has been included annually, and the second of three consecutive weeks for Magnolia Warbler appearing in all 15 years. Magnolia Warbler has been the top species in 10 years, with White-throated Sparrow (2007 and 2009), American Goldfinch (2014), Swainson’s Thrush (2015), and Red-eyed Vireo (2016) in the remaining five years. An unusually high nine species have appeared in the top 10 of Week 6 just once: Yellow-bellied Flycatcher (2019), Traill’s Flycatcher (2018), Philadelphia Vireo (2018), Common Grackle (2006), Black-throated Blue Warbler (2009), Myrtle Warbler (2006), Western Palm Warbler (2010), Yellow Palm Warbler (2005), and Bay-breasted Warbler (2019); for Philadelphia Vireo and Bay-breasted Warbler this was their only appearance in the top 10 in any week of fall. Fifteen warbler species have appeared on the Week 6 list, and warblers comprise 60% of all entries across the years for the second week in a row.

Observation notes: 22 species have occurred on the Week 6 top 10 lists between 2005 and 2019, including four that have appeared annually: Blue Jay, American Crow, Black-capped Chickadee, and American Goldfinch; the only other species appearing at least 12 times was Canada Goose. Similar to Week 5, Common Grackle was the most abundant species in Week 6 in 6 years, followed by Canada Goose and American Crow in three years each. Western Palm Warbler was in the top 10 in 2010, the only time ever in fall; three other species also appeared in the top 10 for Week 5 just once: Nashville Warbler (2005), American Redstart (2019), and Northern Cardinal (2019).

Bandings, Fall Week 7 (September 12 - 18):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|--------------------------|---------------------------|----------------------------|--------------------------|----------------------------|
| White-thr. Sparrow (44) | Myrtle Warbler (49) | White-thr. Sparrow (32) | Magnolia Warbler (36) | Song Sparrow (34) |
| American Goldfinch (40) | Nashville Warbler (23) | Magnolia Warbler (14) | White-thr. Sparrow (20) | White-thr. Sparrow (31) |
| Nashville Warbler (38) | Tennessee Warbler (20) | Gray Catbird (10) | Nashville Warbler (19) | Magnolia Warbler (12) |
| Magnolia Warbler (37) | Ruby-crowned Kinglet (19) | Song Sparrow (9) | Tennessee Warbler (18) | Nashville Warbler (10) |
| Red-eyed Vireo (35) | White-thr. Sparrow (18) | Nashville Warbler (8) | Song Sparrow (10) | Indigo Bunting (10) |
| Yellow Palm Warbler (31) | Magnolia Warbler (18) | Blk-thr. Blue Warbler (5) | Blue Jay (9) | Swamp Sparrow (7) |
| Song Sparrow (23) | Song Sparrow (16) | Wilson's Warbler (5) | Common Yellowthroat (9) | Common Yellowthroat (7) |
| Common Yellowthroat (14) | Common Yellowthroat (15) | Black-capped Chickadee (4) | Ruby-crowned Kinglet (8) | Blackpoll Warbler (7) |
| Myrtle Warbler (14) | American Goldfinch (14) | American Goldfinch (4) | American Redstart (8) | Black-capped Chickadee (5) |
| Swainson's Thrush (13) | Red-eyed Vireo (10) | Chipping Sparrow (4) | Red-eyed Vireo (7) | Gray Catbird (5) |
| Tennessee Warbler (13) | | Common Yellowthroat (4) | American Goldfinch (7) | Lincoln's Sparrow (5) |
| | | | Blackpoll Warbler (7) | Tennessee Warbler (5) |

| 2010 | 2011 | 2012 | 2013 | 2014 |
|----------------------------|--------------------------|-----------------------------|----------------------------|--------------------------|
| Magnolia Warbler (46) | Magnolia Warbler (38) | Swainson's Thrush (66) | Magnolia Warbler (84) | Magnolia Warbler (94) |
| Myrtle Warbler (27) | Tennessee Warbler (28) | Magnolia Warbler (59) | Tennessee Warbler (17) | Nashville Warbler (26) |
| White-thr. Sparrow (25) | Nashville Warbler (19) | White-thr. Sparrow (53) | White-thr. Sparrow (15) | Red-eyed Vireo (23) |
| Nashville Warbler (22) | Blackpoll Warbler (15) | Common Yellowthroat (18) | American Goldfinch (14) | Tennessee Warbler (14) |
| American Goldfinch (17) | White-thr. Sparrow (13) | Blk-thr. Green Warbler (15) | Cape May Warbler (14) | Gray Catbird (13) |
| Red-eyed Vireo (15) | American Redstart (12) | Song Sparrow (13) | Red-eyed Vireo (13) | White-thr. Sparrow (13) |
| Tennessee Warbler (11) | Common Yellowthroat (10) | Nashville Warbler (13) | Swainson's Thrush (12) | American Redstart (13) |
| Swainson's Thrush (9) | Indigo Bunting (10) | Gray Catbird (12) | American Redstart (12) | Wilson's Warbler (12) |
| Black-capped Chickadee (8) | Gray Catbird (8) | American Goldfinch (12) | Nashville Warbler (8) | American Goldfinch (11) |
| Common Yellowthroat (8) | Wilson's Warbler (8) | Blackpoll Warbler (12) | Golden-crowned Kinglet (7) | Common Yellowthroat (10) |
| American Redstart (8) | | | Song Sparrow (7) | |
| Blk-thr. Blue Warbler (8) | | | Blk-thr. Blue Warbler (7) | |

| 2015 | 2016 | 2017 | 2018 | 2019 |
|--------------------------|----------------------------|--------------------------|---------------------------|---------------------------|
| Magnolia Warbler (60) | Swainson's Thrush (31) | Magnolia Warbler (29) | Swainson's Thrush (20) | Magnolia Warbler (28) |
| Swainson's Thrush (41) | Magnolia Warbler (24) | Swainson's Thrush (24) | Gray Catbird (20) | American Redstart (10) |
| Tennessee Warbler (24) | White-thr. Sparrow (20) | Gray Catbird (13) | American Goldfinch (20) | Tennessee Warbler (9) |
| Red-eyed Vireo (17) | Red-eyed Vireo (13) | White-thr. Sparrow (12) | White-thr. Sparrow (19) | Common Yellowthroat (8) |
| White-thr. Sparrow (13) | Gray Catbird (12) | Common Yellowthroat (11) | Red-eyed Vireo (17) | Swainson's Thrush (7) |
| Ovenbird (12) | Ovenbird (9) | Wilson's Warbler (9) | Magnolia Warbler (15) | Ovenbird (6) |
| Common Yellowthroat (11) | Black-capped Chickadee (8) | Ovenbird (7) | Tennessee Warbler (11) | Blackpoll Warbler (6) |
| American Redstart (8) | Song Sparrow (8) | Song Sparrow (5) | Common Yellowthroat (7) | Gray Catbird (5) |
| Ruby-crowned Kinglet (7) | Common Yellowthroat (8) | Tennessee Warbler (5) | Rose-breast. Grosbeak (5) | White-thr. Sparrow (5) |
| Gray Catbird (7) | Wilson's Warbler (8) | American Redstart (5) | Song Sparrow (4) | Song Sparrow (4) |
| Song Sparrow (7) | | | Northern Waterthrush (4) | Northern Waterthrush (4) |
| Nashville Warbler (7) | | | Blk-and-white Warbler (4) | Blk-thr. Blue Warbler (4) |
| West. Palm Warbler (7) | | | American Redstart (4) | |

| WEATHER | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Mean high (°C) | 24.2 | 21.1 | 19.0 | 21.1 | 20.2 | 18.2 | 19.7 | 23.6 | 18.0 | 14.9 | 24.4 | 22.7 | 26.4 | 27.4 | 20.3 | 21.4 |
| Mean low (°C) | 16.6 | 12.6 | 7.3 | 10.5 | 9.4 | 9.5 | 10.2 | 10.2 | 9.3 | 6.0 | 15.1 | 11.6 | 15.1 | 15.8 | 9.7 | 11.3 |
| High temp (°C) | 29 | 27 | 24 | 27 | 25 | 21 | 27 | 29 | 24 | 19 | 28 | 27 | 28 | 30 | 23 | 25.9 |
| Low temp (°C) | 14 | 7 | 4 | 5 | 7 | 7 | 6 | 4 | 4 | 3 | 14 | 7 | 12 | 12 | 7 | 7.5 |
| # days with rain | 4 | 2 | 3 | 4 | 2 | 4 | 4 | 3 | 4 | 5 | 3 | 3 | 0 | 0 | 1 | 2.8 |
| Total rain (mm) | 36 | 12 | 8 | 17 | 4 | 24 | 39 | 37 | 39 | 22 | 52 | 3 | 0 | 0 | 7 | 20.0 |

Weather notes: There is again a notable drop in mean temperatures from Week 6 to Week 7, and this is the first week in fall that is slightly cooler than the final two weeks of spring. Temperatures are more variable from year to year than in most other weeks, with the mean high temperatures spanning more than 12 degrees Celsius from a low of 14.9 in 2014 to a high of 27.4 in 2018. The three warmest years have all been in the past five years; the past four years have also been exceptionally dry, contrasting with 2015, which was the only year during which rainfall was unusually high in Week 7.

Observations, Fall Week 7 (September 12 - 18):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Common Grackle (366) | American Crow (244) | American Crow (139) | American Crow (86) | Canada Goose (81) |
| American Crow (45) | Common Grackle (66) | White-thr. Sparrow (32) | Canada Goose (42) | European Starling (25) |
| White-thr. Sparrow (29) | American Goldfinch (33) | Blue Jay (27) | Cedar Waxwing (29) | American Robin (25) |
| Black-capped Chickadee (25) | Blue Jay (23) | American Goldfinch (19) | Red-winged Blackbird (24) | Cedar Waxwing (24) |
| American Goldfinch (23) | Black-capped Chickadee (21) | Black-capped Chickadee (15) | Common Grackle (19) | American Crow (21) |
| Canada Goose (22) | Song Sparrow (18) | Canada Goose (14) | Black-capped Chickadee (17) | White-thr. Sparrow (19) |
| Blue Jay (10) | Myrtle Warbler (17) | Common Grackle (14) | Blue Jay (14) | Black-capped Chickadee (19) |
| Nashville Warbler (9) | American Robin (16) | Cedar Waxwing (12) | American Goldfinch (13) | American Goldfinch (18) |
| Cedar Waxwing (9) | White-thr. Sparrow (14) | Song Sparrow (8) | Magnolia Warbler (9) | Blue Jay (17) |
| Red-eyed Vireo (8) | Ruby-crowned Kinglet (14) | Broad-winged Hawk (7) | White-thr. Sparrow (8) | Red-winged Blackbird (15) |

| 2010 | 2011 | 2012 | 2013 | 2014 |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|---------------------------|
| American Crow (85) | Canada Goose (122) | Blue Jay (54) | Common Grackle (80) | European Starling (175) |
| Canada Goose (46) | American Crow (53) | Canada Goose (46) | American Crow (76) | Canada Goose (137) |
| Common Grackle (32) | Blue Jay (24) | White-thr. Sparrow (42) | European Starling (75) | Common Grackle (108) |
| Blue Jay (32) | Black-capped Chickadee (20) | American Goldfinch (26) | Canada Goose (53) | American Crow (75) |
| Black-capped Chickadee (26) | Cedar Waxwing (13) | Common Grackle (21) | Red-winged Blackbird (33) | Ring-billed Gull (63) |
| American Goldfinch (19) | Magnolia Warbler (13) | American Crow (21) | American Goldfinch (26) | Broad-winged Hawk (50) |
| White-thr. Sparrow (17) | White-thr. Sparrow (11) | Black-capped Chickadee (20) | Cedar Waxwing (20) | Red-winged Blackbird (31) |
| European Starling (11) | Red-winged Blackbird (8) | Swainson's Thrush (16) | Blue Jay (19) | Blue Jay (29) |
| American Robin (11) | Tennessee Warbler (8) | American Robin (16) | Magnolia Warbler (18) | American Robin (25) |
| Cedar Waxwing (10) | American Goldfinch (8) | Magnolia Warbler (12) | Black-capped Chickadee (15) | American Goldfinch (23) |

| 2015 | 2016 | 2017 | 2018 | 2019 |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| American Crow (21) | Common Grackle (33) | Red-winged Blackbird (76) | Common Grackle (32) | Canada Goose (105) |
| American Goldfinch (17) | Cedar Waxwing (26) | Common Grackle (63) | American Goldfinch (31) | American Crow (56) |
| White-thr. Sparrow (17) | Blue Jay (25) | Canada Goose (56) | American Robin (19) | Common Grackle (52) |
| Magnolia Warbler (17) | Canada Goose (24) | American Crow (26) | American Crow (18) | Broad-winged Hawk (31) |
| Blue Jay (16) | American Crow (24) | European Starling (24) | Blue Jay (17) | Blue Jay (15) |
| Black-capped Chickadee (14) | American Goldfinch (21) | American Goldfinch (22) | Black-capped Chickadee (16) | Black-capped Chickadee (14) |
| Broad-winged Hawk (14) | Red-winged Blackbird (18) | Black-capped Chickadee (17) | European Starling (14) | American Goldfinch (13) |
| Canada Goose (12) | Black-capped Chickadee (17) | American Robin (17) | Canada Goose (14) | American Robin (10) |
| Swainson's Thrush (11) | American Robin (16) | Blue Jay (16) | Gray Catbird (12) | Magnolia Warbler (9) |
| Cedar Waxwing (11) | Broad-winged Hawk (16) | Broad-winged Hawk (16) | Song Sparrow (11) | Northern Cardinal (7) |

Banding notes: 31 species have been among the annual top 10 banded in Week 7 of fall, tied with Week 8 for the highest diversity in fall. It is the third and final week during which Magnolia Warbler has been in the top 10 every year, and the first of six consecutive weeks like that for White-throated Sparrow. Only three species have taken top place for the week: Magnolia Warbler nine times, and Swainson's Thrush and White-throated Sparrow three times each. A record high 11 species have appeared in the top 10 of Week 7 just once: Blue Jay (2008), Golden-crowned Kinglet (2013), Chipping Sparrow (2007), Lincoln's Sparrow (2009), Swamp Sparrow (2009), Black-and-white Warbler (2018), Cape May Warbler (2013), Western Palm Warbler (2015), Yellow Palm Warbler (2005), Black-throated Green Warbler (2012), and Rose-breasted Grosbeak (2018). A record high 16 warbler species have appeared on the Week 7 list, and warblers comprise 53% of all entries across the years.

Observation notes: 23 species have occurred on the Week 7 top 10 lists between 2005 and 2019, including three that have appeared annually: Blue Jay, American Crow, and American Goldfinch; Canada Goose, Black-capped Chickadee, and Common Grackle each appeared in at least 12 years. Similar to Week 5, Six species have topped the list in different years, with Common Grackle the most frequent, in five years, followed by Canada Goose in three years. Eight species appeared in the top 10 for Week 7 just once: Ring-billed Gull (2009), Red-eyed Vireo (2005), Ruby-crowned Kinglet (2006), Gray Catbird (2018), Nashville Warbler (2005), Myrtle Warbler (2006), and for the fifth consecutive week, Northern Cardinal on the basis of high numbers in 2019.

Bandings, Fall Week 8 (September 19 - 25):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|-----------------------------|-----------------------------|----------------------------|----------------------------|----------------------------|
| White-thr. Sparrow (86) | Myrtle Warbler (169) | White-thr. Sparrow (60) | Myrtle Warbler (170) | White-thr. Sparrow (62) |
| Myrtle Warbler (76) | Ruby-crowned Kinglet (42) | American Goldfinch (17) | White-thr. Sparrow (50) | Song Sparrow (28) |
| Ruby-crowned Kinglet (46) | Magnolia Warbler (16) | West. Palm Warbler (16) | Ruby-crowned Kinglet (24) | Magnolia Warbler (25) |
| Red-eyed Vireo (33) | Nashville Warbler (15) | Ruby-crowned Kinglet (13) | Nashville Warbler (20) | Common Yellowthroat (13) |
| Song Sparrow (27) | White-thr. Sparrow (14) | Song Sparrow (11) | Tennessee Warbler (16) | Gray Catbird (10) |
| Magnolia Warbler (22) | Blk-thr. Green Warbler (11) | Nashville Warbler (10) | Song Sparrow (13) | Nashville Warbler (10) |
| Nashville Warbler (19) | Song Sparrow (10) | Black-capped Chickadee (7) | Magnolia Warbler (10) | Blk-thr. Blue Warbler (10) |
| Golden-crowned Kinglet (12) | Common Yellowthroat (6) | Swamp Sparrow (7) | Golden-crowned Kinglet (8) | Indigo Bunting (10) |
| Chipping Sparrow (12) | Lincoln's Sparrow (5) | Gray Catbird (6) | Common Yellowthroat (8) | American Goldfinch (7) |
| Swainson's Thrush (10) | Red-eyed Vireo (4) | Cedar Waxwing (6) | Blue Jay (7) | Tennessee Warbler (7) |
| | Golden-crowned Kinglet (4) | | | |
| | Scarlet Tanager (4) | | | |

| 2010 | 2011 | 2012 | 2013 | 2014 |
|-----------------------------|---------------------------|----------------------------|-----------------------------|-----------------------------|
| Myrtle Warbler (881) | Magnolia Warbler (28) | White-thr. Sparrow (60) | White-thr. Sparrow (23) | White-thr. Sparrow (66) |
| White-thr. Sparrow (85) | Tennessee Warbler (23) | Blue Jay (24) | Song Sparrow (19) | Magnolia Warbler (42) |
| Nashville Warbler (53) | Ruby-crowned Kinglet (18) | Swainson's Thrush (20) | Magnolia Warbler (19) | Ruby-crowned Kinglet (21) |
| Ruby-crowned Kinglet (20) | Nashville Warbler (18) | Ruby-crowned Kinglet (15) | Tennessee Warbler (18) | Blue Jay (17) |
| Tennessee Warbler (20) | White-thr. Sparrow (15) | Gray-cheeked Thrush (10) | Golden-crowned Kinglet (14) | Swainson's Thrush (16) |
| Blue Jay (18) | Common Yellowthroat (13) | Song Sparrow (9) | Red-eyed Vireo (12) | Nashville Warbler (15) |
| Black-capped Chickadee (17) | Blackpoll Warbler (12) | Nashville Warbler (8) | Ruby-crowned Kinglet (12) | Golden-crowned Kinglet (14) |
| Magnolia Warbler (17) | Chipping Sparrow (11) | Magnolia Warbler (7) | American Redstart (11) | Blk-thr. Blue Warbler (12) |
| Dark-eyed Junco (16) | Song Sparrow (10) | Black-capped Chickadee (6) | Nashville Warbler (9) | Myrtle Warbler (12) |
| Song Sparrow (16) | Myrtle Warbler (10) | Brown Creeper (5) | Gray Catbird (6) | Red-eyed Vireo (10) |
| | | Golden-crowned Kinglet (5) | Blk-thr. Blue Warbler (6) | |

| 2015 | 2016 | 2017 | 2018 | 2019 |
|-----------------------------|-----------------------------|----------------------------|--------------------------|----------------------------|
| Swainson's Thrush (56) | White-thr. Sparrow (64) | White-thr. Sparrow (51) | White-thr. Sparrow (47) | Tennessee Warbler (78) |
| Magnolia Warbler (37) | Swainson's Thrush (48) | Myrtle Warbler (39) | Magnolia Warbler (40) | Magnolia Warbler (74) |
| White-thr. Sparrow (25) | Magnolia Warbler (34) | Song Sparrow (21) | Swainson's Thrush (30) | White-thr. Sparrow (18) |
| Golden-crowned Kinglet (18) | Golden-crowned Kinglet (18) | Gray Catbird (14) | Tennessee Warbler (15) | American Goldfinch (14) |
| Red-eyed Vireo (14) | Gray-cheeked Thrush (16) | Magnolia Warbler (14) | American Goldfinch (14) | Nashville Warbler (11) |
| Gray Catbird (13) | Song Sparrow (13) | Ruby-crowned Kinglet (13) | Song Sparrow (12) | American Redstart (10) |
| Song Sparrow (12) | Ruby-crowned Kinglet (12) | Swainson's Thrush (8) | Ruby-crowned Kinglet (9) | Red-eyed Vireo (9) |
| Blue Jay (11) | Myrtle Warbler (11) | Common Yellowthroat (8) | Gray Catbird (8) | Ovenbird (9) |
| Tennessee Warbler (11) | Nashville Warbler (9) | Blue Jay (4) | Red-eyed Vireo (7) | Black-capped Chickadee (6) |
| Ruby-crowned Kinglet (10) | West. Palm Warbler (8) | House Wren (4) | Nashville Warbler (7) | Swainson's Thrush (6) |
| Ovenbird (10) | | Golden-crowned Kinglet (4) | Wilson's Warbler (7) | Song Sparrow (6) |
| | | Swamp Sparrow (4) | | Blk-thr. Blue Warbler (6) |
| | | Ovenbird (4) | | |

| WEATHER | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Mean high (°C) | 21.8 | 17.9 | 25.8 | 19.7 | 20.2 | 19.9 | 22.6 | 17.9 | 19.2 | 18.8 | 21.2 | 22.0 | 28.1 | 17.8 | 22.8 | 21.0 |
| Mean low (°C) | 11.2 | 9.3 | 12.8 | 7.4 | 8.7 | 8.3 | 13.5 | 8.7 | 8.9 | 8.0 | 10.0 | 10.4 | 16.8 | 9.2 | 12.8 | 10.4 |
| High temp (°C) | 26 | 23 | 29 | 25 | 25 | 23 | 25 | 20 | 26 | 23 | 28 | 27 | 32 | 23 | 26 | 25.4 |
| Low temp (°C) | 4 | 6 | 11 | 4 | 4 | 5 | 9 | 5 | 5 | 1 | 7 | 6 | 14 | 4 | 6 | 6.1 |
| # days with rain | 3 | 5 | 0 | 0 | 2 | 5 | 5 | 3 | 2 | 3 | 1 | 2 | 0 | 2 | 3 | 2.4 |
| Total rain (mm) | 5 | 24 | 0 | 0 | 16 | 24 | 11 | 18 | 18 | 8 | 12 | 4 | 0 | 39 | 6 | 12.3 |

Weather notes: On average, temperatures in Week 8 are only marginally cooler than in Week 7, and still warmer than all of spring except the final two weeks. There is considerable fluctuation from year to year, though less so than in Week 7. The warmest year was 2017, whereas 2012, 2014, and 2018 were all unusually cool. Week 8 is on average the driest week of fall by far, with an average of only 12 mm of rain, a peak of just 39 mm in 2018, and a record high three years (2007, 2008, and 2017) with no rain at all.

Observations, Fall Week 8 (September 19 - 25):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|-----------------------------|---------------------------|-----------------------------|-----------------------------|-----------------------------|
| Canada Goose (365) | American Crow (244) | American Crow (138) | Canada Goose (448) | Canada Goose (1166) |
| Common Grackle (334) | Canada Goose (156) | Canada Goose (133) | American Crow (144) | American Crow (81) |
| American Crow (57) | Common Grackle (84) | Common Grackle (49) | Myrtle Warbler (46) | Cedar Waxwing (51) |
| White-thr. Sparrow (54) | Myrtle Warbler (76) | White-thr. Sparrow (41) | Red-winged Blackbird (36) | Common Grackle (50) |
| Blue Jay (26) | American Robin (32) | American Robin (28) | White-thr. Sparrow (29) | White-thr. Sparrow (37) |
| Myrtle Warbler (22) | Ruby-crowned Kinglet (30) | Cedar Waxwing (21) | Blue Jay (23) | American Robin (37) |
| Black-capped Chickadee (21) | Rusty Blackbird (30) | Black-capped Chickadee (19) | Cedar Waxwing (22) | Blue Jay (26) |
| American Goldfinch (20) | Blue Jay (24) | Blue Jay (18) | American Robin (17) | American Goldfinch (21) |
| Red-winged Blackbird (19) | Red-winged Blackbird (20) | American Goldfinch (18) | Black-capped Chickadee (16) | Red-winged Blackbird (21) |
| American Robin (18) | White-thr. Sparrow (18) | Red-winged Blackbird (15) | American Goldfinch (14) | Black-capped Chickadee (16) |
| Song Sparrow (18) | | | | |

| 2010 | 2011 | 2012 | 2013 | 2014 |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Myrtle Warbler (239) | Canada Goose (147) | Canada Goose (93) | Canada Goose (283) | Canada Goose (601) |
| Canada Goose (126) | Ring-billed Gull (44) | Blue Jay (75) | American Crow (72) | Common Grackle (198) |
| American Crow (97) | American Crow (44) | White-thr. Sparrow (64) | Red-winged Blackbird (71) | European Starling (124) |
| Blue Jay (77) | Blue Jay (24) | Red-winged Blackbird (50) | White-thr. Sparrow (28) | White-thr. Sparrow (57) |
| White-thr. Sparrow (51) | Red-winged Blackbird (20) | American Robin (38) | Blue Jay (25) | Red-winged Blackbird (44) |
| Red-winged Blackbird (33) | Cedar Waxwing (18) | American Crow (31) | Black-capped Chickadee (22) | Blue Jay (40) |
| European Starling (31) | Black-capped Chickadee (17) | Black-capped Chickadee (20) | American Goldfinch (19) | American Crow (39) |
| Black-capped Chickadee (26) | American Robin (16) | American Goldfinch (19) | Song Sparrow (19) | American Robin (30) |
| American Robin (16) | European Starling (16) | Cedar Waxwing (9) | American Robin (13) | Black-capped Chickadee (16) |
| American Goldfinch (14) | White-thr. Sparrow (15) | Ring-billed Gull (8) | European Starling (13) | Ring-billed Gull (12) |

| 2015 | 2016 | 2017 | 2018 | 2019 |
|-----------------------------|-----------------------------|---------------------------|-----------------------------|-----------------------------|
| Canada Goose (260) | Canada Goose (243) | Canada Goose (225) | Canada Goose (201) | Canada Goose (193) |
| Blue Jay (35) | European Starling (111) | Common Grackle (101) | Red-winged Blackbird (37) | Common Grackle (61) |
| American Crow (34) | White-thr. Sparrow (40) | Red-winged Blackbird (95) | White-thr. Sparrow (30) | Red-winged Blackbird (32) |
| White-thr. Sparrow (32) | American Crow (40) | American Crow (43) | Common Grackle (28) | European Starling (32) |
| American Robin (17) | Blue Jay (37) | White-thr. Sparrow (30) | American Goldfinch (21) | American Crow (30) |
| Black-capped Chickadee (16) | American Robin (23) | Cedar Waxwing (26) | American Robin (18) | Blue Jay (20) |
| American Goldfinch (16) | Red-winged Blackbird (17) | Myrtle Warbler (20) | Blue Jay (18) | Rusty Blackbird (18) |
| European Starling (14) | Black-capped Chickadee (17) | European Starling (18) | American Crow (16) | Magnolia Warbler (16) |
| Swainson's Thrush (13) | American Goldfinch (15) | American Robin (17) | Black-capped Chickadee (14) | Tennessee Warbler (15) |
| Red-winged Blackbird (12) | Myrtle Warbler (14) | Song Sparrow (16) | Magnolia Warbler (10) | Black-capped Chickadee (15) |

Banding notes: 31 species have been among the annual top 10 banded in Week 8 of fall, tied with Week 7 for the highest diversity in fall. It is the first week in fall during which only one species has been on the list in all 15 years: White-throated Sparrow. Correspondingly, it has topped the list in nine years, with Myrtle Warbler (2006, 2008, 2010), Magnolia Warbler (2010), Swainson's Thrush (2015), and Tennessee Warbler (2019) leading the week in other years. Ten species have appeared in the top 10 of Week 8 just once: Brown Creeper (2012), House Wren (2017), Cedar Waxwing (2007), Lincoln's Sparrow (2006), Dark-eyed Junco (2010), Blackpoll Warbler (2011), Black-throated Green Warbler (2006), Wilson's Warbler (2018), Scarlet Tanager (2006, for the only time in any part of fall), and Indigo Bunting (2009). The dominance of warblers tapers off sharply in Week 8, with only 12 warbler species appearing on the top 10 list over the years, and warblers comprising 39% of all entries. Meanwhile, sparrows increase to 6 species across 15 years, and account for 22% of species on the lists.

Observation notes: 19 species have occurred on the Week 8 top 10 lists between 2005 and 2019, including three that have appeared annually: Canada Goose, American Crow, and for the first time in fall, Red-winged Blackbird. Another four species were on the list in at least 12 of 15 years: Blue Jay, Black-capped Chickadee, American Robin, and White-throated Sparrow. Canada Goose has topped the list in 12 years, with the only exceptions being American Crow in 2006 and 2007, and an exceptional count of Myrtle Warblers in 2010. Only three species have appeared in the top 10 for Week 8 just once: Ruby-crowned Kinglet (2006), Swainson's Thrush (2015), and Tennessee Warbler (2019).

Bandings, Fall Week 9 (September 26 - October 2):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|-----------------------------|-----------------------------|-----------------------------|----------------------------|---------------------------|
| White-thr. Sparrow (104) | Myrtle Warbler (241) | White-thr. Sparrow (96) | Myrtle Warbler (688) | White-thr. Sparrow (100) |
| Ruby-crowned Kinglet (89) | Ruby-crowned Kinglet (114) | Ruby-crowned Kinglet (45) | Ruby-crowned Kinglet (111) | Song Sparrow (50) |
| Black-capped Chickadee (38) | White-thr. Sparrow (57) | White-cr. Sparrow (22) | White-thr. Sparrow (74) | Ruby-crowned Kinglet (45) |
| Myrtle Warbler (21) | White-cr. Sparrow (27) | Black-capped Chickadee (16) | Nashville Warbler (36) | Blue-headed Vireo (21) |
| Song Sparrow (18) | Golden-crowned Kinglet (17) | American Goldfinch (15) | Song Sparrow (24) | Myrtle Warbler (21) |
| Dark-eyed Junco (17) | Song Sparrow (13) | Song Sparrow (15) | Blue-headed Vireo (18) | White-cr. Sparrow (14) |
| Golden-crowned Kinglet (11) | Nashville Warbler (10) | Swamp Sparrow (13) | American Goldfinch (12) | Nashville Warbler (13) |
| Nashville Warbler (10) | Gray Catbird (8) | Myrtle Warbler (12) | Tennessee Warbler (11) | Magnolia Warbler (11) |
| Blk-thr. Blue Warbler (10) | Magnolia Warbler (8) | Blue-headed Vireo (8) | Magnolia Warbler (11) | Hermit Thrush (8) |
| White-cr. Sparrow (6) | Cedar Waxwing (6) | American Robin (6) | Dark-eyed Junco (10) | Swamp Sparrow (8) |
| | | Dark-eyed Junco (6) | | Blk-thr. Blue Warbler (8) |
| | | West. Palm Warbler (6) | | |

| 2010 | 2011 | 2012 | 2013 | 2014 |
|-----------------------------|-----------------------------|-----------------------------|----------------------------|-----------------------------|
| Myrtle Warbler (750) | Ruby-crowned Kinglet (67) | White-thr. Sparrow (112) | White-thr. Sparrow (55) | White-thr. Sparrow (88) |
| Ruby-crowned Kinglet (82) | White-thr. Sparrow (49) | Myrtle Warbler (84) | Ruby-crowned Kinglet (54) | Myrtle Warbler (84) |
| White-thr. Sparrow (70) | Myrtle Warbler (33) | Ruby-crowned Kinglet (67) | Myrtle Warbler (24) | Ruby-crowned Kinglet (45) |
| Nashville Warbler (26) | Song Sparrow (30) | Swainson's Thrush (21) | Song Sparrow (21) | Golden-crowned Kinglet (32) |
| Black-capped Chickadee (15) | Tennessee Warbler (22) | Song Sparrow (19) | Dark-eyed Junco (10) | Blue Jay (23) |
| American Goldfinch (14) | Nashville Warbler (22) | Golden-crowned Kinglet (14) | Golden-crowned Kinglet (9) | Dark-eyed Junco (23) |
| Magnolia Warbler (11) | Golden-crowned Kinglet (20) | Nashville Warbler (11) | American Goldfinch (8) | Magnolia Warbler (20) |
| Golden-crowned Kinglet (10) | Chipping Sparrow (12) | Black-capped Chickadee (10) | Nashville Warbler (8) | Song Sparrow (14) |
| Common Grackle (10) | Blue Jay (7) | Blue Jay (9) | Swamp Sparrow (7) | American Goldfinch (12) |
| Blue Jay (9) | Gray Catbird (7) | White-cr. Sparrow (9) | Red-eyed Vireo (6) | Nashville Warbler (12) |
| Song Sparrow (9) | | | | |
| Tennessee Warbler (9) | | | | |

| 2015 | 2016 | 2017 | 2018 | 2019 |
|----------------------------|-----------------------------|-----------------------------|----------------------------|-----------------------------|
| White-thr. Sparrow (51) | Ruby-crowned Kinglet (187) | White-thr. Sparrow (87) | White-thr. Sparrow (134) | White-thr. Sparrow (43) |
| Blue Jay (16) | White-thr. Sparrow (100) | Ruby-crowned Kinglet (76) | Ruby-crowned Kinglet (75) | Ruby-crowned Kinglet (30) |
| Ruby-crowned Kinglet (14) | Golden-crowned Kinglet (63) | Myrtle Warbler (55) | Swainson's Thrush (67) | Tennessee Warbler (16) |
| Dark-eyed Junco (13) | Swainson's Thrush (30) | Golden-crowned Kinglet (23) | Magnolia Warbler (25) | Myrtle Warbler (14) |
| Myrtle Warbler (10) | Dark-eyed Junco (23) | Swainson's Thrush (21) | Myrtle Warbler (21) | Magnolia Warbler (13) |
| Swainson's Thrush (9) | Myrtle Warbler (19) | Song Sparrow (13) | Tennessee Warbler (15) | Blue-headed Vireo (11) |
| Gray Catbird (8) | Blue Jay (16) | Magnolia Warbler (13) | Nashville Warbler (13) | Golden-crowned Kinglet (11) |
| Golden-crowned Kinglet (7) | Black-capped Chickadee (16) | Hermit Thrush (11) | Purple Finch (11) | Gray Catbird (8) |
| Song Sparrow (5) | Magnolia Warbler (13) | Gray Catbird (8) | Blue-headed Vireo (7) | Blk-thr. Blue Warbler (8) |
| Blk-thr. Blue Warbler (4) | Song Sparrow (11) | Swamp Sparrow (7) | Golden-crowned Kinglet (7) | Swainson's Thrush (7) |
| Indigo Bunting (4) | | Tennessee Warbler (7) | American Goldfinch (7) | |
| | | Nashville Warbler (7) | | |
| | | Blk-thr. Blue Warbler (7) | | |

| WEATHER | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Mean high (°C) | 20.1 | 16.6 | 20.3 | 18.1 | 14.1 | 17.5 | 19.4 | 16.3 | 22.0 | 21.1 | 18.3 | 18.8 | 20.8 | 16.4 | 16.9 | 18.4 |
| Mean low (°C) | 9.1 | 8.1 | 11.3 | 12.1 | 7.2 | 10.7 | 11.0 | 8.4 | 9.6 | 10.9 | 7.6 | 9.6 | 10.2 | 9.2 | 7.7 | 9.5 |
| High temp (°C) | 25 | 21 | 26 | 21 | 19 | 25 | 25 | 21 | 25 | 25 | 25 | 21 | 31 | 23 | 20 | 23.5 |
| Low temp (°C) | 5 | 4 | 6 | 6 | 3 | 5 | 7 | 4 | 6 | 9 | 4 | 4 | 5 | 8 | 4 | 5.3 |
| # days with rain | 3 | 4 | 3 | 6 | 6 | 5 | 5 | 4 | 0 | 0 | 3 | 3 | 1 | 6 | 5 | 3.6 |
| Total rain (mm) | 42 | 28 | 22 | 14 | 29 | 91 | 52 | 26 | 0 | 0 | 38 | 5 | 6 | 17 | 68 | 29.2 |

Weather notes: After remaining relatively steady from Week 7 to Week 8, average temperatures drop off sharply in Week 9, which tends to be roughly 2 degrees Celsius cooler than the previous week. 2009 was substantially colder than other years, whereas 2013, 2014, and 2017 were the warmest overall, with 2017 registering the latest day of the year with a temperature exceeding 30 degrees Celsius. The average rainfall for Week 9 is quite high, but inflated by two particularly wet years in 2010 and 2019; conversely, there were four years between 2013 and 2017 with 6 mm of rain or less.

Observations, Fall Week 9 (September 26 - October 2):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Canada Goose (494) | Canada Goose (251) | Canada Goose (433) | Canada Goose (310) | Canada Goose (758) |
| Common Grackle (150) | American Crow (126) | American Crow (106) | American Crow (206) | Common Grackle (80) |
| White-thr. Sparrow (88) | Myrtle Warbler (76) | Red-winged Blackbird (75) | Myrtle Warbler (155) | American Robin (68) |
| American Crow (74) | Ruby-crowned Kinglet (42) | White-thr. Sparrow (60) | American Robin (34) | White-thr. Sparrow (68) |
| Blue Jay (34) | White-thr. Sparrow (32) | Common Grackle (56) | Ruby-crowned Kinglet (33) | American Crow (47) |
| Black-capped Chickadee (29) | American Robin (31) | American Robin (42) | Red-winged Blackbird (32) | European Starling (35) |
| Ruby-crowned Kinglet (28) | Blue Jay (19) | Blue Jay (28) | White-thr. Sparrow (27) | Blue Jay (27) |
| American Robin (28) | White-cr. Sparrow (18) | Black-capped Chickadee (22) | Common Grackle (27) | Song Sparrow (26) |
| Red-winged Blackbird (21) | Black-capped Chickadee (16) | Ruby-crowned Kinglet (15) | Blue Jay (18) | Cedar Waxwing (24) |
| American Goldfinch (18) | Song Sparrow (15) | American Goldfinch (15) | Cedar Waxwing (17) | Black-capped Chickadee (21) |
| 2010 | 2011 | 2012 | 2013 | 2014 |
| Canada Goose (1147) | Canada Goose (2361) | Canada Goose (407) | Canada Goose (612) | Canada Goose (518) |
| Myrtle Warbler (303) | Red-winged Blackbird (101) | Red-winged Blackbird (278) | American Crow (66) | European Starling (74) |
| White-thr. Sparrow (103) | American Crow (94) | European Starling (222) | White-thr. Sparrow (37) | Red-winged Blackbird (68) |
| Blue Jay (94) | American Robin (41) | Common Grackle (110) | American Robin (29) | White-thr. Sparrow (62) |
| Red-winged Blackbird (91) | Blue Jay (40) | White-thr. Sparrow (104) | Ruby-crowned Kinglet (26) | Common Grackle (60) |
| American Crow (87) | Black-capped Chickadee (28) | American Robin (93) | Ring-billed Gull (26) | American Crow (48) |
| Ruby-crowned Kinglet (40) | White-thr. Sparrow (26) | Blue Jay (65) | Blue Jay (20) | American Robin (37) |
| Black-capped Chickadee (28) | Snow Goose (25) | Myrtle Warbler (48) | Black-capped Chickadee (18) | Myrtle Warbler (37) |
| American Robin (25) | Ruby-crowned Kinglet (24) | American Crow (38) | Song Sparrow (18) | Blue Jay (28) |
| Common Grackle (25) | Myrtle Warbler (21) | Black-capped Chickadee (28) | Myrtle Warbler (15) | Ring-billed Gull (21) |
| | | | | Black-capped Chickadee (21) |
| 2015 | 2016 | 2017 | 2018 | 2019 |
| Canada Goose (319) | Canada Goose (227) | Canada Goose (574) | Canada Goose (291) | Canada Goose (227) |
| Blue Jay (65) | White-thr. Sparrow (68) | Red-winged Blackbird (170) | Common Grackle (135) | European Starling (220) |
| American Crow (47) | European Starling (62) | Common Grackle (56) | Red-winged Blackbird (106) | Common Grackle (202) |
| White-thr. Sparrow (46) | Common Grackle (56) | White-thr. Sparrow (50) | European Starling (97) | American Robin (58) |
| American Robin (33) | Ruby-crowned Kinglet (53) | American Crow (31) | White-thr. Sparrow (96) | American Crow (45) |
| European Starling (22) | American Crow (41) | Myrtle Warbler (28) | American Crow (39) | White-thr. Sparrow (24) |
| Black-capped Chickadee (20) | Blue Jay (37) | Ruby-crowned Kinglet (24) | Ruby-crowned Kinglet (34) | Red-winged Blackbird (24) |
| Red-winged Blackbird (19) | American Robin (29) | Blue Jay (23) | Swainson's Thrush (25) | Blue Jay (24) |
| American Goldfinch (17) | Red-winged Blackbird (24) | American Robin (22) | Myrtle Warbler (22) | Black-capped Chickadee (16) |
| Myrtle Warbler (17) | Golden-crowned Kinglet (22) | Cedar Waxwing (19) | Blue Jay (21) | Cedar Waxwing (15) |

Banding notes: 27 species have been among the annual top 10 banded in Week 9 of fall, with Ruby-crowned Kinglet, White-throated Sparrow, and Myrtle Warbler on the list every year. White-throated Sparrow is particularly dominant, topping the list in 10 years, in second place twice, and in third place in the remaining three years. Ruby-crowned Kinglet has also been in the top three every year, though only in first place in 2011 and 2016. Myrtle Warbler took first place by large margins in 2006, 2008, and 2010, but has only been in the top three in five other years. Just seven other species have ever ranked among the top three in Week 9: Blue Jay, Black-capped Chickadee, Golden-crowned Kinglet, Swainson's Thrush, White-crowned Sparrow, Song Sparrow, and Tennessee Warbler, each only once. Eight species have appeared in the top 10 of week 8 just once: Red-eyed Vireo (2013), American Robin (2007), Cedar Waxwing (2006), Purple Finch (2018), Chipping Sparrow (2011), Common Grackle (2010), Western Palm Warbler (2007), and Indigo Bunting (2015). Only 6 warbler species have appeared on the top 10 list over the years, comprising 29% of all entries, nearly the same as sparrows, also with 6 species, accounting for 28% of records on the lists.

Observation notes: 19 species have occurred on the Week 9 top 10 lists between 2005 and 2019, including four annually: Canada Goose, Blue Jay, American Crow, and for the first of four consecutive weeks, White-throated Sparrow. Another two were on the list in at least 12 of 15 years: American Robin and Red-winged Blackbird. For the only time in any season, a single species has topped the list of observations every year: Canada Goose. Four species have been in the top 10 for Week 9 just once: Snow Goose (2011), Golden-crowned Kinglet (2016), Swainson's Thrush (2018), and White-crowned Sparrow (2006).

Bandings, Fall Week 10 (October 3 - 9):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|-----------------------------|----------------------------|-----------------------------|-----------------------------|-----------------------------|
| White-thr. Sparrow (67) | Ruby-crowned Kinglet (115) | Ruby-crowned Kinglet (98) | Myrtle Warbler (650) | Ruby-crowned Kinglet (159) |
| Ruby-crowned Kinglet (66) | Myrtle Warbler (40) | American Robin (54) | Ruby-crowned Kinglet (126) | White-thr. Sparrow (103) |
| Black-capped Chickadee (54) | White-thr. Sparrow (31) | White-thr. Sparrow (54) | White-thr. Sparrow (100) | Myrtle Warbler (70) |
| Dark-eyed Junco (34) | American Robin (28) | Black-capped Chickadee (52) | Song Sparrow (32) | White-cr. Sparrow (46) |
| Myrtle Warbler (30) | White-cr. Sparrow (17) | Myrtle Warbler (46) | American Robin (28) | Hermit Thrush (37) |
| Song Sparrow (25) | Song Sparrow (11) | Dark-eyed Junco (44) | Dark-eyed Junco (23) | Song Sparrow (33) |
| Golden-crowned Kinglet (14) | Hermit Thrush (10) | White-cr. Sparrow (35) | Nashville Warbler (21) | American Robin (22) |
| Swamp Sparrow (12) | Golden-crowned Kinglet (7) | Song Sparrow (18) | White-cr. Sparrow (19) | Dark-eyed Junco (21) |
| American Goldfinch (10) | Swamp Sparrow (7) | American Goldfinch (16) | Golden-crowned Kinglet (14) | Blue-headed Vireo (15) |
| Nashville Warbler (8) | Blue-headed Vireo (6) | Swamp Sparrow (10) | Hermit Thrush (12) | Golden-crowned Kinglet (10) |
| | Winter Wren (6) | | | |

| 2010 | 2011 | 2012 | 2013 | 2014 |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|----------------------------|
| Myrtle Warbler (605) | White-thr. Sparrow (64) | Myrtle Warbler (170) | Ruby-crowned Kinglet (185) | Ruby-crowned Kinglet (81) |
| Dark-eyed Junco (127) | Ruby-crowned Kinglet (59) | Ruby-crowned Kinglet (165) | White-thr. Sparrow (78) | White-thr. Sparrow (79) |
| Ruby-crowned Kinglet (96) | Myrtle Warbler (31) | White-thr. Sparrow (158) | Myrtle Warbler (36) | Myrtle Warbler (34) |
| White-thr. Sparrow (63) | Golden-crowned Kinglet (24) | Dark-eyed Junco (80) | American Robin (34) | Dark-eyed Junco (14) |
| Golden-crowned Kinglet (33) | Hermit Thrush (14) | Hermit Thrush (39) | Golden-crowned Kinglet (25) | Nashville Warbler (11) |
| White-cr. Sparrow (22) | Song Sparrow (12) | White-cr. Sparrow (35) | Song Sparrow (22) | Blue Jay (9) |
| Hermit Thrush (18) | White-cr. Sparrow (10) | Golden-crowned Kinglet (21) | Dark-eyed Junco (19) | Song Sparrow (8) |
| Song Sparrow (10) | Nashville Warbler (8) | American Robin (19) | Hermit Thrush (16) | Black-capped Chickadee (6) |
| Black-capped Chickadee (8) | Brown Creeper (7) | Song Sparrow (19) | Blue Jay (12) | Golden-crowned Kinglet (6) |
| Blue-headed Vireo (6) | Dark-eyed Junco (7) | Common Grackle (19) | Nashville Warbler (10) | White-cr. Sparrow (6) |

| 2015 | 2016 | 2017 | 2018 | 2019 |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Ruby-crowned Kinglet (116) | White-thr. Sparrow (175) | Ruby-crowned Kinglet (83) | Ruby-crowned Kinglet (107) | White-thr. Sparrow (68) |
| White-thr. Sparrow (88) | Ruby-crowned Kinglet (65) | White-thr. Sparrow (51) | White-thr. Sparrow (95) | Ruby-crowned Kinglet (34) |
| Myrtle Warbler (24) | Dark-eyed Junco (26) | Myrtle Warbler (38) | Swainson's Thrush (30) | Hermit Thrush (14) |
| Dark-eyed Junco (23) | Black-capped Chickadee (18) | Golden-crowned Kinglet (24) | Golden-crowned Kinglet (24) | Golden-crowned Kinglet (13) |
| Song Sparrow (21) | Swainson's Thrush (16) | Song Sparrow (19) | Dark-eyed Junco (10) | Common Grackle (13) |
| American Robin (15) | Golden-crowned Kinglet (14) | Blue Jay (7) | Purple Finch (9) | Myrtle Warbler (13) |
| Golden-crowned Kinglet (10) | Song Sparrow (10) | American Robin (6) | Blue-headed Vireo (8) | Blue-headed Vireo (10) |
| Purple Finch (8) | Hermit Thrush (9) | Brown Creeper (5) | Hermit Thrush (8) | Song Sparrow (10) |
| Swainson's Thrush (6) | Myrtle Warbler (9) | Dark-eyed Junco (5) | Song Sparrow (8) | Blk-thr. Blue Warbler (7) |
| White-cr. Sparrow (6) | Northern Cardinal (5) | Downy Woodpecker (4) | Brown Creeper (7) | Black-capped Chickadee (6) |
| | | Hermit Thrush (4) | | Swainson's Thrush (6) |
| | | American Goldfinch (4) | | |

| WEATHER | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Mean high (°C) | 20.9 | 17.0 | 18.9 | 14.6 | 14.3 | 14.5 | 17.6 | 16.0 | 18.0 | 16.8 | 14.2 | 19.9 | 21.4 | 15.3 | 14.5 | 16.9 |
| Mean low (°C) | 10.9 | 5.6 | 9.5 | 3.8 | 9.3 | 6.2 | 7.6 | 7.7 | 8.6 | 8.6 | 5.3 | 7.9 | 11.9 | 6.5 | 4.7 | 7.6 |
| High temp (°C) | 27 | 21 | 26 | 20 | 16 | 19 | 24 | 21 | 24 | 23 | 19 | 25 | 26 | 27 | 17 | 22.3 |
| Low temp (°C) | 6 | 2 | 4 | 1 | 8 | 2 | 1 | 1 | 4 | 5 | 3 | 5 | 6 | 3 | 1 | 3.5 |
| # days with rain | 3 | 2 | 4 | 2 | 6 | 3 | 2 | 5 | 2 | 5 | 1 | 1 | 4 | 3 | 3 | 3.1 |
| Total rain (mm) | 71 | 10 | 17 | 12 | 43 | 23 | 3 | 18 | 19 | 49 | 7 | 18 | 48 | 19 | 16 | 24.9 |

Weather notes: The notable decline in temperatures continues in Week 10, which again is on average roughly 2 degrees cooler than the previous week. Five years have had remarkably similar cool mean daily highs (14.2 to 14.6 Celsius in 2008, 2009, 2010, 2015, and 2019), whereas 2005 and 2017 have been the warmest in Week 10. In four years, the temperature has dropped as low as 1 degree Celsius at some point during Week 10. 2005 was particularly wet, while 2009, 2014, and 2017 had rainfall totals nearly double the 15-year average; only 2011 and 2015 were unusually dry.

Observations, Fall Week 10 (October 3 - 9):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Canada Goose (1250) | Canada Goose (376) | Canada Goose (901) | Canada Goose (428) | Canada Goose (258) |
| Common Grackle (142) | American Robin (99) | American Robin (116) | Myrtle Warbler (178) | American Robin (154) |
| American Crow (115) | American Crow (67) | American Crow (106) | American Robin (108) | White-thr. Sparrow (103) |
| White-thr. Sparrow (112) | Red-winged Blackbird (57) | White-thr. Sparrow (38) | American Crow (106) | European Starling (75) |
| American Robin (100) | Ruby-crowned Kinglet (49) | Red-winged Blackbird (37) | Common Grackle (85) | Red-winged Blackbird (61) |
| Ruby-crowned Kinglet (69) | White-thr. Sparrow (25) | European Starling (32) | White-thr. Sparrow (57) | White-cr. Sparrow (43) |
| Red-winged Blackbird (60) | Myrtle Warbler (25) | Ruby-crowned Kinglet (30) | Red-winged Blackbird (50) | American Crow (40) |
| Black-capped Chickadee (46) | Blue Jay (23) | Dark-eyed Junco (29) | Ruby-crowned Kinglet (49) | Ruby-crowned Kinglet (37) |
| Golden-crowned Kinglet (35) | Common Grackle (22) | Black-capped Chickadee (26) | Blue Jay (18) | Common Grackle (24) |
| Dark-eyed Junco (29) | Black-capped Chickadee (17) | White-cr. Sparrow (20) | Black-capped Chickadee (17) | Myrtle Warbler (24) |
| 2010 | 2011 | 2012 | 2013 | 2014 |
| Canada Goose (1396) | Canada Goose (928) | Common Grackle (525) | Canada Goose (350) | Canada Goose (439) |
| Myrtle Warbler (294) | Red-winged Blackbird (261) | Canada Goose (407) | Common Grackle (188) | Red-winged Blackbird (122) |
| American Crow (220) | American Robin (79) | Red-winged Blackbird (270) | American Robin (109) | White-thr. Sparrow (81) |
| Red-winged Blackbird (217) | American Crow (70) | European Starling (251) | American Crow (65) | Common Grackle (73) |
| American Robin (114) | White-thr. Sparrow (51) | White-thr. Sparrow (141) | Ruby-crowned Kinglet (54) | American Robin (62) |
| White-thr. Sparrow (70) | Pine Siskin (50) | American Robin (137) | White-thr. Sparrow (44) | European Starling (58) |
| Dark-eyed Junco (69) | Blue Jay (34) | Dark-eyed Junco (73) | Blue Jay (35) | American Crow (43) |
| Ruby-crowned Kinglet (47) | Black-capped Chickadee (32) | Myrtle Warbler (69) | European Starling (30) | Ruby-crowned Kinglet (31) |
| European Starling (45) | Ruby-crowned Kinglet (23) | American Crow (60) | Red-winged Blackbird (22) | Myrtle Warbler (28) |
| Blue Jay (39) | Myrtle Warbler (21) | Ruby-crowned Kinglet (55) | Black-capped Chickadee (16) | Blue Jay (21) |
| 2015 | 2016 | 2017 | 2018 | 2019 |
| Canada Goose (476) | Canada Goose (404) | Canada Goose (350) | Canada Goose (491) | Canada Goose (210) |
| European Starling (317) | White-thr. Sparrow (81) | Common Grackle (143) | Red-winged Blackbird (107) | Common Grackle (156) |
| Common Grackle (187) | Red-winged Blackbird (81) | European Starling (77) | Common Grackle (98) | Red-winged Blackbird (89) |
| American Robin (89) | American Robin (53) | White-thr. Sparrow (55) | European Starling (71) | White-thr. Sparrow (58) |
| Red-winged Blackbird (82) | American Crow (41) | American Crow (51) | White-thr. Sparrow (66) | American Robin (38) |
| White-thr. Sparrow (68) | European Starling (35) | Red-winged Blackbird (35) | American Robin (66) | American Crow (37) |
| Ruby-crowned Kinglet (45) | Common Grackle (27) | Ruby-crowned Kinglet (34) | American Crow (47) | Blue Jay (21) |
| American Crow (45) | Blue Jay (20) | American Robin (23) | Ruby-crowned Kinglet (40) | Ruby-crowned Kinglet (20) |
| Blue Jay (30) | Ruby-crowned Kinglet (20) | Myrtle Warbler (20) | Blue Jay (24) | European Starling (19) |
| Myrtle Warbler (26) | Black-capped Chickadee (16) | Blue Jay (18) | Golden-crowned Kinglet (19) | Black-capped Chickadee (17) |

Banding notes: 23 species have been among the annual top 10 banded in Week 10 of fall, with Ruby-crowned Kinglet, Song Sparrow, and White-throated Sparrow on the list every year. Ruby-crowned Kinglet has dominated most frequently, topping the list in 8 years, followed by White-throated Sparrow in 4 years. However, more Myrtle Warblers have been banded in Week 10 than any other species, thanks to topping the list by enormous margins in 2008 and 2010, and by just a few individuals in 2012. Four species have appeared in the top 10 of Week 10 just once: Downy Woodpecker (2017), Winter Wren (2006), Black-throated Blue Warbler (2019), and Northern Cardinal (2016). This is the first week in fall that sparrows overtake warblers, accounting for 36% of entries (by 5 species) on the top 10 list across years, compared to 13% (by 3 warbler species).

Observation notes: Only 15 species have occurred on the Week 10 top 10 lists between 2005 and 2019, tied with Week 14 for the lowest total in fall. The stability of observations in Week 10 is reflected in that a record high (tied with Week 12) six species have appeared on the top 10 in all 15 years: Canada Goose, American Crow, Ruby-crowned Kinglet, American Robin, White-throated Sparrow, and Red-winged Blackbird. Additionally, Common Grackle has been among the top 10 in 12 years. Canada Goose was the top species in every year except 2012, when it was outnumbered by Common Grackle. Pine Siskin is the only species that has appeared in the top 10 for Week 10 just once, in 2011.

Bandings, Fall Week 11 (October 10 - 16):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|-----------------------------|-----------------------------|-----------------------------|---------------------------|-----------------------------|
| American Robin (34) | American Robin (82) | Ruby-crowned Kinglet (145) | Myrtle Warbler (209) | American Robin (51) |
| Dark-eyed Junco (32) | Ruby-crowned Kinglet (71) | American Robin (80) | American Robin (103) | Dark-eyed Junco (46) |
| Ruby-crowned Kinglet (26) | Golden-crowned Kinglet (15) | Black-capped Chickadee (34) | Dark-eyed Junco (53) | Hermit Thrush (34) |
| Black-capped Chickadee (15) | Hermit Thrush (14) | Dark-eyed Junco (29) | Ruby-crowned Kinglet (34) | Ruby-crowned Kinglet (33) |
| Myrtle Warbler (12) | White-thr. Sparrow (13) | White-thr. Sparrow (25) | Song Sparrow (32) | White-thr. Sparrow (32) |
| Hermit Thrush (11) | Song Sparrow (6) | Hermit Thrush (21) | White-thr. Sparrow (26) | Black-capped Chickadee (15) |
| White-thr. Sparrow (10) | Myrtle Warbler (6) | White-cr. Sparrow (18) | Pine Siskin (14) | Song Sparrow (12) |
| Song Sparrow (9) | Blue Jay (5) | Song Sparrow (17) | Hermit Thrush (13) | White-cr. Sparrow (9) |
| Golden-crowned Kinglet (7) | Dark-eyed Junco (5) | Fox Sparrow (10) | Common Grackle (8) | Swamp Sparrow (6) |
| White-cr. Sparrow (7) | Orange-cr. Warbler (4) | American Tree Sparrow (10) | White-cr. Sparrow (7) | Blue-headed Vireo (3) |

| 2010 | 2011 | 2012 | 2013 | 2014 |
|------------------------------|----------------------------|----------------------------|-----------------------------|-----------------------------|
| Dark-eyed Junco (158) | Myrtle Warbler (30) | Ruby-crowned Kinglet (56) | Ruby-crowned Kinglet (61) | White-thr. Sparrow (127) |
| Black-capped Chickadee (139) | White-thr. Sparrow (21) | White-thr. Sparrow (55) | White-thr. Sparrow (61) | Ruby-crowned Kinglet (95) |
| Myrtle Warbler (88) | Ruby-crowned Kinglet (11) | Dark-eyed Junco (43) | American Robin (32) | Hermit Thrush (38) |
| American Robin (51) | Dark-eyed Junco (9) | Hermit Thrush (32) | Golden-crowned Kinglet (30) | Dark-eyed Junco (37) |
| Hermit Thrush (43) | Hermit Thrush (8) | American Robin (29) | Dark-eyed Junco (21) | Myrtle Warbler (29) |
| White-thr. Sparrow (41) | Song Sparrow (6) | Myrtle Warbler (21) | Myrtle Warbler (13) | Swamp Sparrow (12) |
| Ruby-crowned Kinglet (32) | Swamp Sparrow (5) | Fox Sparrow (12) | Song Sparrow (12) | Golden-crowned Kinglet (10) |
| Golden-crowned Kinglet (23) | Blue Jay (2) | Purple Finch (10) | Fox Sparrow (11) | Fox Sparrow (9) |
| Song Sparrow (15) | Black-capped Chickadee (2) | Black-capped Chickadee (8) | Hermit Thrush (9) | Black-capped Chickadee (8) |
| Fox Sparrow (13) | | Golden-crowned Kinglet (8) | | White-cr. Sparrow (8) |
| | | Song Sparrow (8) | | |

| 2015 | 2016 | 2017 | 2018 | 2019 |
|----------------------------|-----------------------------|---------------------------|-----------------------------|-----------------------------|
| White-thr. Sparrow (88) | White-thr. Sparrow (77) | Ruby-crowned Kinglet (70) | Ruby-crowned Kinglet (69) | Ruby-crowned Kinglet (83) |
| Ruby-crowned Kinglet (85) | Ruby-crowned Kinglet (32) | White-thr. Sparrow (34) | White-thr. Sparrow (41) | White-thr. Sparrow (60) |
| Myrtle Warbler (18) | Myrtle Warbler (26) | American Goldfinch (6) | Hermit Thrush (22) | Golden-crowned Kinglet (28) |
| American Robin (16) | American Robin (21) | Song Sparrow (6) | American Robin (22) | Hermit Thrush (20) |
| American Goldfinch (12) | Dark-eyed Junco (19) | White-cr. Sparrow (5) | Black-capped Chickadee (19) | Song Sparrow (19) |
| Dark-eyed Junco (12) | Black-capped Chickadee (18) | American Robin (4) | Golden-crowned Kinglet (15) | Purple Finch (12) |
| Hermit Thrush (11) | Hermit Thrush (10) | Myrtle Warbler (4) | Song Sparrow (10) | Myrtle Warbler (11) |
| Golden-crowned Kinglet (8) | Song Sparrow (9) | Blue Jay (3) | Fox Sparrow (8) | Brown Creeper (4) |
| Purple Finch (8) | Winter Wren (4) | Hermit Thrush (3) | Magnolia Warbler (5) | American Robin (4) |
| Black-capped Chickadee (5) | Golden-crowned Kinglet (4) | | White-cr. Sparrow (4) | Northern Cardinal (3) |
| Song Sparrow (5) | | | | |
| Orange-cr. Warbler (5) | | | | |

| WEATHER | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Mean high (°C) | 13.1 | 11.8 | 11.8 | 17.3 | 8.3 | 13.3 | 18.0 | 11.6 | 19.3 | 18.0 | 15.6 | 15.4 | 16.8 | 12.5 | 16.5 | 14.6 |
| Mean low (°C) | 9.0 | 4.0 | 4.8 | 6.1 | 0.5 | 4.6 | 9.8 | 3.1 | 9.0 | 8.4 | 6.4 | 5.0 | 7.2 | 5.6 | 6.1 | 6.0 |
| High temp (°C) | 15 | 15 | 16 | 23 | 12 | 16 | 24 | 18 | 22 | 25 | 24 | 20 | 24 | 22 | 19 | 19.7 |
| Low temp (°C) | 7 | 2 | 1 | 4 | -3 | 1 | 8 | -3 | 6 | 2 | 2 | 1 | 1 | 4 | 4 | 2.5 |
| # days with rain | 6 | 3 | 3 | 1 | 3 | 3 | 5 | 6 | 2 | 2 | 3 | 2 | 2 | 3 | 3 | 3.1 |
| Total rain (mm) | 81 | 20 | 12 | 4 | 7 | 57 | 39 | 26 | 16 | 14 | 26 | 20 | 11 | 19 | 15 | 24.5 |

Weather notes: The mean daily high temperature in Week 11 is more than 2 degrees lower than in Week 10, though the mean daily low decreases more slowly. It is the first time in fall that no year had a mean daily high reaching 20 degrees Celsius, and the earliest in fall that sub-freezing temperatures have been recorded, though only in 2009 and 2012. Temperatures vary considerably from year to year, with an 11-degree Celsius span between the coldest and warmest mean daily highs. For the second week in a row, 2005 had exceptionally high rainfall. Three of the driest years were 2007 to 2009, but since 2012 annual rainfall has rarely been far from the 15-year average.

Observations, Fall Week 11 (October 10 - 16):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Canada Goose (544) | American Robin (419) | Canada Goose (800) | American Robin (260) | American Robin (403) |
| American Robin (318) | Canada Goose (233) | American Robin (347) | Red-winged Blackbird (176) | Canada Goose (169) |
| Common Grackle (124) | Red-winged Blackbird (132) | Red-winged Blackbird (202) | Canada Goose (175) | Red-winged Blackbird (153) |
| American Crow (114) | American Crow (131) | American Crow (110) | American Crow (154) | American Crow (113) |
| Red-winged Blackbird (50) | Ruby-crowned Kinglet (41) | European Starling (56) | Common Grackle (82) | White-thr. Sparrow (63) |
| Dark-eyed Junco (49) | Cedar Waxwing (31) | Ruby-crowned Kinglet (38) | Myrtle Warbler (59) | European Starling (53) |
| White-thr. Sparrow (45) | Mallard (27) | White-thr. Sparrow (36) | European Starling (49) | Dark-eyed Junco (34) |
| Ruby-crowned Kinglet (44) | European Starling (27) | Dark-eyed Junco (22) | White-thr. Sparrow (26) | Black-capped Chickadee (18) |
| Black-capped Chickadee (25) | White-thr. Sparrow (21) | Common Grackle (20) | Ruby-crowned Kinglet (21) | White-cr. Sparrow (18) |
| Golden-crowned Kinglet (23) | Blue Jay (21) | Black-capped Chickadee (18) | Pine Siskin (21) | Ruby-crowned Kinglet (15) |
| 2010 | 2011 | 2012 | 2013 | 2014 |
| American Robin (431) | Canada Goose (306) | Common Grackle (377) | Canada Goose (191) | Canada Goose (285) |
| Red-winged Blackbird (424) | Red-winged Blackbird (219) | Red-winged Blackbird (347) | American Robin (157) | Red-winged Blackbird (167) |
| Canada Goose (194) | American Robin (87) | Canada Goose (297) | Red-winged Blackbird (99) | White-thr. Sparrow (94) |
| American Crow (88) | American Crow (37) | American Robin (213) | European Starling (84) | American Robin (78) |
| Dark-eyed Junco (71) | Blue Jay (27) | European Starling (133) | American Crow (72) | European Starling (45) |
| White-thr. Sparrow (57) | White-thr. Sparrow (21) | American Crow (84) | Common Grackle (69) | Common Grackle (38) |
| Black-capped Chickadee (54) | European Starling (19) | White-thr. Sparrow (58) | White-thr. Sparrow (47) | American Crow (33) |
| Myrtle Warbler (51) | Black-capped Chickadee (12) | Dark-eyed Junco (45) | Ring-billed Gull (37) | Ruby-crowned Kinglet (32) |
| Common Grackle (33) | Pine Siskin (11) | Ruby-crowned Kinglet (20) | Blue Jay (26) | Myrtle Warbler (22) |
| European Starling (26) | Myrtle Warbler (8) | Black-capped Chickadee (19) | Ruby-crowned Kinglet (22) | Dark-eyed Junco (18) |
| 2015 | 2016 | 2017 | 2018 | 2019 |
| Canada Goose (195) | Red-winged Blackbird (232) | Canada Goose (345) | Canada Goose (275) | Canada Goose (288) |
| American Robin (143) | American Robin (140) | Common Grackle (230) | Red-winged Blackbird (136) | Red-winged Blackbird (142) |
| Common Grackle (121) | Canada Goose (140) | Red-winged Blackbird (229) | Common Grackle (102) | European Starling (68) |
| Red-winged Blackbird (108) | White-thr. Sparrow (54) | European Starling (107) | American Robin (95) | American Robin (62) |
| White-thr. Sparrow (70) | European Starling (42) | American Robin (80) | European Starling (76) | American Crow (49) |
| American Crow (60) | American Crow (39) | White-thr. Sparrow (41) | American Crow (48) | White-thr. Sparrow (43) |
| European Starling (53) | Black-capped Chickadee (23) | American Crow (37) | White-thr. Sparrow (30) | Common Grackle (36) |
| Ruby-crowned Kinglet (36) | Blue Jay (22) | Blue Jay (28) | Ruby-crowned Kinglet (23) | Ruby-crowned Kinglet (28) |
| Blue Jay (26) | Dark-eyed Junco (16) | Ruby-crowned Kinglet (23) | Black-capped Chickadee (19) | Blue Jay (19) |
| Black-capped Chickadee (17) | Common Grackle (16) | Black-capped Chickadee (14) | Blue Jay (15) | Black-capped Chickadee (14) |

Banding notes: 24 species have been among the annual top 10 banded in Week 11 of fall, with Ruby-crowned Kinglet and White-throated Sparrow continuing their multi-week pattern of being on the list every year, and Hermit Thrush joining them for the only time. However, whereas Ruby-crowned Kinglet has topped the weekly list in 6 years and White-throated Sparrow has done so in 3 years, Hermit Thrush has never ranked higher than third place. Rather, American Robin (3 years), Myrtle Warbler (2 years), and Dark-eyed Junco (1 year) have been the other species to lead the week's totals. Eight species have appeared in the top 10 of Week 11 just once: Blue-headed Vireo (2009), Brown Creeper (2019), Winter Wren (2016), Pine Siskin (for the only time in fall, in 2008), American Tree Sparrow (2007), Common Grackle (2008), Magnolia Warbler (2018), and Northern Cardinal (2019). Sparrow dominance continues to rise in Week 11, with 7 species accounting for 39% of all entries in the weekly top 10 lists across the years.

Observation notes: 18 species have occurred on the Week 11 top 10 lists between 2005 and 2019, including five that have appeared annually: Canada Goose, American Crow, American Robin, White-throated Sparrow, and Red-winged Blackbird. Canada Goose has had the most Week 11 observations in nine years, followed by American Robin in 4 years. Five species have appeared in the top 10 for Week 11 just once: Mallard (2006), Ring-billed Gull (2013), Golden-crowned Kinglet (2005), Cedar Waxwing (2006), and White-crowned Sparrow (2009).

Bandings, Fall Week 12 (October 17 - 23):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|-----------------------------|-----------------------------|-----------------------------|----------------------------|-----------------------------|
| American Robin (47) | American Robin (146) | Ruby-crowned Kinglet (73) | American Robin (101) | Dark-eyed Junco (109) |
| Black-capped Chickadee (37) | Ruby-crowned Kinglet (66) | American Robin (68) | Dark-eyed Junco (54) | American Robin (96) |
| Dark-eyed Junco (22) | Golden-crowned Kinglet (28) | Dark-eyed Junco (38) | White-thr. Sparrow (15) | White-thr. Sparrow (35) |
| American Goldfinch (11) | White-thr. Sparrow (19) | Black-capped Chickadee (21) | Song Sparrow (13) | Black-capped Chickadee (31) |
| American Tree Sparrow (9) | Dark-eyed Junco (15) | White-thr. Sparrow (21) | Myrtle Warbler (11) | Red-winged Blackbird (30) |
| Fox Sparrow (5) | American Tree Sparrow (14) | American Tree Sparrow (16) | Black-capped Chickadee (9) | Song Sparrow (12) |
| Song Sparrow (5) | Song Sparrow (13) | Song Sparrow (16) | Ruby-crowned Kinglet (5) | Fox Sparrow (9) |
| Ruby-crowned Kinglet (4) | Hermit Thrush (8) | Fox Sparrow (9) | American Tree Sparrow (5) | Ruby-crowned Kinglet (8) |
| Hermit Thrush (4) | Myrtle Warbler (6) | Golden-crowned Kinglet (5) | | American Tree Sparrow (7) |
| White-thr. Sparrow (3) | | American Goldfinch (5) | | Golden-crowned Kinglet (6) |

| 2010 | 2011 | 2012 | 2013 | 2014 |
|------------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| American Robin (191) | White-thr. Sparrow (27) | Black-capped Chickadee (62) | American Robin (68) | Dark-eyed Junco (97) |
| Dark-eyed Junco (134) | Dark-eyed Junco (24) | Dark-eyed Junco (47) | Ruby-crowned Kinglet (28) | Ruby-crowned Kinglet (65) |
| Black-capped Chickadee (132) | Ruby-crowned Kinglet (18) | American Robin (45) | White-thr. Sparrow (15) | White-thr. Sparrow (62) |
| Ruby-crowned Kinglet (25) | Golden-crowned Kinglet (15) | Ruby-crowned Kinglet (41) | Golden-crowned Kinglet (12) | American Robin (32) |
| White-thr. Sparrow (25) | Song Sparrow (15) | Fox Sparrow (25) | Hermit Thrush (11) | Hermit Thrush (25) |
| Hermit Thrush (21) | American Robin (8) | White-thr. Sparrow (20) | Common Grackle (8) | American Tree Sparrow (23) |
| Song Sparrow (16) | Red-winged Blackbird (8) | Golden-crowned Kinglet (15) | Dark-eyed Junco (6) | Fox Sparrow (15) |
| American Tree Sparrow (13) | American Tree Sparrow (6) | Hermit Thrush (14) | American Tree Sparrow (3) | Black-capped Chickadee (14) |
| Fox Sparrow (12) | | American Tree Sparrow (12) | Song Sparrow (3) | Golden-crowned Kinglet (12) |
| Red-winged Blackbird (10) | | Red-winged Blackbird (10) | Myrtle Warbler (3) | Song Sparrow (11) |

| 2015 | 2016 | 2017 | 2018 | 2019 |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|----------------------------|
| American Robin (47) | White-thr. Sparrow (40) | Ruby-crowned Kinglet (37) | American Robin (79) | Ruby-crowned Kinglet (77) |
| White-thr. Sparrow (23) | Black-capped Chickadee (35) | Dark-eyed Junco (23) | Ruby-crowned Kinglet (30) | White-thr. Sparrow (31) |
| Ruby-crowned Kinglet (17) | Dark-eyed Junco (29) | Golden-crowned Kinglet (19) | Hermit Thrush (26) | Hermit Thrush (22) |
| Golden-crowned Kinglet (12) | Ruby-crowned Kinglet (28) | Hermit Thrush (19) | Black-capped Chickadee (13) | American Robin (11) |
| Hermit Thrush (11) | American Robin (22) | White-thr. Sparrow (19) | White-thr. Sparrow (13) | Dark-eyed Junco (11) |
| American Tree Sparrow (9) | Hermit Thrush (12) | American Goldfinch (14) | Fox Sparrow (10) | Myrtle Warbler (6) |
| Song Sparrow (8) | Golden-crowned Kinglet (8) | Black-capped Chickadee (8) | Golden-crowned Kinglet (9) | Golden-crowned Kinglet (4) |
| Dark-eyed Junco (6) | Song Sparrow (7) | Song Sparrow (5) | Song Sparrow (6) | Fox Sparrow (4) |
| Fox Sparrow (4) | American Tree Sparrow (4) | | Dark-eyed Junco (4) | Song Sparrow (4) |
| Swamp Sparrow (4) | Myrtle Warbler (4) | | Swainson's Thrush (2) | Northern Cardinal (4) |

| WEATHER | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Mean high (°C) | 9.9 | 10.1 | 20.1 | 9.0 | 8.9 | 11.1 | 12.2 | 15.2 | 14.1 | 11.2 | 10.4 | 14.0 | 18.9 | 9.4 | 12.7 | 12.5 |
| Mean low (°C) | 3.1 | 3.6 | 8.6 | 0.5 | 0.0 | 1.4 | 6.7 | 6.6 | 5.2 | 6.2 | -0.1 | 6.7 | 7.0 | 0.7 | 4.4 | 4.0 |
| High temp (°C) | 12 | 17 | 25 | 16 | 14 | 15 | 14 | 19 | 17 | 18 | 18 | 24 | 21 | 16 | 16 | 17.5 |
| Low temp (°C) | 0 | -3 | 0 | -2 | -4 | -1 | 3 | 1 | 1 | 2 | -5 | 3 | 0 | -2 | 1 | -0.4 |
| # days with rain | 3 | 5 | 2 | 2 | 3 | 2 | 6 | 3 | 6 | 5 | 3 | 5 | 0 | 4 | 4 | 3.5 |
| Total rain (mm) | 19 | 86 | 58 | 18 | 28 | 6 | 27 | 38 | 16 | 12 | 9 | 97 | 0 | 2 | 81 | 33.1 |

Weather notes: For the fourth week in a row, the mean daily high drops by approximately 2 degrees Celsius compared to the previous week, and in this case the mean daily low decreases by the same amount. Across all years, the mean daily high ranges over a span of 10 degrees, from a low in 2009 to a high in 2017. Four of the five coolest years for Week 11 were between 2005 and 2009. On average, this is the wettest week of fall, but that result is heavily influenced by the 97 mm of rainfall in 2016, which was a single-week record for MBO in any season, as well as substantially above average rainfall in 2006 and 2019. Omitting these years, the average rainfall is only 19 mm, less than in many other weeks of fall.

Observations, Fall Week 12 (October 17 - 23):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|-----------------------------|----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Canada Goose (260) | American Robin (322) | Canada Goose (946) | Canada Goose (283) | Red-winged Blackbird (334) |
| American Robin (240) | Red-winged Blackbird (174) | American Robin (333) | Red-winged Blackbird (276) | American Robin (321) |
| Common Grackle (133) | European Starling (169) | Red-winged Blackbird (220) | American Robin (264) | Canada Goose (166) |
| American Crow (101) | American Crow (152) | American Crow (179) | American Crow (197) | American Crow (103) |
| Red-winged Blackbird (98) | Canada Goose (78) | Common Grackle (108) | Common Grackle (105) | Dark-eyed Junco (37) |
| European Starling (92) | White-thr. Sparrow (24) | European Starling (38) | Ring-billed Gull (58) | Black-capped Chickadee (26) |
| Dark-eyed Junco (57) | Cedar Waxwing (23) | Dark-eyed Junco (37) | Dark-eyed Junco (36) | European Starling (26) |
| Black-capped Chickadee (24) | Ruby-crowned Kinglet (21) | Ruby-crowned Kinglet (20) | European Starling (28) | White-thr. Sparrow (23) |
| Ring-billed Gull (23) | Mallard (17) | White-thr. Sparrow (17) | Black-capped Chickadee (22) | Common Grackle (18) |
| Mourning Dove (22) | Blue Jay (14) | Black-capped Chickadee (15) | White-thr. Sparrow (14) | Blue Jay (10) |
| White-thr. Sparrow (22) | | | | |

| 2010 | 2011 | 2012 | 2013 | 2014 |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|----------------------------|
| American Robin (552) | Canada Goose (682) | Canada Goose (1159) | American Robin (392) | Canada Goose (328) |
| Canada Goose (425) | Red-winged Blackbird (306) | Red-winged Blackbird (265) | Red-winged Blackbird (326) | American Robin (185) |
| Red-winged Blackbird (349) | American Robin (217) | American Robin (207) | European Starling (251) | Red-winged Blackbird (135) |
| European Starling (167) | American Crow (107) | American Crow (130) | Canada Goose (170) | American Crow (94) |
| American Crow (135) | European Starling (24) | Common Grackle (80) | Common Grackle (63) | Common Grackle (72) |
| Dark-eyed Junco (69) | Black-capped Chickadee (22) | European Starling (59) | American Crow (53) | European Starling (72) |
| Black-capped Chickadee (51) | White-thr. Sparrow (21) | Dark-eyed Junco (44) | Ring-billed Gull (28) | Dark-eyed Junco (53) |
| White-thr. Sparrow (33) | Blue Jay (18) | White-thr. Sparrow (27) | White-thr. Sparrow (18) | White-thr. Sparrow (53) |
| Common Grackle (32) | Dark-eyed Junco (14) | Black-capped Chickadee (25) | Black-capped Chickadee (16) | Ruby-crowned Kinglet (17) |
| Mallard (22) | Mallard (9) | Mallard (20) | Ruby-crowned Kinglet (16) | Blue Jay (16) |

| 2015 | 2016 | 2017 | 2018 | 2019 |
|-----------------------------|-----------------------------|----------------------------|-----------------------------|----------------------------|
| American Robin (241) | Red-winged Blackbird (175) | Common Grackle (278) | American Robin (404) | American Robin (324) |
| Red-winged Blackbird (134) | Canada Goose (175) | Canada Goose (197) | Canada Goose (247) | Canada Goose (180) |
| Canada Goose (68) | American Robin (132) | Red-winged Blackbird (194) | European Starling (136) | Red-winged Blackbird (120) |
| Common Grackle (52) | European Starling (108) | American Robin (169) | Red-winged Blackbird (86) | European Starling (48) |
| European Starling (49) | White-thr. Sparrow (53) | American Crow (92) | Common Grackle (72) | Common Grackle (40) |
| White-thr. Sparrow (39) | American Crow (24) | European Starling (66) | White-thr. Sparrow (22) | White-thr. Sparrow (33) |
| American Crow (34) | Black-capped Chickadee (20) | White-thr. Sparrow (23) | Black-capped Chickadee (22) | Ruby-crowned Kinglet (29) |
| Blue Jay (23) | Dark-eyed Junco (16) | American Goldfinch (22) | American Crow (18) | American Crow (28) |
| Dark-eyed Junco (19) | Blue Jay (14) | Blue Jay (18) | Ruby-crowned Kinglet (16) | Dark-eyed Junco (18) |
| Black-capped Chickadee (14) | Common Grackle (10) | Dark-eyed Junco (15) | Dark-eyed Junco (14) | Blue Jay (16) |

Banding notes: Only 17 species have been among the annual top 10 banded in Week 12 of fall, a sharp drop from the previous week. Ruby-crowned Kinglet and White-throated Sparrow continue their streak of weeks during which they have been on the top 10 list every year; in Week 12 they are joined by Dark-eyed Junco, the only time in the year it has been so regularly banded in large numbers. However, it is American Robin that has topped the list in more years than any other (7), followed by Ruby-crowned Kinglet (3 times), White-throated Sparrow (2 times), Dark-eyed Junco (2 times), and Black-capped Chickadee (once). Four species have appeared in the top 10 of Week 12 just once: Swainson’s Thrush (2018), Swamp Sparrow (2015), Common Grackle (2013), and Northern Cardinal (2019). Sparrows continue to be dominant in Week 12, with 6 species accounting for 45% of all entries in the weekly top 10 lists across the years.

Observation notes: 18 species have occurred on the Week 12 top 10 lists between 2005 and 2019, including a record-tying (with Week 10) six that have appeared annually: Canada Goose, American Crow, American Robin, European Starling (appearing weekly for the only time in the year), White-throated Sparrow, and Red-winged Blackbird. Canada Goose and American Robin have each led the way in observations in 6 years; Red-winged Blackbird (twice) and Common Grackle (once) were the others to top the list for Week 12. Three species have appeared in the top 10 for Week 12 just once: Mourning Dove (2005), Cedar Waxwing (2006), and American Goldfinch (2017).

Bandings, Fall Week 13 (October 24 - 30):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|-----------------------------|----------------------------|-----------------------------|---------------------------|-----------------------------|
| Dark-eyed Junco (79) | American Robin (34) | American Robin (99) | American Robin (95) | Dark-eyed Junco (175) |
| Black-capped Chickadee (31) | American Tree Sparrow (15) | Black-capped Chickadee (15) | Dark-eyed Junco (94) | American Tree Sparrow (54) |
| Fox Sparrow (20) | Ruby-crowned Kinglet (14) | American Tree Sparrow (8) | Ruby-crowned Kinglet (9) | Black-capped Chickadee (44) |
| American Robin (18) | Dark-eyed Junco (9) | Fox Sparrow (5) | American Tree Sparrow (6) | White-thr. Sparrow (22) |
| American Tree Sparrow (15) | White-thr. Sparrow (8) | Dark-eyed Junco (4) | Song Sparrow (5) | Fox Sparrow (17) |
| Golden-crowned Kinglet (6) | Song Sparrow (8) | Song Sparrow (4) | Purple Finch (3) | American Robin (9) |
| White-thr. Sparrow (5) | Golden-crowned Kinglet (2) | | Fox Sparrow (3) | Song Sparrow (9) |
| American Goldfinch (4) | | | White-thr. Sparrow (3) | Ruby-crowned Kinglet (4) |
| | | | Hermit Thrush (2) | Golden-crowned Kinglet (3) |
| | | | | Swamp Sparrow (3) |

| 2010 | 2011 | 2012 | 2013 | 2014 |
|-----------------------------|----------------------------|-----------------------------|----------------------------|----------------------------|
| American Robin (125) | American Robin (53) | Black-capped Chickadee (28) | American Robin (91) | American Tree Sparrow (80) |
| Black-capped Chickadee (87) | American Tree Sparrow (32) | Golden-crowned Kinglet (19) | American Tree Sparrow (8) | American Robin (71) |
| Dark-eyed Junco (66) | Dark-eyed Junco (12) | American Robin (19) | White-thr. Sparrow (7) | Dark-eyed Junco (71) |
| American Tree Sparrow (37) | White-thr. Sparrow (10) | American Tree Sparrow (19) | Song Sparrow (4) | White-thr. Sparrow (25) |
| American Goldfinch (22) | Red-winged Blackbird (9) | Dark-eyed Junco (18) | Blue Jay (3) | Fox Sparrow (19) |
| Fox Sparrow (22) | Ruby-crowned Kinglet (7) | Fox Sparrow (10) | Black-capped Chickadee (3) | Ruby-crowned Kinglet (17) |
| White-thr. Sparrow (22) | Golden-crowned Kinglet (4) | White-thr. Sparrow (10) | Golden-crowned Kinglet (3) | Hermit Thrush (12) |
| Ruby-crowned Kinglet (9) | Song Sparrow (4) | American Goldfinch (8) | Hermit Thrush (3) | Golden-crowned Kinglet (8) |
| Hermit Thrush (3) | Black-capped Chickadee (3) | Northern Cardinal (5) | Dark-eyed Junco (3) | Song Sparrow (8) |
| | Northern Cardinal (3) | Ruby-crowned Kinglet (4) | Ruby-crowned Kinglet (2) | Black-capped Chickadee (7) |

| 2015 | 2016 | 2017 | 2018 | 2019 |
|----------------------------|-----------------------------|-----------------------------|----------------------------|-----------------------------|
| American Robin (117) | Dark-eyed Junco (46) | Ruby-crowned Kinglet (13) | American Robin (79) | American Robin (43) |
| American Tree Sparrow (20) | White-thr. Sparrow (42) | American Robin (13) | Black-capped Chickadee (9) | Golden-crowned Kinglet (39) |
| White-thr. Sparrow (15) | American Robin (22) | Golden-crowned Kinglet (10) | Ruby-crowned Kinglet (9) | Ruby-crowned Kinglet (23) |
| Ruby-crowned Kinglet (6) | Black-capped Chickadee (16) | Northern Cardinal (9) | American Goldfinch (9) | White-thr. Sparrow (17) |
| Dark-eyed Junco (6) | Golden-crowned Kinglet (11) | Dark-eyed Junco (7) | Common Redpoll (8) | Hermit Thrush (11) |
| Northern Cardinal (6) | Ruby-crowned Kinglet (11) | American Tree Sparrow (5) | White-thr. Sparrow (6) | Northern Cardinal (7) |
| Hermit Thrush (5) | American Tree Sparrow (10) | Black-capped Chickadee (4) | Fox Sparrow (5) | Song Sparrow (6) |
| Fox Sparrow (5) | American Goldfinch (9) | Hermit Thrush (4) | Golden-crowned Kinglet (4) | Swamp Sparrow (6) |
| Purple Finch (4) | Fox Sparrow (6) | White-thr. Sparrow (4) | European Starling (4) | Red-winged Blackbird (6) |
| | Song Sparrow (6) | American Goldfinch (3) | | Fox Sparrow (5) |
| | Northern Cardinal (6) | | | American Tree Sparrow (5) |

| WEATHER | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Mean high (°C) | 7.9 | 7.4 | 12.3 | 9.6 | 10.0 | 10.9 | 8.9 | 16.4 | 6.4 | 12.1 | 10.7 | 6.2 | 16.4 | 5.3 | 12.8 | 10.2 |
| Mean low (°C) | 1.6 | 2.1 | 1.9 | 2.6 | 2.5 | 4.5 | 0.2 | 7.7 | -1.2 | 5.9 | 1.0 | 1.7 | 7.6 | -0.8 | 5.0 | 2.8 |
| High temp (°C) | 15 | 9 | 16 | 15 | 14 | 20 | 16 | 22 | 8 | 14 | 15 | 8 | 24 | 7 | 17 | 14.7 |
| Low temp (°C) | -4 | -1 | -3 | -1 | -1 | 0 | -4 | 2 | -5 | 3 | -3 | -1 | 3 | -5 | 2 | -1.2 |
| # days with rain | 3 | 4 | 2 | 4 | 3 | 6 | 2 | 1 | 3 | 6 | 5 | 3 | 4 | 4 | 3 | 3.5 |
| Total rain (mm) | 28 | 47 | 27 | 62 | 20 | 21 | 3 | 11 | 7 | 13 | 59 | 26 | 63 | 14 | 38 | 29.3 |

Weather notes: Week 13 is again on average another 2 degrees Celsius cooler than the previous week in terms of the mean daily high, although the mean daily low is again cooling down more slowly. The span between the year with the coolest mean daily high (2018) and the warmest (2012 and 2017) is again quite large (11 degrees Celsius); curiously the two warmest years (2012 and 2017) were each followed by two of the coolest (2013 and 2018). Week 13 has tended to be rainier than most others, with less than 10 mm of rain only twice, in 2011 and 2013.

Observations, Fall Week 13 (October 24 - 30):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|------------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Canada Goose (404) | Red-winged Blackbird (150) | Canada Goose (1670) | American Robin (259) | Red-winged Blackbird (465) |
| Unidentified Scaup sp. (168) | American Crow (144) | Red-winged Blackbird (700) | Red-winged Blackbird (211) | American Robin (174) |
| American Crow (115) | American Robin (136) | American Robin (234) | American Crow (174) | American Crow (143) |
| American Robin (106) | European Starling (104) | American Crow (167) | European Starling (131) | Canada Goose (91) |
| Dark-eyed Junco (63) | Canada Goose (72) | Mallard (139) | Canada Goose (80) | Dark-eyed Junco (71) |
| Red-winged Blackbird (60) | Cedar Waxwing (27) | Common Grackle (81) | Dark-eyed Junco (48) | Mallard (33) |
| Common Grackle (40) | Blue Jay (14) | European Starling (63) | Common Grackle (25) | Black-capped Chickadee (29) |
| Mourning Dove (36) | Black-capped Chickadee (14) | Black-capped Chickadee (16) | Black-capped Chickadee (15) | White-thr. Sparrow (22) |
| Black-capped Chickadee (34) | Mallard (11) | American Goldfinch (13) | Ring-billed Gull (9) | American Tree Sparrow (16) |
| Ring-billed Gull (20) | White-thr. Sparrow (11) | Dark-eyed Junco (10) | Blue Jay (8) | European Starling (15) |
| 2010 | 2011 | 2012 | 2013 | 2014 |
| American Robin (550) | Canada Goose (486) | Canada Goose (1206) | American Robin (248) | American Robin (776) |
| Canada Goose (331) | Red-winged Blackbird (461) | Ring-billed Gull (255) | European Starling (221) | Canada Goose (565) |
| Red-winged Blackbird (305) | American Robin (275) | Red-winged Blackbird (254) | Red-winged Blackbird (218) | Red-winged Blackbird (246) |
| American Crow (208) | American Crow (239) | American Robin (196) | Canada Goose (215) | European Starling (90) |
| European Starling (117) | European Starling (46) | American Crow (115) | American Crow (32) | American Crow (80) |
| Dark-eyed Junco (57) | Mallard (23) | European Starling (91) | Black-capped Chickadee (14) | Common Grackle (58) |
| Black-capped Chickadee (35) | Dark-eyed Junco (17) | Common Grackle (59) | Blue Jay (13) | Dark-eyed Junco (43) |
| Mallard (31) | Black-capped Chickadee (16) | Mallard (46) | White-thr. Sparrow (9) | Snow Goose (36) |
| White-thr. Sparrow (22) | Blue Jay (15) | Black-capped Chickadee (34) | Dark-eyed Junco (8) | American Tree Sparrow (30) |
| Blue Jay (15) | Common Grackle (11) | Mourning Dove (25) | Ring-billed Gull (5) | White-thr. Sparrow (23) |
| 2015 | 2016 | 2017 | 2018 | 2019 |
| American Robin (630) | American Robin (390) | European Starling (271) | American Robin (809) | Canada Goose (450) |
| European Starling (281) | Red-winged Blackbird (191) | American Robin (249) | Canada Goose (466) | American Robin (449) |
| Red-winged Blackbird (185) | Canada Goose (186) | Canada Goose (143) | European Starling (145) | Red-winged Blackbird (221) |
| Canada Goose (155) | Common Grackle (94) | Red-winged Blackbird (115) | Red-winged Blackbird (51) | European Starling (80) |
| Common Grackle (99) | European Starling (44) | American Crow (43) | Common Grackle (28) | Common Grackle (79) |
| American Crow (49) | American Crow (40) | Common Grackle (18) | Common Redpoll (22) | White-thr. Sparrow (29) |
| Snow Goose (43) | White-thr. Sparrow (39) | Blue Jay (15) | American Goldfinch (18) | American Crow (22) |
| White-thr. Sparrow (27) | Dark-eyed Junco (21) | Black-capped Chickadee (11) | Black-capped Chickadee (18) | Blue Jay (16) |
| Ring-billed Gull (22) | Black-capped Chickadee (19) | American Goldfinch (11) | American Crow (16) | Dark-eyed Junco (15) |
| Mourning Dove (17) | Blue Jay (13) | White-thr. Sparrow (10) | Dark-eyed Junco (11) | Black-capped Chickadee (13) |

Banding notes: 18 species have been among the annual top 10 banded in Week 13 of fall, the final week of the season that has been surveyed for all 15 years. American Robin is the only species that has been in the top 10 in every year, and this is the only week of the year that American Robin has been banded in large numbers so consistently. Not surprisingly, American Robin has topped the weekly list in nine years; Dark-eyed Junco has done so in 3 years, while Black-capped Chickadee, Ruby-crowned Kinglet, and American Tree Sparrow have each had the biggest weekly total in one year. Three species have appeared in the top 10 of Week 13 just once: Blue Jay (2013), European Starling (2018), and Common Redpoll (2018); the latter two have not appeared in the top 10 at any other point in fall. Sparrows again comprise 45% of all entries in the Week 13 top 10 lists across years

Observation notes: 18 species have occurred on the Week 13 top 10 lists between 2005 and 2019, including four that have appeared annually: Canada Goose, American Crow, American Robin, and Red-winged Blackbird. American Robin has topped the list of observations in 7 years, followed by Canada Goose in 5 years; Red-winged Blackbird (twice) and European Starling (once) did so in the remaining years. Only two species have appeared in the top 10 for Week 13 just once: Cedar Waxwing (2006), and Common Redpoll (2018).

Bandings, Fall Week 14 (October 31 - November 6):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| No bandings during this period | No bandings during this period | No bandings during this period | No bandings during this period | No bandings during this period |
| 2010 | 2011 | 2012 | 2013 | 2014 |
| No bandings during this period | No bandings during this period | No bandings during this period | No bandings during this period | No bandings during this period |
| 2015 | 2016 | 2017 | 2018 | 2019 |
| American Robin (52) | Dark-eyed Junco (64) | American Robin (19) | American Robin (33) | American Robin (24) |
| American Goldfinch (22) | White-thr. Sparrow (28) | Dark-eyed Junco (8) | Golden-crowned Kinglet (10) | Dark-eyed Junco (19) |
| American Tree Sparrow (18) | Fox Sparrow (23) | Ruby-crowned Kinglet (6) | Ruby-crowned Kinglet (10) | American Tree Sparrow (12) |
| Northern Cardinal (12) | American Robin (22) | White-thr. Sparrow (6) | American Goldfinch (10) | White-thr. Sparrow (7) |
| Dark-eyed Junco (8) | Golden-crowned Kinglet (18) | Golden-crowned Kinglet (4) | American Tree Sparrow (9) | Golden-crowned Kinglet (5) |
| White-thr. Sparrow (8) | Black-capped Chickadee (13) | American Tree Sparrow (3) | Dark-eyed Junco (9) | Ruby-crowned Kinglet (3) |
| Golden-crowned Kinglet (7) | American Tree Sparrow (11) | Northern Cardinal (3) | White-thr. Sparrow (8) | American Goldfinch (3) |
| Red-winged Blackbird (5) | American Goldfinch (10) | American Goldfinch (2) | Hermit Thrush (6) | Fox Sparrow (3) |
| Black-capped Chickadee (3) | Northern Cardinal (7) | | | Song Sparrow (3) |
| | Ruby-crowned Kinglet (5) | | | Northern Cardinal (3) |

| WEATHER | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Mean high (°C) | 12.5 | 6.6 | 11.2 | 11.9 | 8.9 | 5.8 | 11.1 | 6.4 | 10.0 | 8.6 | 13.9 | 9.3 | 12.7 | 6.8 | 9.1 | 9.7 |
| Mean low (°C) | 3.9 | -0.6 | 0.8 | 0.3 | 1.4 | 0.2 | -0.3 | 1.4 | 0.2 | 2.1 | 4.0 | 2.1 | 2.2 | 2.3 | 2.2 | 1.5 |
| High temp (°C) | 19 | 9 | 18 | 18 | 15 | 8 | 16 | 15 | 19 | 12 | 20 | 15 | 17 | 12 | 16 | 15.3 |
| Low temp (°C) | 0 | -5 | 4 | -5 | -1 | -2 | -3 | -6 | -6 | -1 | -3 | -2 | 0 | -1 | -1 | -2.1 |
| # days with rain | 4 | 3 | 3 | 0 | 2 | 2 | 1 | 4 | 4 | 3 | 4 | 5 | 7 | 6 | 5 | 3.5 |
| Total rain (mm) | 11 | 2 | 11 | 0 | 10 | 13 | 7 | 7 | 50 | 7 | 8 | 12 | 49 | 48 | 74 | 20.6 |

Weather notes: Coverage of Week 14 only began in 2015 – which, by coincidence, was the warmest year for this period. Overall though, temperatures for Week 14 from 2005 through 2019 have been only slightly cooler than in Week 13, validating the addition of Week 14 to the fall season from a weather perspective. Although 2015 was exceptionally mild, mean high temperatures have fluctuated considerably both within the past 5 years, and across the longer 15-year period. However, mean low temperatures have increased over time, being higher in every year since 2014 than all preceding years except 2005. Week 14 has been quite wet the past three years, but even so, the 15-year average for rainfall is less than any other week in the second half of fall, thanks to six earlier years with a weekly total of less than 10 mm.

Observations, Fall Week 14 (October 31 - November 6):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| No observations during this period | No observations during this period | No observations during this period | No observations during this period | No observations during this period |
| 2010 | 2011 | 2012 | 2013 | 2014 |
| No observations during this period | No observations during this period | No observations during this period | No observations during this period | No observations during this period |
| 2015 | 2016 | 2017 | 2018 | 2019 |
| Canada Goose (612) | American Robin (258) | Canada Goose (769) | Canada Goose (378) | American Robin (782) |
| American Robin (570) | Canada Goose (228) | American Robin (254) | American Robin (299) | European Starling (149) |
| European Starling (481) | Red-winged Blackbird (105) | Red-winged Blackbird (122) | Common Grackle (105) | Canada Goose (139) |
| Red-winged Blackbird (189) | European Starling (78) | European Starling (118) | European Starling (64) | Red-winged Blackbird (112) |
| Common Grackle (115) | Dark-eyed Junco (35) | American Crow (23) | Red-winged Blackbird (61) | American Crow (27) |
| American Crow (58) | American Crow (29) | Blue Jay (14) | American Goldfinch (35) | White-thr. Sparrow (19) |
| Mourning Dove (27) | White-thr. Sparrow (26) | Black-capped Chickadee (14) | Black-capped Chickadee (23) | American Goldfinch (16) |
| Horned Lark (21) | Black-capped Chickadee (20) | American Goldfinch (12) | Dark-eyed Junco (21) | Blue Jay (14) |
| American Goldfinch (18) | American Goldfinch (16) | Dark-eyed Junco (10) | Common Redpoll (20) | Dark-eyed Junco (14) |
| Black-capped Chickadee (15) | Blue Jay (12) | White-thr. Sparrow (10) | American Crow (13) | Black-capped Chickadee (13) |
| | | Northern Cardinal (10) | | |

Banding notes: With only 5 years of banding effort, just 13 species have appeared in the weekly top 10 lists, including six of them annually: Golden-crowned Kinglet, American Robin, American Goldfinch, American Tree Sparrow, White-throated Sparrow, and Dark-eyed Junco. Every year except 2016, American Robin has outnumbered all other species; in that year Dark-eyed Junco topped the list. Hermit Thrush (2018), Song Sparrow (2019), and Red-winged Blackbird (2015) have each appeared in the top 10 for Week 14 only once. Sparrows have accounted for 40% of entries on the weekly list over the years.

Observation notes: 15 species have occurred on the Week 14 top 10 lists between 2015 and 2019, including seven that have appeared annually: Canada Goose, American Crow, Black-capped Chickadee, American Robin, European Starling, American Goldfinch, and Red-winged Blackbird. Canada Goose has topped the list of observations in 3 years, and American Robin twice. Horned Lark (2015) appeared in the top 10 for the only time in fall; three other species have been in the top 10 for Week 14 just once: Mourning Dove (2015), Common Redpoll (2018), and Northern Cardinal (2017).

Bandings, Fall Season (2005-2014: August 1 - November 6 (October 30, for 2005-2014):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|------------------------------|-----------------------------|------------------------------|----------------------------|------------------------------|
| White-thr. Sparrow (354) | Myrtle Warbler (522) | Ruby-crowned Kinglet (376) | Myrtle Warbler (1732) | White-thr. Sparrow (428) |
| Ruby-crowned Kinglet (245) | Ruby-crowned Kinglet (444) | American Robin (318) | American Robin (346) | Dark-eyed Junco (361) |
| Black-capped Chickadee (222) | American Robin (302) | White-thr. Sparrow (318) | Ruby-crowned Kinglet (319) | Song Sparrow (322) |
| Song Sparrow (215) | Song Sparrow (302) | Song Sparrow (198) | White-thr. Sparrow (317) | Ruby-crowned Kinglet (257) |
| Magnolia Warbler (192) | White-thr. Sparrow (187) | Black-capped Chickadee (172) | Magnolia Warbler (264) | American Robin (200) |
| Dark-eyed Junco (191) | Magnolia Warbler (157) | Dark-eyed Junco (127) | Dark-eyed Junco (236) | Black-capped Chickadee (135) |
| Nashville Warbler (164) | Nashville Warbler (98) | American Goldfinch (94) | Song Sparrow (199) | Myrtle Warbler (106) |
| Myrtle Warbler (157) | Common Yellowthroat (77) | White-cr. Sparrow (80) | Nashville Warbler (158) | American Redstart (104) |
| American Robin (119) | Golden-crowned Kinglet (73) | American Redstart (77) | American Redstart (99) | Magnolia Warbler (103) |
| Red-eyed Vireo (117) | Baltimore Oriole (62) | Magnolia Warbler (74) | Common Yellowthroat (93) | Hermit Thrush (86) |

| 2010 | 2011 | 2012 | 2013 | 2014 |
|------------------------------|----------------------------|------------------------------|------------------------------|----------------------------|
| Myrtle Warbler (2359) | Magnolia Warbler (252) | White-thr. Sparrow (506) | Ruby-crowned Kinglet (347) | White-thr. Sparrow (484) |
| Dark-eyed Junco (509) | White-thr. Sparrow (216) | Ruby-crowned Kinglet (353) | Magnolia Warbler (284) | Ruby-crowned Kinglet (327) |
| Black-capped Chickadee (440) | Tennessee Warbler (208) | Myrtle Warbler (292) | Song Sparrow (267) | Magnolia Warbler (279) |
| American Robin (394) | Ruby-crowned Kinglet (180) | Song Sparrow (217) | White-thr. Sparrow (263) | Dark-eyed Junco (242) |
| White-thr. Sparrow (351) | Song Sparrow (170) | Magnolia Warbler (203) | Tennessee Warbler (249) | Tennessee Warbler (168) |
| Ruby-crowned Kinglet (271) | American Redstart (150) | Dark-eyed Junco (198) | American Robin (236) | Myrtle Warbler (164) |
| Magnolia Warbler (260) | Nashville Warbler (141) | Swainson's Thrush (176) | American Redstart (146) | American Robin (144) |
| Song Sparrow (219) | Myrtle Warbler (108) | Black-capped Chickadee (171) | Myrtle Warbler (108) | American Redstart (138) |
| Nashville Warbler (161) | Common Yellowthroat (80) | American Redstart (139) | Golden-crowned Kinglet (101) | Song Sparrow (136) |
| American Redstart (149) | American Robin (79) | American Robin (130) | Cedar Waxwing (91) | Red-eyed Vireo (126) |

| 2015 | 2016 | 2017 | 2018 | 2019 |
|----------------------------|------------------------------|-----------------------------|----------------------------|------------------------------|
| White-thr. Sparrow (326) | White-thr. Sparrow (566) | Ruby-crowned Kinglet (301) | White-thr. Sparrow (385) | White-thr. Sparrow (257) |
| American Robin (263) | Ruby-crowned Kinglet (341) | White-thr. Sparrow (282) | Ruby-crowned Kinglet (309) | Ruby-crowned Kinglet (251) |
| Ruby-crowned Kinglet (257) | Dark-eyed Junco (209) | Magnolia Warbler (248) | American Redstart (291) | Magnolia Warbler (241) |
| Magnolia Warbler (173) | American Redstart (176) | American Redstart (237) | American Robin (233) | American Redstart (236) |
| Swainson's Thrush (171) | Swainson's Thrush (170) | Myrtle Warbler (145) | Swainson's Thrush (208) | Song Sparrow (127) |
| American Redstart (165) | Black-capped Chickadee (145) | Song Sparrow (139) | Magnolia Warbler (181) | Tennessee Warbler (119) |
| Song Sparrow (146) | Golden-crowned Kinglet (138) | Swainson's Thrush (99) | Song Sparrow (176) | American Robin (106) |
| Common Yellowthroat (95) | Song Sparrow (136) | Gray Catbird (92) | Red-eyed Vireo (132) | Golden-crowned Kinglet (100) |
| American Goldfinch (93) | Magnolia Warbler (133) | Common Yellowthroat (91) | American Goldfinch (99) | Ovenbird (93) |
| Gray Catbird (92) | Red-eyed Vireo (109) | Golden-crowned Kinglet (85) | Tennessee Warbler (88) | Red-eyed Vireo (89) |

| WEATHER | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Mean high (°C) | 21.0 | 18.6 | 21.4 | 19.8 | 18.9 | 19.8 | 20.7 | 21.3 | 20.2 | 20.3 | 20.3 | 20.8 | 21.6 | 19.3 | 19.6 | 20.2 |
| Mean low (°C) | 11.8 | 9.7 | 10.8 | 10.0 | 9.8 | 10.8 | 11.9 | 11.5 | 10.6 | 11.2 | 11.2 | 11.2 | 11.6 | 10.8 | 9.9 | 10.9 |
| High temp (°C) | 32 | 34 | 33 | 33 | 33 | 33 | 31 | 33 | 31 | 31 | 31 | 34 | 32 | 32 | 31 | 32.3 |
| Low temp (°C) | -4 | -5 | -3 | -5 | -4 | -2 | -4 | -3 | -5 | 1 | 1 | -2 | 0 | -5 | -1 | -2.7 |
| # days with rain | 43 | 44 | 34 | 35 | 39 | 47 | 55 | 45 | 35 | 41 | 38 | 38 | 33 | 48 | 44 | 41.3 |
| Total rain (mm) | 445 | 398 | 242 | 227 | 229 | 410 | 432 | 245 | 223 | 222 | 338 | 351 | 302 | 266 | 440 | 318.0 |

Weather notes: Overall, fall temperatures are less variable than in spring, with only a 3 degree Celsius difference in mean daily highs between the coldest season in 2006 and the warmest in 2017 (compared to 5 degrees in spring), and even less in mean daily lows (a range of 2.2 degrees in fall vs. 3.1 in spring). Unlike in spring, there is no clear pattern in temperatures over the years. The number of days with rain in fall has ranged from a low of 34 in 2007 to as many as 55 in 2011. The wettest fall (2005) had almost exactly twice as much rain as the driest (2014).

Observations, Fall Season (2005-2014: August 1 - November 6 (October 30, for 2005-2014):

| 2005 | 2006 | 2007 | 2008 | 2009 |
|-----------------------------|---------------------------|-----------------------------|-----------------------------|-----------------------------|
| Canada Goose (241) | American Crow (112) | Canada Goose (378) | Canada Goose (143) | Canada Goose (213) |
| Common Grackle (151) | Canada Goose (91) | Red-winged Blackbird (103) | American Crow (97) | American Robin (95) |
| American Robin (64) | American Robin (86) | American Crow (102) | American Robin (79) | Red-winged Blackbird (86) |
| American Crow (61) | Red-winged Blackbird (55) | American Robin (89) | Red-winged Blackbird (64) | American Crow (50) |
| White-thr. Sparrow (29) | Common Grackle (46) | Common Grackle (31) | Common Grackle (41) | White-thr. Sparrow (28) |
| Red-winged Blackbird (27) | European Starling (27) | White-thr. Sparrow (19) | Myrtle Warbler (35) | Common Grackle (23) |
| Black-capped Chickadee (24) | Song Sparrow (21) | American Goldfinch (19) | European Starling (19) | Black-capped Chickadee (20) |
| Dark-eyed Junco (16) | Myrtle Warbler (17) | Black-capped Chickadee (18) | Black-capped Chickadee (16) | European Starling (18) |
| Blue Jay (15) | Blue Jay (17) | European Starling (17) | Blue Jay (14) | Cedar Waxwing (17) |
| American Goldfinch (15) | Cedar Waxwing (17) | Mallard (13) | White-thr. Sparrow (14) | Dark-eyed Junco (13) |

| 2010 | 2011 | 2012 | 2013 | 2014 |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Canada Goose (284) | Canada Goose (396) | Canada Goose (294) | Canada Goose (147) | Canada Goose (223) |
| American Robin (136) | Red-winged Blackbird (113) | Common Grackle (154) | American Robin (81) | American Robin (106) |
| Red-winged Blackbird (112) | American Robin (61) | Red-winged Blackbird (116) | Red-winged Blackbird (63) | Red-winged Blackbird (66) |
| American Crow (82) | American Crow (59) | American Robin (76) | European Starling (53) | Common Grackle (54) |
| Myrtle Warbler (70) | Black-capped Chickadee (21) | European Starling (60) | American Crow (45) | European Starling (50) |
| European Starling (32) | Cedar Waxwing (17) | American Crow (45) | Common Grackle (34) | American Crow (41) |
| Common Grackle (31) | Blue Jay (16) | White-thr. Sparrow (37) | American Goldfinch (20) | White-thr. Sparrow (31) |
| White-thr. Sparrow (29) | White-thr. Sparrow (12) | Blue Jay (25) | Cedar Waxwing (20) | Blue Jay (19) |
| Black-capped Chickadee (29) | European Starling (10) | Ring-billed Gull (23) | Black-capped Chickadee (18) | Black-capped Chickadee (17) |
| Blue Jay (27) | American Goldfinch (10) | Black-capped Chickadee (21) | Blue Jay (17) | American Goldfinch (16) |

| 2015 | 2016 | 2017 | 2018 | 2019 |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Canada Goose (155) | Canada Goose (118) | Canada Goose (195) | Canada Goose (180) | Canada Goose (139) |
| American Robin (129) | American Robin (80) | Red-winged Blackbird (77) | American Robin (128) | American Robin (130) |
| European Starling (88) | Red-winged Blackbird (65) | Common Grackle (71) | Common Grackle (82) | Red-winged Blackbird (55) |
| Red-winged Blackbird (55) | European Starling (37) | American Robin (65) | European Starling (46) | Common Grackle (49) |
| Common Grackle (53) | American Crow (30) | European Starling (50) | Red-winged Blackbird (44) | European Starling (44) |
| American Crow (35) | White-thr. Sparrow (28) | American Crow (34) | American Crow (26) | American Crow (30) |
| White-thr. Sparrow (23) | Common Grackle (26) | White-thr. Sparrow (17) | White-thr. Sparrow (20) | White-thr. Sparrow (16) |
| Blue Jay (21) | Blue Jay (17) | American Goldfinch (16) | American Goldfinch (20) | Blue Jay (15) |
| American Goldfinch (16) | Black-capped Chickadee (17) | Blue Jay (15) | Black-capped Chickadee (16) | Black-capped Chickadee (13) |
| Black-capped Chickadee (16) | American Goldfinch (17) | Black-capped Chickadee (13) | Blue Jay (13) | American Goldfinch (12) |

Banding notes: 22 species have been among the annual top 10 banded for entire fall seasons between 2005 and 2019, with four species on that list in all 15 years: Ruby-crowned Kinglet, White-throated Sparrow, Song Sparrow, and Magnolia Warbler. White-throated Sparrow has topped the fall season list for five of the past six years, and eight times overall; Ruby-crowned Kinglet and Myrtle Warbler have each done so three times, and Magnolia Warbler once. Five species only reached the top 10 banded for fall in one year: Hermit Thrush (2009), Cedar Waxwing (2013), White-crowned Sparrow (2007), Baltimore Oriole (2006), and Ovenbird (2019). Warblers accounted for 36% of entries in the top 10 for the season, ranging from a low of two in 2007 and 2016 to a high of six in 2011. Sparrows comprise another 26%, with at least two every year, and a maximum of four species in 2007.

Observation notes: Only 16 species have occurred on the fall season total top 10 list between 2005 and 2019, with Canada Goose, American Crow, American Robin, and Red-winged Blackbird included in all 15 years; notably the goose and blackbird also appeared in the top 10 for spring in all 15 years. More Canada Geese have been observed in fall than any other species in every year except 2006, when there were slightly more American Crows. American Robin is the only other species to have been in the top five in all 15 years. Three species were among the top 10 observed for all of spring in just a single year: Mallard (2007), Ring-billed Gull (2012), and Song Sparrow (2006). Whereas warblers dominate the banding lists, Myrtle Warbler is the only species to have appeared on a full-fall top 10 list for observations, and just three times. Instead, blackbirds (including European Starling) are dominant, with three species in the top 10 in every year except 2005 and 2011.

Appendix E: Species Occurrence Summaries

This section summarizes observation and banding data on a weekly (spring and fall) or monthly (summer and winter) basis for all 222 species observed at MBO between October 31, 2004 and November 6, 2019. Species are organized according to the latest taxonomic revisions by the American Ornithological Society (AOS 2020).

Most species accounts begin with a table providing an overview of spring and fall occurrence by year. It identifies the first and last day of occurrence in each season, as well as the date of the peak count, the number of days spanned between the first and last observations, number of days on which the species was observed (and percentage of the season), date of the season's high count, and total number of individuals recorded. Mean values for the 15-year period are presented for all categories, calculated as the average date / span / days / high count among years in which the species was observed, and as the average total over 15 years, counting years with no observations as zeroes.

This overview is typically followed by two tables which provide the mean daily count of individuals for each period of the year (see Appendix A); tables are omitted if they contain no records. During spring and fall migration monitoring, this is usually the total divided by 7, since those seasons have had almost complete coverage; during summer and winter (and owl banding) the totals are divided by the number of days of observation or banding in each period. Numbers above 0.1 are rounded to one decimal place, and those below 0.1 are rounded to two decimal places to permit distinction among rare records. For each season, the peak is shown in bold red, unless numbers across the season are too similar to identify a distinct peak (usually for rare species).

For species that have been banded, another two tables (or one, if not banded in both winter/spring and summer/fall) summarize the number of individuals banded per period, and otherwise following the same approach as the observation tables. A brief paragraph follows the tables for each species, highlighting key points such as seasonal patterns, trends over time, and notable occurrences.

ROGO: Ross's Goose / Oie de Ross (*Anser rossii*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|--|
| First | | | | | | | | | 5-12 | | | | | | | 5-12 | | | | | | | | | | | | | | | | | |
| Peak | | | | | | | | | 5-12 | | | | | | | 5-12 | | | | | | | | | | | | | | | | | |
| Last | | | | | | | | | 5-12 | | | | | | | 5-12 | | | | | | | | | | | | | | | | | |
| Span | | | | | | | | | 1 | | | | | | | 1 | | | | | | | | | | | | | | | | | |
| # days | | | | | | | | | 1 | | | | | | | 1 | | | | | | | | | | | | | | | | | |
| % days | | | | | | | | | 1 | | | | | | | 1 | | | | | | | | | | | | | | | | | |
| High | | | | | | | | | 1 | | | | | | | 1 | | | | | | | | | | | | | | | | | |
| Total | | | | | | | | | 1 | | | | | | | 0 | | | | | | | | | | | | | | | | | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|------|----|----|-----|--------|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | 0.1 | | | | 0.01 | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | 0.01 | | | | <0.005 | | | | | | | | | | | | | | | | | | |

Ross's Goose is one of 16 species that has been observed at MBO only once (along with Redhead, Lesser Scaup, Common Goldeneye, Eastern Whip-poor-will, Black-bellied Plover, Semipalmated Plover, Dunlin, Northern Gannet, Least Bittern, Iceland Gull, Caspian Tern, Yellow-throated Vireo, Fish Crow, Red Crossbill, and Orchard Oriole). A single Ross's Goose was observed on 12 May 2013, flying low and initially detected by its distinct high-pitched call.

GWFG: Greater White-fronted Goose / Oie rieuse (*Anser albifrons*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | | | | | | | | | | 4-24 | | | | | | 4-24 | | | | | | | | | | | | | | | | 9-21 |
| Peak | | | | | | | | | | 4-24 | | | | | | 4-24 | | | | | | | | | | | | | | | | 9-21 |
| Last | | | | | | | | | | 4-24 | | | | | | 4-24 | | | | | | | | | | | | | | | | 9-21 |
| Span | | | | | | | | | | 1 | | | | | | 1 | | | | | | | | | | | | | | | 1 | |
| # days | | | | | | | | | | 1 | | | | | | 1 | | | | | | | | | | | | | | | 1 | |
| % days | | | | | | | | | | 1 | | | | | | 1 | | | | | | | | | | | | | | | 1 | |
| High | | | | | | | | | | 1 | | | | | | 1 | | | | | | | | | | | | | | | 1 | |
| Total | | | | | | | | | | 1 | | | | | | 0 | | | | | | | | | | | | | | | 0 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|------|----|----|----|----|----|-----|--------|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--|--------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | 0.1 | | | | | | | 0.01 | | | | | | | | | | | | | | | | | | | | 0.01 |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | 0.01 | | | | | | | <0.005 | | | | | | | | | | | | | | | | | | | | <0.005 |

Greater White-fronted Goose is another rare goose, with observations limited to a single individual in each of spring (in 2014) and fall (in 2013). The first was flying with a flock of Canada Geese, while the other flew past on its own.

ATBR: (Atlantic) Brant / Bernache cravant (*Branta bernicla*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | | | |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|--|--|---|
| First | | 5-21 | | | | | | | | | | | | | 5-21 | 5-21 | | | | | | | | | | | | | | | | | | | |
| Peak | | 5-21 | | | | | | | | | | | | | 5-21 | 5-21 | | | | | | | | | | | | | | | | | | | |
| Last | | 5-21 | | | | | | | | | | | | | 5-21 | 5-21 | | | | | | | | | | | | | | | | | | | |
| Span | | 1 | | | | | | | | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | |
| # days | | 1 | | | | | | | | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | |
| % days | | 1 | | | | | | | | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | |
| High | | 10 | | | | | | | | | | | | | 1 | 6 | | | | | | | | | | | | | | | | | | | |
| Total | | 10 | | | | | | | | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | 0 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|-----|----|-----|------|------|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | 1.4 | | | | 0.1 | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | 0.1 | | | | 0.01 | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | 0.1 | | | 0.01 | | | | | | | | | | | | | | | | | | | |

Brant has only been observed at MBO twice, a flock of 10 flying past on 21 May 2006, and a lone individual passing by exactly 13 years later on 21 May 2019.

CACG: Cackling Goose / Bernache de Hutchins (*Branta hutchinsii*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-------|-------|-------|------|-------|-------|-------|------|-------|-------|------|-------|------|------|-------|-------|
| First | | | | 5-2 | | 5-4 | | 5-9 | | | | | | | | 5-5 | 10-22 | 10-10 | 10-24 | 9-22 | 9-19 | 10-26 | 10-10 | | 9-16 | 10-11 | 9-26 | 10-26 | 9-29 | | 10-30 | 10-7 |
| Peak | | | | 5-5 | | 5-4 | | 5-9 | | | | | | | | 5-6 | 10-22 | 10-10 | 10-29 | 9-22 | 9-19 | 10-26 | 10-10 | | 9-16 | 10-11 | 9-26 | 10-26 | 9-29 | | 10-30 | 10-7 |
| Last | | | | 5-5 | | 5-4 | | 5-9 | | | | | | | | 5-6 | 10-22 | 10-10 | 10-29 | 9-22 | 10-25 | 10-26 | 10-15 | | 10-29 | 10-28 | 9-28 | 10-26 | 9-29 | | 10-30 | 10-17 |
| Span | | | | 4 | | 1 | | 1 | | | | | | | | 2 | 1 | 1 | 6 | 1 | 37 | 1 | 6 | | 44 | 18 | 3 | 1 | 1 | | 1 | 12 |
| # days | | | | 2 | | 1 | | 1 | | | | | | | | 1 | 1 | 1 | 2 | 1 | 5 | 1 | 3 | | 2 | 2 | 2 | 1 | 1 | | 1 | 2 |
| % days | | | | 3 | | 1 | | 1 | | | | | | | | 2 | 1 | 1 | 2 | 1 | 5 | 1 | 3 | | 2 | 2 | 2 | 1 | 1 | | 1 | 2 |
| High | | | | 3 | | 1 | | 1 | | | | | | | | 2 | 1 | 1 | 6 | 1 | 1 | 10 | 1 | | 1 | 3 | 1 | 1 | 1 | | 1 | 2 |
| Total | | | | 5 | | 1 | | 1 | | | | | | | | 0 | 1 | 1 | 9 | 1 | 5 | 10 | 3 | | 2 | 5 | 2 | 1 | 1 | | 1 | 3 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | | | | |
|------|------|-----|-----|-----|-----|--------|----|----|----|----|----|------|------|----|----|-----|--------|-----|-----|----|----|----|----|----|----|----|------|------|------|-----|------|------|-----|-----|----|------|------|------|------|------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.01 | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.01 | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | |
| 2008 | 0.1 | | | | | 0.04 | | | | | | 0.7 | | | | | 0.07 | | | | | | | | | | | 0.1 | | | | | | | | 0.1 | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.3 | 0.3 | | | | | | | 0.1 | 0.05 | | | |
| 2010 | 0.05 | | | | | 0.02 | | | | | | 0.1 | | | | | 0.01 | | | | | | | | | | | | | | | | | | | 1.4 | 0.1 | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.4 | 0.03 | | |
| 2012 | | | | | | | | | | | | | 0.1 | | | | 0.01 | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | 0.1 | 0.02 | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.4 | 0.05 | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.3 | 0.02 | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | 0.01 | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | 0.01 |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | 0.01 |
| Mean | 0.01 | | | | | <0.005 | | | | | | 0.06 | 0.01 | | | | <0.005 | | | | | | | | | | 0.01 | 0.03 | 0.05 | | 0.07 | 0.01 | 0.2 | | | | 0.03 | | | |

Cackling Goose is a very rare spring migrant, and rare but fairly regular fall migrant at MBO. There were two spring sightings in 2008, one in 2010, and one in 2012, all between May 2 and 9. In fall, Cackling Goose has been missed in 2012 and 2018, but otherwise observed on one to five days per year. In six years, only a single individual was observed. There have been two unusually early sightings around mid-September, but otherwise sightings have mostly been from late September onward, with records more frequent in Week 13 than any other. In 2007 and 2009, fall migration spilled over into early winter.

CANG: Canada Goose / Bernache du Canada (*Branta canadensis*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|---------------|------|-------|-------|-------|------|------|-------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| First | 4-5 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 3-29 | 3-28 | 3-28 | 4-2 | 3-30 | 3-28 | 3-28 | 3-28 | 3-28 | 3-29 | 9-3 | 8-6 | 8-16 | 8-4 | 8-9 | 8-13 | 8-11 | 8-6 | 8-2 | 8-11 | 8-6 | 8-7 | 8-5 | 8-3 | 8-4 | 8-9 |
| Peak | 5-2 | 4-22 | 3-31 | 4-23 | 5-3 | 5-4 | 4-4 | 3-28 | 3-31 | 4-15 | 4-7 | 3-28 | 4-5 | 5-6 | 4-12 | 4-14 | 10-8 | 10-5 | 10-28 | 9-21 | 9-19 | 10-3 | 10-1 | 10-17 | 9-26 | 9-19 | 11-6 | 10-3 | 11-6 | 10-8 | 10-28 | 10-9 |
| Last | 6-3 | 6-4 | 6-5 | 6-4 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-4 | 6-5 | 6-3 | 6-3 | 6-4 | 6-4 | 6-4 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 11-6 | 11-6 | 11-6 | 11-6 | 11-6 | 11-1 |
| Span | 60 | 69 | 70 | 69 | 70 | 70 | 69 | 70 | 70 | 64 | 68 | 68 | 68 | 69 | 69 | 68 | 58 | 86 | 76 | 88 | 83 | 79 | 81 | 86 | 90 | 81 | 93 | 92 | 94 | 96 | 95 | 85 |
| # days | 56 | 68 | 68 | 63 | 67 | 60 | 68 | 66 | 69 | 61 | 66 | 68 | 68 | 69 | 69 | 66 | 48 | 64 | 54 | 65 | 68 | 59 | 72 | 79 | 70 | 65 | 79 | 74 | 76 | 83 | 89 | 70 |
| % days | 95 | 99 | 97 | 90 | 97 | 86 | 97 | 94 | 99 | 90 | 94 | 97 | 97 | 99 | 99 | 95 | 55 | 70 | 59 | 71 | 75 | 65 | 79 | 87 | 77 | 71 | 81 | 76 | 78 | 85 | 91 | 75 |
| High | 633 | 1600 | 2007 | 2150 | 1025 | 1727 | 784 | 710 | 1200 | 900 | 520 | 661 | 1100 | 800 | 1442 | 1151 | 5100 | 580 | 2510 | 1120 | 4329 | 6268 | 10300 | 2343 | 1002 | 1998 | 1251 | 1500 | 2000 | 1160 | 1190 | 2843 |
| Total | 4898 | 27698 | 16620 | 13331 | 8237 | 5357 | 11013 | 7870 | 8855 | 7915 | 7192 | 6089 | 7789 | 6984 | 6668 | 9768 | 21175 | 8321 | 34409 | 13026 | 19414 | 25819 | 35991 | 26761 | 13388 | 20332 | 15149 | 11566 | 19153 | 17650 | 13592 | 19716 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|-------------|-------|-------|-----|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|-------|-----|------|-----|-----|------|------|------|------|------|-------|--------|--------|--------|-------|--------|--------|-------|-------|-------|
| 2005 | 46.0 | 30.0 | | | | 17.4 | | 240.7 | 65.6 | 91.7 | 102.4 | 219.3 | 11.1 | 5.6 | 6.1 | 6.6 | 83.0 | 1.3 | | 0.6 | | | | | 4.6 | 8.6 | 22.3 | 364.9 | 493.5 | 1250.2 | 544.2 | 259.6 | 404.1 | | 240.6 | |
| 2006 | 7.0 | 8.9 | | | 20.0 | 7.2 | 715.0 | 853.8 | 751.1 | 898.6 | 541.0 | 250.7 | 9.7 | 11.3 | 32.4 | 15.1 | 401.4 | | | | 0.4 | 1.1 | 2.0 | 2.4 | 4.4 | 3.7 | 7.4 | 156.3 | 250.9 | 376.4 | 233.4 | 77.7 | 72.4 | | 91.4 | |
| 2007 | 137.9 | 875.7 | 3.7 | 2.2 | 0.6 | 189.2 | 1099 | 178.3 | 198.4 | 321.6 | 109.1 | 430.7 | 13.3 | 9.3 | 11.0 | 3.7 | 237.4 | 1.6 | | 0.8 | | | 4.4 | 1.0 | 0.6 | 13.6 | 13.7 | 132.6 | 433.1 | 901.0 | 800.0 | 945.7 | 1669.9 | | 378.1 | |
| 2008 | 172.8 | | | | | 57.6 | 3.4 | 174.1 | 439.6 | 561.1 | 203.3 | 458.6 | 39.4 | 8.1 | 13.4 | 3.3 | 190.4 | 0.6 | | 0.3 | 0.4 | 6.9 | 0.1 | 4.4 | 53.0 | 28.6 | 42.4 | 447.9 | 310.3 | 428.1 | 175.0 | 283.4 | 80.3 | | 143.1 | |
| 2009 | 42.9 | 140.0 | | | 109.4 | 60.0 | 292.6 | 112.5 | 88.3 | 150.9 | 200.7 | 292.4 | 37.4 | 9.7 | 5.7 | 2.6 | 119.4 | | | | | 8.9 | 5.4 | 3.6 | 24.3 | 42.7 | 80.6 | 1166.4 | 757.7 | 257.6 | 168.9 | 166.1 | 91.3 | | 213.3 | |
| 2010 | 117.7 | 236.8 | | | 171.2 | 100.9 | 179.1 | 60.9 | 11.4 | 48.4 | 79.1 | 328.0 | 45.7 | 8.4 | 2.9 | 1.3 | 76.5 | | | | | 0.7 | | 7.1 | 10.0 | 5.9 | 46.1 | 125.9 | 1147.0 | 1396.0 | 194.0 | 425.0 | 330.7 | | 283.7 | |
| 2011 | 524.8 | | | | 18.0 | 145.7 | 454.4 | 509.6 | 52.1 | 146.6 | 95.6 | 142.9 | 119.7 | 9.9 | 7.0 | 35.6 | 157.3 | 2.7 | | | 1.1 | | 1.0 | 1.4 | 5.3 | 35.6 | 65.3 | 122.4 | 147.3 | 2361.0 | 928.0 | 306.3 | 682.1 | 485.9 | | 395.5 |
| 2012 | 176.5 | 31.0 | | | 967.4 | 269.0 | 297.7 | 162.3 | 100.7 | 158.1 | 68.6 | 195.3 | 128.0 | 2.4 | 3.6 | 7.6 | 112.4 | 2.5 | | 1.2 | 4.9 | 11.7 | 45.7 | 73.0 | 27.6 | 45.6 | 45.6 | 93.0 | 407.1 | 406.6 | 296.7 | 1159.1 | 1206.4 | | 294.1 | |
| 2013 | 124.4 | 4.9 | | | 13.4 | 25.4 | 297.0 | 236.1 | 100.7 | 110.1 | 182.7 | 261.7 | 57.7 | 11.1 | 5.1 | 2.6 | 126.5 | 0.7 | | 0.3 | 3.6 | 0.7 | 14.6 | 1.7 | 6.7 | 11.4 | 53.3 | 282.9 | 612.1 | 349.7 | 190.7 | 170.0 | 215.1 | | 147.1 | |
| 2014 | 299.6 | 7.5 | | | | 52.7 | 25.7 | 90.3 | 246.4 | 372.3 | 101.4 | 187.9 | 95.9 | 4.4 | 6.6 | 4.2 | 116.4 | 1.3 | | | 0.6 | | 0.4 | 0.3 | 2.4 | 11.3 | 15.7 | 137.1 | 601.4 | 518.4 | 439.3 | 285.0 | 328.0 | 565.1 | | 223.4 |
| 2015 | 554.8 | 6.0 | | | | 370.1 | 60.4 | 266.1 | 243.3 | 80.3 | 125.7 | 211.3 | 25.3 | 8.6 | 4.1 | 2.3 | 102.7 | 1.3 | | 0.6 | 0.3 | 1.4 | 21.9 | 11.7 | 17.7 | 14.3 | 11.7 | 259.7 | 319.0 | 475.9 | 195.1 | 68.4 | 155.4 | 611.6 | 154.6 | |
| 2016 | 377.1 | 310.3 | | | 155.8 | 142.0 | 166.6 | 88.3 | 51.7 | 155.1 | 122.1 | 205.9 | 59.1 | 6.6 | 5.7 | 8.7 | 87.0 | 4.3 | | 2.1 | 1.7 | 1.9 | 3.9 | 1.1 | 12.6 | 5.1 | 23.9 | 242.6 | 227.3 | 403.6 | 139.7 | 175.3 | 186.1 | 227.6 | 118.0 | |
| 2017 | 295.9 | 61.5 | | 3.0 | | 80.5 | 196.9 | 318.0 | 71.9 | 61.7 | 110.6 | 152.0 | 175.7 | 10.6 | 10.7 | 4.7 | 111.3 | | | 0.3 | 0.3 | 1.0 | 1.0 | 7.4 | 29.7 | 38.4 | 56.1 | 224.7 | 574.0 | 350.1 | 344.9 | 196.9 | 142.9 | 768.7 | 195.4 | |
| 2018 | 223.0 | 29.2 | | | 2.8 | 47.2 | 182.3 | 158.3 | 79.9 | 203.4 | 62.4 | 260.0 | 24.4 | 6.7 | 8.9 | 11.4 | 99.8 | | | | 0.9 | | | 7.0 | 21.9 | 93.1 | 36.1 | 14.0 | 200.6 | 291.4 | 490.7 | 275.0 | 247.0 | 465.7 | 378.0 | 180.1 |
| 2019 | 109.7 | 1.0 | | | 29.8 | 31.6 | 130.1 | 151.4 | 274.9 | 106.9 | 86.7 | 125.0 | 45.9 | 14.0 | 13.3 | 4.4 | 95.3 | 1.3 | 0.3 | 0.7 | 1.3 | 12.6 | 33.7 | 22.0 | 46.6 | 33.3 | 105.0 | 193.4 | 227.4 | 210.1 | 288.4 | 179.6 | 449.6 | 138.7 | 138.7 | |
| Mean | 218.2 | 141.7 | 0.2 | 0.4 | 89.7 | 96.4 | 295.6 | 235.3 | 185.1 | 232.5 | 146.1 | 248.1 | 59.2 | 8.4 | 9.1 | 7.7 | 141.6 | 1.1 | 0.02 | 0.5 | 0.9 | 3.2 | 9.4 | 11.0 | 25.2 | 24.6 | 52.1 | 309.3 | 596.3 | 571.1 | 293.4 | 357.6 | 434.7 | 424.9 | 211.7 | |

Canada Goose is the most abundant species at MBO overall, although only a tiny fraction of sightings involve individuals using the ponds on site, mostly in spring and early summer. In most years, flocks of migrants start to pass by in late winter, with a first wave usually peaking in the first three weeks of spring (occasionally not until Week 4), and in most cases a second wave reaching its maximum in Week 6 (or not until Week 7 in 2017). After that second wave passes MBO, numbers for the remainder of spring are always much lower, typically only a couple of local pairs, and sometimes their offspring. In some years the local breeders linger into June, but by July they are almost always absent. Numbers remain very low in early August, and build fairly gradually over the first half of fall. In most years there is a sharp increase in Week 8 (only rarely one week earlier or later) as the first large flocks of migrants arrive in the area. Numbers peak variably between Week 8 and Week 14, in six years averaging more than 1000 individuals daily during the busiest week. Overall, counts have declined over time, with the annual seasonal means below the 15-year average for the past three winter seasons, eight spring seasons, and five fall seasons.

TUSW: Tundra Swan / Cygne siffleur (*Cygnus columbianus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| First | | | | | | | | | | | | | | | | | | | | | | | 9-19 | 9-24 | | | | | | | 9-21 | |
| Peak | | | | | | | | | | | | | | | | | | | | | | | 9-19 | 9-24 | | | | | | | 9-21 | |
| Last | | | | | | | | | | | | | | | | | | | | | | | 9-19 | 9-24 | | | | | | | 9-21 | |
| Span | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | | | | | | | 1 | |
| # days | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | | | | | | | 1 | |
| % days | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | | | | | | | 1 | |
| High | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | | | | | | | 1 | |
| Total | | | | | | | | | | | | | | | | 0 | | | | | | | 1 | 1 | | | | | | | 0 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.01 |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.01 |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | <0.005 |

Only two Tundra Swans have been observed at MBO. Both were lone individuals flying past the site in Week 8 of fall, in consecutive years (2011 and 2012)

WODU: Wood Duck / Canard branchu (*Aix sponsa*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|------|-------|
| First | 4-5 | 3-30 | 4-2 | 4-8 | 3-28 | 3-28 | 4-4 | 3-28 | 4-5 | 4-9 | 4-3 | 3-28 | 4-7 | 3-30 | 4-7 | 4-2 | 8-2 | 8-3 | 8-1 | 8-1 | 8-6 | 8-7 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-7 | 8-2 | 8-3 | 8-1 | 8-2 |
| Peak | 5-23 | 5-24 | 5-24 | 4-29 | 4-2 | 4-14 | 4-7 | 4-18 | 4-15 | 4-18 | 4-17 | 4-3 | 4-12 | 4-14 | 5-6 | 4-23 | 10-1 | 10-23 | 10-28 | 10-7 | 8-7 | 10-3 | 9-22 | 10-20 | 9-13 | 10-11 | 10-20 | 8-26 | 8-11 | 9-4 | 10-6 | 9-25 |
| Last | 6-2 | 6-5 | 6-5 | 6-2 | 6-4 | 6-2 | 6-5 | 6-4 | 6-4 | 6-3 | 6-3 | 6-5 | 6-4 | 6-3 | 6-5 | 6-3 | 10-30 | 10-30 | 10-30 | 10-7 | 10-28 | 10-30 | 10-29 | 10-29 | 10-20 | 10-24 | 11-2 | 11-4 | 11-5 | 10-22 | 11-6 | 10-28 |
| Span | 59 | 68 | 65 | 56 | 69 | 67 | 63 | 69 | 61 | 56 | 62 | 70 | 59 | 66 | 60 | 63 | 90 | 89 | 91 | 68 | 84 | 85 | 90 | 84 | 81 | 85 | 94 | 90 | 96 | 81 | 98 | 87 |
| # days | 56 | 67 | 62 | 55 | 67 | 65 | 63 | 67 | 59 | 55 | 53 | 65 | 53 | 62 | 54 | 60 | 45 | 65 | 36 | 16 | 25 | 41 | 62 | 53 | 40 | 57 | 34 | 41 | 31 | 16 | 21 | 39 |
| % days | 95 | 97 | 89 | 79 | 97 | 93 | 90 | 96 | 84 | 81 | 76 | 93 | 76 | 89 | 77 | 87 | 51 | 71 | 40 | 18 | 27 | 45 | 68 | 58 | 44 | 63 | 35 | 42 | 32 | 16 | 21 | 42 |
| High | 14 | 30 | 33 | 13 | 21 | 16 | 26 | 22 | 15 | 15 | 14 | 14 | 8 | 24 | 15 | 19 | 11 | 28 | 22 | 5 | 7 | 14 | 21 | 34 | 24 | 18 | 5 | 9 | 15 | 6 | 5 | 15 |
| Total | 258 | 558 | 578 | 317 | 394 | 457 | 472 | 666 | 410 | 323 | 262 | 413 | 192 | 447 | 267 | 401 | 233 | 307 | 110 | 26 | 67 | 169 | 267 | 288 | 134 | 213 | 81 | 93 | 117 | 33 | 54 | 146 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|------|-----|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2005 | | | | | | | | 4.7 | 4.0 | 5.2 | 4.7 | 4.3 | 2.3 | 3.1 | 5.9 | 5.8 | 4.4 | 1.5 | 0.5 | 1.0 | 1.0 | 0.7 | 0.1 | 0.1 | 0.3 | 0.9 | 2.3 | 3.0 | 3.7 | 5.0 | 7.7 | 4.6 | 6.3 | | 2.6 |
| 2006 | 1.0 | | | | | 0.2 | 5.1 | 10.0 | 9.9 | 7.4 | 6.3 | 7.1 | 11.0 | 9.7 | 10.0 | 4.6 | 8.1 | 2.8 | 0.3 | 1.4 | 2.1 | 0.3 | 1.6 | 1.3 | 2.7 | 5.0 | 1.1 | 2.0 | 5.1 | 4.0 | 5.7 | 6.6 | 6.3 | | 3.4 |
| 2007 | 0.2 | | | | | 0.07 | 3.0 | 7.7 | 5.4 | 6.4 | 7.6 | 9.9 | 7.9 | 13.0 | 16.9 | 4.9 | 8.3 | 1.6 | 0.2 | 0.9 | 0.4 | 0.7 | 1.3 | 1.4 | 1.1 | 0.3 | 1.1 | 1.6 | 0.6 | 0.3 | 0.6 | 1.4 | 4.9 | | 1.2 |
| 2008 | | | | | | | | 0.7 | 3.1 | 8.3 | 7.7 | 7.1 | 4.6 | 7.3 | 4.3 | 2.1 | 4.5 | 0.2 | 0.2 | 0.2 | 0.3 | 0.9 | 0.6 | 0.6 | | 0.1 | 0.1 | 0.4 | | 0.7 | | | | | 0.3 |
| 2009 | | | | | 0.2 | 0.08 | 8.9 | 4.2 | 6.1 | 10.1 | 7.9 | 5.1 | 5.3 | 3.1 | 3.1 | 3.0 | 5.7 | 2.0 | | 0.9 | 1.1 | 2.1 | 0.7 | 0.6 | 1.9 | | 0.1 | 0.6 | 0.9 | 0.1 | 0.1 | 0.4 | 0.9 | | 0.7 |
| 2010 | 0.1 | | | | 2.3 | 0.5 | 7.6 | 8.3 | 8.3 | 11.7 | 9.1 | 8.1 | 6.3 | 2.4 | 2.1 | 1.3 | 6.5 | | | | 0.1 | | 0.7 | 0.3 | | 0.1 | 1.6 | 0.4 | 3.3 | 4.9 | 4.0 | 5.3 | 3.4 | | 1.9 |
| 2011 | 0.1 | | | | | 0.03 | | 13.0 | 9.7 | 9.7 | 5.4 | 6.3 | 7.0 | 5.1 | 4.7 | 6.4 | 6.7 | 2.7 | | 1.1 | 4.4 | 2.9 | 2.1 | 4.9 | 1.9 | 1.7 | | 4.3 | 4.1 | 4.9 | 1.9 | 4.7 | 0.4 | | 2.9 |
| 2012 | | | | | 2.8 | 0.6 | 8.9 | 9.3 | 12.1 | 14.3 | 11.6 | 10.7 | 14.0 | 8.6 | 4.4 | 1.3 | 9.5 | | | | 0.4 | 0.9 | 1.3 | 1.1 | 1.3 | 1.3 | 4.3 | 3.1 | 2.3 | 2.9 | 7.4 | 7.7 | 7.1 | | 3.2 |
| 2013 | | | | | | | | 5.9 | 6.3 | 11.6 | 10.1 | 7.0 | 6.3 | 4.4 | 4.6 | 2.4 | 5.9 | 1.3 | 0.3 | 0.7 | 1.0 | 1.3 | 1.3 | 0.7 | 1.0 | 1.4 | 5.1 | 3.0 | 1.9 | 1.4 | 0.1 | 0.9 | | | 1.5 |
| 2014 | | | | | | | | 0.4 | 6.0 | 8.7 | 7.9 | 5.3 | 4.6 | 4.4 | 5.4 | 4.0 | 4.8 | 0.7 | 0.3 | 0.4 | 2.6 | 3.0 | 5.0 | 4.7 | 3.7 | 2.9 | 0.6 | 0.4 | 1.9 | 1.4 | 3.6 | 0.1 | 0.6 | | 2.3 |
| 2015 | | | | | | | 0.6 | | 5.1 | 6.4 | 5.9 | 7.1 | 4.4 | 4.0 | 2.1 | 1.7 | 3.7 | 0.7 | 0.3 | 0.4 | 0.4 | 0.9 | 1.0 | 0.1 | | 0.7 | 0.4 | 0.1 | 0.7 | 2.3 | 1.3 | 1.6 | 1.7 | 0.3 | 0.8 |
| 2016 | 0.5 | | | | 0.3 | 0.2 | 6.3 | 4.4 | 6.3 | 9.4 | 8.6 | 8.4 | 6.7 | 5.0 | 3.1 | 0.7 | 5.9 | 0.3 | | 0.1 | 0.1 | 1.4 | 0.6 | 2.3 | 1.1 | 2.0 | 0.1 | 0.4 | 0.3 | 1.4 | 1.3 | 0.6 | 0.7 | 0.9 | 0.9 |
| 2017 | | | | | | | | 1.3 | 3.0 | 5.0 | 4.7 | 2.7 | 3.9 | 3.4 | 2.4 | 1.0 | 2.7 | 0.3 | | 0.1 | 1.1 | 2.9 | | 0.1 | 0.4 | 0.6 | 2.1 | 1.3 | 1.4 | 0.4 | 2.1 | 0.3 | 1.1 | 2.7 | 1.2 |
| 2018 | | | | | | | 1.4 | 4.1 | 17.7 | 15.6 | 7.1 | 5.9 | 4.9 | 3.0 | 2.6 | 1.6 | 6.4 | | | | 0.3 | | | | 1.3 | | 0.1 | 0.3 | | | | | | | 0.3 |
| 2019 | | | | | | | | 0.9 | 4.6 | 5.7 | 5.0 | 7.6 | 3.4 | 5.0 | 3.6 | 2.4 | 3.8 | | | | 0.1 | 1.0 | 1.3 | 0.7 | 1.4 | 0.1 | | | | | | | | 2.3 | 0.6 |
| Mean | 0.2 | | | | 0.4 | 0.1 | 3.0 | 5.0 | 7.2 | 9.1 | 7.3 | 6.8 | 6.2 | 5.4 | 5.0 | 2.8 | 5.8 | 1.2 | 0.2 | 0.7 | 1.0 | 1.3 | 1.2 | 1.3 | 1.2 | 1.1 | 1.3 | 1.4 | 1.7 | 2.1 | 2.4 | 2.3 | 2.2 | 1.2 | 1.6 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|------|----|----|-----|------|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|-----|---|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | 0.07 | | | | 0.07 | | | | | | | | | | | | | | | | | | | 0.2 | |

The earliest Wood Ducks have occasionally been observed in late winter, but an arrival within the first two weeks of spring is more typical. Spring numbers peaked between Week 7 and Week 9 in the first three years, but since then have been highest in Week 4 in two-thirds of years, and between Week 2 and Week 6 in all others. In almost all years, numbers dropped sharply in the final week of spring, and summer sightings are far scarcer, especially in July. On average, fall numbers are modest over the first half of the season and peak over the course of October, though there is considerable variation among years, with a couple of the highest weekly means in August. Spring abundance has fluctuated considerably over the years; in summer and especially in fall there has been a more distinct decline that is most pronounced over the past 4-5 years. Only four Wood Ducks have been banded at MBO, one in spring in 2017, and three in Week 2 of fall in 2011.

BWTE: Blue-winged Teal / Sarcelle à ailes bleues (*Spatula discors*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| First | 4-21 | 4-5 | 4-23 | | | 5-4 | | | 4-29 | | | | | 4-12 | | 4-20 | | 8-29 | | | | | | | | | | 8-20 | | | 9-15 | |
| Peak | 4-21 | 4-12 | 4-23 | | | 5-4 | | | 5-3 | | | | | 4-12 | | 4-22 | | 8-29 | | | | | | | | | | 8-20 | | | 9-15 | |
| Last | 5-30 | 5-3 | 5-13 | | | 5-20 | | | 5-10 | | | | | 4-12 | | 5-9 | | 8-29 | | | | | | | | | | 9-13 | | | 9-23 | |
| Span | 40 | 29 | 21 | | | 17 | | | 12 | | | | | 1 | | 20 | | 1 | | | | | | | | 1 | | 25 | | | 9 | |
| # days | 4 | 4 | 2 | | | 7 | | | 9 | | | | | 1 | | 4 | | 1 | | | | | | | | 1 | | 2 | | | 1 | |
| % days | 7 | 6 | 3 | | | 10 | | | 13 | | | | | 1 | | 7 | | 1 | | | | | | | | 1 | | 2 | | | 1 | |
| High | 1 | 2 | 2 | | | 2 | | | 4 | | | | | 2 | | 2 | | 1 | | | | | | | | 5 | | 6 | | | 4 | |
| Total | 4 | 5 | 3 | | | 13 | | | 21 | | | | | 2 | | 3 | | 1 | | | | | | | | 5 | | 9 | | | 1 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|------|------|------|------|-----|------|------|------|------|------|-----|-----|----|----|----|----|------|------|------|-----|----|----|-----|-----|-----|------|-----|------|------|--|
| 2005 | | | | | | | | | | 0.2 | | | | | 0.3 | 0.2 | 0.07 | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | 0.2 | 0.3 | | 0.1 | 0.1 | | | | | 0.07 | | | | | | | | 0.1 | | | | | | | | | | | 0.01 | |
| 2007 | | | | | | | | | | 0.3 | | | 0.1 | | | | 0.04 | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | 0.9 | | 1.0 | | | 0.2 | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | 1.0 | 1.9 | 0.1 | | | | 0.3 | | | | | | | | | | | | | | | | | 0.7 | | 0.05 | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | 0.3 | | | | | | | 0.03 | | | | | | | 0.9 | | | 0.4 | | | | | | | | | 0.09 | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | 0.01 | 0.04 | 0.03 | 0.08 | 0.2 | 0.02 | 0.07 | 0.02 | 0.01 | 0.05 | | | | | | | 0.06 | 0.01 | 0.03 | | | | | | | 0.05 | | 0.01 | | |

Blue-winged Teal is an irregular migrant at MBO, with records in 6 of 15 years in spring, and 3 of 15 years in fall. Sightings were somewhat more frequent in early years, with spring records annually for the first three years, compared to just once in the six most recent years. 2013 was the only year during which individuals lingered at MBO for any length of time, from Week 5 into Week 7 of spring.

NSHO: Northern Shoveler / Canard souchet (*Spatula clypeata*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|-------|------|------|------|------|------|------|------|------|------|------|-----|
| First | 5-1 | 4-11 | | | 5-24 | | | | | | | 5-11 | 5-18 | | 4-19 | 5-4 | | | | | 10-29 | | | | | | | 8-20 | | | 9-24 | |
| Peak | 5-1 | 4-11 | | | 5-24 | | | | | | | 5-11 | 5-18 | | 4-19 | 5-4 | | | | | 10-29 | | | | | | | 9-9 | | | 10-4 | |
| Last | 5-1 | 5-10 | | | 5-24 | | | | | | | 5-11 | 5-18 | | 4-21 | 5-9 | | | | | 10-29 | | | | | | | 9-9 | | | 10-4 | |
| Span | 1 | 30 | | | 1 | | | | | | | 1 | 1 | | 3 | 6 | | | | | 1 | | | | | | 21 | | | 11 | | |
| # days | 1 | 2 | | | 1 | | | | | | | 1 | 1 | | 2 | 1 | | | | | 1 | | | | | | 2 | | | 2 | | |
| % days | 2 | 3 | | | 1 | | | | | | | 1 | 1 | | 3 | 2 | | | | | 1 | | | | | | 2 | | | 2 | | |
| High | 2 | 4 | | | 1 | | | | | | | 2 | 1 | | 1 | 2 | | | | | 2 | | | | | | 18 | | | 10 | | |
| Total | 2 | 5 | | | 1 | | | | | | | 2 | 1 | | 2 | 1 | | | | | 2 | | | | | | 27 | | | 2 | | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|------|------|------|----|------|------|------|-----|------|-----|-----|----|----|----|----|------|----|-----|-----|----|----|-----|-----|-----|------|-----|------|------|
| 2005 | | | | | | | | | | | 0.3 | | | | | | 0.03 | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | 0.6 | | | | 0.1 | | | | 0.07 | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | 0.1 | | 0.01 | | | | | | | | | | | | | | | | | 0.3 | | 0.02 |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | 0.3 | | | | 0.03 | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | 0.1 | | | 0.01 | | | | | | | 1.3 | | | 2.6 | | | | | | | | 0.3 | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | 0.3 | | | | | | 0.03 | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 0.04 | 0.02 | 0.02 | | 0.03 | 0.01 | 0.01 | | 0.01 | | | | | | | 0.09 | | 0.2 | | | | | | | 0.02 | | 0.02 | |

Northern Shoveler is a very rare migrant at MBO in both spring and fall. It has been observed in 6 of 15 years in spring, never on more than two days per season; sightings have ranged between mid-April and late May. In fall, there have been sightings on just three occasions, once in late October in 2009, and twice in 2017, including a fairly large flock of 18 on 9 September, and a smaller count of nine on 20 August.

NOPI: Northern Pintail / Canard pilet (*Anas acuta*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|------|-------|------|-------|------|------|-------|------|------|------|------|-------|-------|
| First | 4-30 | 4-9 | 4-2 | 4-22 | | 3-30 | 3-31 | 4-12 | | | 4-10 | | | 4-12 | 4-25 | 4-12 | 10-19 | | 8-28 | | 10-28 | | 10-6 | | | 10-29 | | | 9-23 | 10-1 | 10-28 | 10-8 |
| Peak | 4-30 | 5-1 | 4-2 | 4-22 | | 3-30 | 4-5 | 4-18 | | | 4-11 | | | 4-12 | 5-8 | 4-16 | 10-19 | | 9-27 | | 10-28 | | 10-27 | | | 10-29 | | | 9-23 | 10-1 | 10-28 | 10-15 |
| Last | 5-16 | 5-30 | 5-1 | 4-28 | | 4-22 | 4-5 | 4-23 | | | 4-14 | | | 4-12 | 5-8 | 4-27 | 10-19 | | 9-27 | | 10-28 | | 10-27 | | | 10-29 | | | 9-23 | 10-1 | 10-28 | 10-15 |
| Span | 17 | 52 | 30 | 7 | | 24 | 6 | 12 | | | 5 | | | 1 | 14 | 17 | 1 | | 31 | | 1 | | 22 | | | 1 | | 1 | 1 | 1 | 7 | |
| # days | 11 | 29 | 4 | 3 | | 4 | 3 | 6 | | | 3 | | | 1 | 2 | 7 | 1 | | 2 | | 1 | | 2 | | | 1 | | 1 | 1 | 1 | 1 | |
| % days | 19 | 42 | 6 | 4 | | 6 | 4 | 9 | | | 4 | | | 1 | 3 | 10 | 1 | | 2 | | 1 | | 2 | | | 1 | | 1 | 1 | 1 | 1 | |
| High | 3 | 66 | 7 | 6 | | 2 | 30 | 48 | | | 6 | | | 30 | 2 | 20 | 20 | | 80 | | 1 | | 11 | | | 6 | | 10 | 2 | 5 | 17 | |
| Total | 18 | 301 | 16 | 8 | | 6 | 41 | 95 | | | 9 | | | 30 | 3 | 35 | 20 | | 86 | | 1 | | 12 | | | 6 | | 10 | 2 | 5 | 9 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | | |
|------|------|-----|-----|-----|-----|------|-----|-----|-----|------|------|-----|-----|-----|------|------|------|-----|-----|----|----|----|----|-----|------|----|----|-----|------|------|-----|-----|-----|-----|----|-----|------|------|
| 2005 | | | | | | | | | | | | 0.6 | 0.6 | 1.1 | 0.3 | | 0.3 | | | | | | | | | | | | | | | | 2.9 | | | 0.2 | | |
| 2006 | | | | | | | | 0.3 | 2.6 | 12.3 | 17.0 | 6.7 | 1.9 | 1.3 | 0.7 | 0.3 | 4.4 | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | 1.6 | | | 0.3 | 0.4 | | | | | | 0.2 | | | | | | | 0.9 | | | | | 11.4 | | | | | | | 0.9 | | |
| 2008 | | | | | | | | | | 0.9 | 0.3 | | | | | | 0.1 | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | 0.1 | | | | | 0.03 | 0.3 | | 0.3 | 0.3 | | | | | | | 0.09 | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | 1.3 | 4.6 | | | | | | | | | 0.6 | | | | | | | | | | | 0.1 | | | | | | | | 1.6 | | 0.1 |
| 2012 | | | | | 0.2 | 0.04 | | | 4.9 | 8.7 | | | | | | | 1.4 | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | 1.0 | | | | | 0.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.9 | 0.07 |
| 2015 | | | | | | | | 0.1 | 1.1 | | | | | | | | 0.1 | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | 1.2 | 0.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | 4.3 | | | | | | | | 0.4 | | | | | | | | | | | 1.4 | | | | | | | | | 0.1 | |
| 2019 | | | | | | | | | | | 0.1 | 0.3 | | | | | 0.04 | | | | | | | | | | | | 0.3 | | | | | | | | 0.02 | |
| 2019 | | | | | | | | | | | | 0.1 | 0.3 | | | | 0.04 | | | | | | | | | | | | | | | | | | | | 0.05 | |
| Mean | 0.05 | | | | 0.1 | 0.04 | 0.2 | 0.3 | 0.9 | 1.5 | 1.2 | 0.5 | 0.2 | 0.1 | 0.05 | 0.02 | 0.5 | | | | | | | | 0.06 | | | 0.1 | 0.8 | 0.01 | | 0.2 | 0.2 | | | 0.1 | | |

Northern Pintail was present at MBO throughout most of spring 2006, but otherwise has been an uncommon to rare species in spring, and rare in fall. In 2006, the mean daily count of Northern Pintail in spring was nearly as high as Wood Duck, thanks in part to an unusually high count of 66 on 1 May, but also because of sightings on more than twice as many days as in any other spring. Since then, there have been three other years with large flocks passing through briefly (2011, 2012, and 2018), but more commonly the season total has been below 10 (2008, 2010, 2015, and 2019), or the species has been missed in spring entirely (2009, 2013, 2014, 2016, and 2017). Northern Pintail has been observed during fall in eight years, and only once before the middle of the season, in 2007. More commonly, sightings have been either in late September to early October, or in the last half of October. The largest flock of Northern Pintail ever observed at MBO was on 27 September 2007, but otherwise fall numbers have on average been smaller than those in spring.

GADW: Gadwall / Canard chipeau (*Mareca strepera*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|
| First | | 5-23 | | 5-23 | 4-23 | | | | 4-29 | 5-20 | | 5-9 | | | 5-3 | 5-10 | | | | | | | | | | | | | | 9-7 | 9-10 | 9-8 |
| Peak | | 5-25 | | 5-23 | 5-8 | | | | 4-29 | 5-22 | | 5-9 | | | 6-1 | 5-16 | | | | | | | | | | | | | | 9-7 | 10-19 | 9-28 |
| Last | | 5-25 | | 5-30 | 5-8 | | | | 5-30 | 6-2 | | 5-9 | | | 6-5 | 5-24 | | | | | | | | | | | | | | 9-7 | 10-22 | 9-29 |
| Span | | 3 | | 8 | 16 | | | | 32 | 14 | | 1 | | | 34 | 15 | | | | | | | | | | | | | | 1 | 43 | 22 |
| # days | | 2 | | 6 | 2 | | | | 8 | 11 | | 1 | | | 26 | 8 | | | | | | | | | | | | | | 1 | 3 | 2 |
| % days | | 3 | | 9 | 3 | | | | 11 | 16 | | 1 | | | 37 | 12 | | | | | | | | | | | | | | 1 | 3 | 2 |
| High | | 2 | | 2 | 5 | | | | 2 | 3 | | 1 | | | 8 | 3 | | | | | | | | | | | | | | 6 | 14 | 10 |
| Total | | 3 | | 12 | 8 | | | | 9 | 19 | | 1 | | | 54 | 7 | | | | | | | | | | | | | | 6 | 17 | 2 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|------|-----|-----|-----|-----|--------|----|----|----|------|------|-----|------|-----|-----|-----|------|-----|-----|----|----|----|----|----|------|-----|----|----|----|-----|-----|-----|-----|-----|------|------|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | 0.4 | | 0.04 | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | 1.4 | 0.3 | 0.2 | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | 0.4 | | 0.7 | | | | | 0.1 | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | 0.1 | | | | | 0.03 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | 0.3 | | | 0.1 | 0.6 | 0.1 | 0.1 | 0.1 | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | 0.7 | 1.3 | 0.8 | 0.3 | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | 0.1 | | | | 0.01 | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | 0.9 | | | | | | | | | | 0.06 | |
| 2019 | | | | | | | | | | | | 1.4 | 0.7 | 1.6 | 2.0 | 2.0 | 0.8 | | | | | | | | 0.3 | | | | | | | 2.1 | | | 0.2 | | |
| Mean | 0.01 | | | | | <0.005 | | | | 0.03 | 0.02 | 0.1 | 0.07 | 0.2 | 0.4 | 0.2 | 0.1 | | | | | | | | 0.08 | | | | | | | 0.1 | | | 0.02 | | |

Gadwall is a rare spring and very rare fall migrant at MBO. There have been spring records in seven years, with individuals lingering on MBO's ponds for multiple days only in 2008, 2013, 2014, and 2019. Except for early arrivals before the end of April in 2009 and 2013, sightings have been limited to the second half of the season. Both the high count (8) and mean daily count (0.8) were much higher in 2019 than ever before. There were no fall sightings over the first 13 years, but in the past two years Gadwall was observed in Week 6, and in 2019 again in Week 12. There was also one late fall migrant observed as part of the winter season, in November 2010.

AMWI: American Wigeon / Canard d'Amérique (*Mareca americana*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | | 4-30 | 4-9 | | 4-2 | | 5-8 | 3-31 | | 5-18 | | | 5-10 | 4-27 | | 4-24 | | | | | | | | | | | | 8-17 | | | | 8-17 |
| Peak | | 4-30 | 4-9 | | 4-2 | | 5-8 | 3-31 | | 5-20 | | | 5-10 | 4-27 | | 4-24 | | | | | | | | | | | | 8-17 | | | | 8-17 |
| Last | | 4-30 | 4-9 | | 4-2 | | 5-8 | 3-31 | | 5-20 | | | 5-10 | 4-27 | | 4-24 | | | | | | | | | | | | 9-25 | | | | 9-25 |
| Span | | 1 | 1 | | 1 | | 1 | 1 | | 3 | | | 1 | 1 | | 1 | | | | | | | | | | | 40 | | | | 40 | |
| # days | | 1 | 1 | | 1 | | 1 | 1 | | 2 | | | 1 | 1 | | 1 | | | | | | | | | | | 2 | | | | 2 | |
| % days | | 1 | 1 | | 1 | | 1 | 1 | | 3 | | | 1 | 1 | | 2 | | | | | | | | | | | 2 | | | | 2 | |
| High | | 2 | 2 | | 2 | | 2 | 1 | | 2 | | | 1 | 5 | | 2 | | | | | | | | | | | 3 | | | | 3 | |
| Total | | 2 | 2 | | 2 | | 2 | 1 | | 3 | | | 1 | 5 | | 1 | | | | | | | | | | | 5 | | | | 0 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|------|--------|------|------|----|----|-----|------|------|------|------|-----|------|------|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | 0.3 | | | | | | 0.03 | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | 0.3 | | | | | | | 0.03 | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | 0.3 | | | | | | | 0.03 | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | 0.3 | | | | | | 0.03 | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | 0.2 | 0.04 | 0.1 | | | | | | | | | | | 0.01 | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | 0.4 | | | 0.04 | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | 0.1 | | | | 0.01 | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | 0.7 | | | | 0.07 | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | 0.01 | <0.005 | 0.03 | 0.02 | | | | 0.07 | 0.02 | 0.01 | 0.03 | | 0.02 | | | | | | | | | | | | | | | | | | | <0.005 |

American Wigeon is a very rare spring and fall migrant at MBO. There have been spring observations in eight years, always limited to just one day, except for two days in 2014. Most observations have been of lone individuals or pairs, but a slightly larger flock of five was present in 2018. The only fall sightings were in 2016, when three individuals were observed on 17 August, and another two on 25 September. There is also one late winter sighting from 2012, presumably an early spring migrant, and perhaps the same one observed during the first week of spring that year.

MALL: Mallard / Canard colvert (*Anas platyrhynchos*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|---------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|-------|-------|
| First | 4-5 | 3-30 | 3-28 | 4-7 | 3-28 | 3-28 | 3-31 | 3-28 | 3-29 | 3-30 | 3-29 | 3-28 | 4-3 | 4-3 | 4-6 | 3-31 | 8-3 | 8-3 | 8-2 | 8-6 | 8-2 | 8-4 | 8-5 | 8-4 | 8-4 | 8-1 | 8-4 | 8-1 | 8-2 | 8-2 | 8-3 | 8-3 |
| Peak | 4-10 | 5-10 | 4-3 | 4-12 | 4-2 | 5-27 | 4-10 | 4-12 | 4-10 | 5-25 | 4-14 | 5-30 | 4-10 | 5-29 | 4-12 | 4-24 | 10-21 | 10-13 | 10-30 | 10-26 | 10-29 | 10-19 | 10-24 | 10-28 | 8-15 | 10-24 | 10-29 | 9-4 | 11-6 | 11-4 | 10-19 | 10-17 |
| Last | 6-3 | 6-5 | 6-4 | 6-5 | 6-4 | 6-5 | 6-5 | 6-5 | 6-4 | 6-3 | 6-5 | 6-5 | 6-4 | 6-4 | 6-3 | 6-4 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 11-6 | 11-5 | 11-6 | 11-6 | 11-3 | 11-1 |
| Span | 60 | 68 | 69 | 60 | 69 | 70 | 67 | 70 | 68 | 66 | 69 | 70 | 63 | 63 | 59 | 66 | 89 | 89 | 90 | 86 | 90 | 88 | 87 | 88 | 88 | 91 | 95 | 97 | 97 | 97 | 93 | 91 |
| # days | 58 | 67 | 62 | 58 | 65 | 64 | 64 | 65 | 60 | 57 | 58 | 61 | 61 | 56 | 53 | 61 | 20 | 47 | 33 | 23 | 27 | 39 | 34 | 46 | 33 | 46 | 48 | 31 | 26 | 28 | 10 | 33 |
| % days | 98 | 97 | 89 | 83 | 94 | 91 | 91 | 93 | 86 | 84 | 83 | 87 | 87 | 80 | 76 | 88 | 23 | 52 | 36 | 25 | 30 | 43 | 37 | 51 | 36 | 51 | 49 | 32 | 27 | 29 | 10 | 35 |
| High | 15 | 55 | 56 | 15 | 12 | 12 | 27 | 83 | 35 | 14 | 21 | 9 | 12 | 9 | 12 | 26 | 31 | 65 | 346 | 23 | 88 | 104 | 51 | 109 | 10 | 42 | 16 | 15 | 10 | 41 | 11 | 64 |
| Total | 230 | 1169 | 594 | 388 | 282 | 290 | 385 | 682 | 391 | 255 | 238 | 227 | 211 | 209 | 242 | 386 | 96 | 523 | 1156 | 114 | 296 | 632 | 357 | 596 | 100 | 270 | 177 | 109 | 51 | 119 | 31 | 308 |

| OBS | Nov | Dec | Jan | Feb | Mar | W1 | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|------|------|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|-------|-----|------|-----|
| 2005 | 32.8 | | | | | 9.4 | | 7.0 | 4.7 | 2.2 | 3.6 | 3.9 | 4.3 | 2.7 | 3.9 | 2.8 | 3.9 | 1.4 | 0.6 | 1.0 | 0.3 | 1.6 | 0.3 | | | 0.1 | | | | | 3.2 | 7.4 | 1.3 | | 1.1 | |
| 2006 | 0.6 | 0.1 | | | | 0.2 | 6.1 | 6.7 | 12.1 | 19.4 | 20.1 | 12.3 | 29.7 | 18.7 | 26.3 | 16.4 | 16.9 | 4.2 | 1.2 | 2.5 | 3.4 | 1.7 | | 0.9 | 2.1 | | | 0.9 | 3.6 | 6.9 | 27.4 | 16.9 | 11.0 | | 5.7 | |
| 2007 | 9.4 | 57.1 | 0.7 | | | 12.5 | 13.3 | 7.7 | 7.6 | 14.1 | 7.7 | 10.7 | 8.7 | 7.3 | 5.4 | 2.3 | 8.5 | 0.7 | | 0.4 | 2.1 | 0.3 | 0.4 | 4.4 | 1.3 | 1.4 | | 2.9 | 0.3 | 0.6 | 0.3 | 12.4 | 138.7 | | 12.7 | |
| 2008 | 8.3 | | | | | 2.8 | | 1.0 | 8.0 | 11.6 | 7.1 | 4.3 | 6.3 | 6.9 | 6.0 | 4.3 | 5.5 | 1.6 | 0.2 | 0.9 | 1.6 | 0.7 | 0.7 | 1.9 | | 1.7 | 0.1 | 1.9 | 0.1 | 0.9 | 0.6 | 6.1 | | 1.3 | | |
| 2009 | 4.9 | | | | 0.2 | 1.0 | 6.6 | 3.5 | 1.6 | 6.9 | 5.7 | 3.4 | 3.1 | 3.9 | 4.1 | 2.0 | 4.1 | 0.3 | | 0.1 | 0.3 | 0.7 | 0.9 | | 0.3 | 0.1 | | 0.3 | 0.7 | 4.0 | 1.1 | 0.4 | 33.4 | | 3.3 | |
| 2010 | 21.8 | 1.6 | | | 1.5 | 7.1 | 3.3 | 3.6 | 3.6 | 3.4 | 4.0 | 3.4 | 6.9 | 4.3 | 8.3 | 0.7 | 4.1 | | | | 0.4 | | 0.3 | | 0.1 | 0.3 | 0.9 | 0.4 | 3.4 | 24.3 | 7.1 | 21.9 | 31.1 | | 6.9 | |
| 2011 | 27.0 | | | | | 7.3 | 1.1 | 9.4 | 6.7 | 7.7 | 6.4 | 6.3 | 6.6 | 3.1 | 3.0 | 4.6 | 5.5 | 2.0 | 0.8 | 1.3 | 0.1 | 0.3 | 0.3 | 0.4 | | 0.1 | 0.1 | 0.6 | 9.7 | 7.1 | 0.6 | 8.9 | 22.7 | | 3.9 | |
| 2012 | 20.2 | 11.5 | | | 25.0 | 14.9 | 11.6 | 7.1 | 18.6 | 12.4 | 10.3 | 12.4 | 12.4 | 6.7 | 3.9 | 2.0 | 9.7 | | | | 0.1 | 1.4 | 1.0 | 1.6 | 0.1 | 0.7 | 1.0 | 1.4 | 3.0 | 1.9 | 6.9 | 20.0 | 46.0 | | 6.5 | |
| 2013 | 4.0 | | | | | 0.7 | 2.7 | 10.7 | 6.1 | 7.9 | 7.4 | 5.9 | 6.3 | 4.3 | 3.0 | 1.6 | 5.6 | 0.3 | | 0.1 | 0.1 | 0.1 | 3.1 | 1.0 | 0.4 | 1.7 | 0.1 | 0.6 | 0.3 | 0.6 | 0.3 | 2.0 | 3.9 | | 1.1 | |
| 2014 | 12.2 | | | | | 2.1 | 0.2 | 1.0 | 4.4 | 7.1 | 3.9 | 4.9 | 2.6 | 4.0 | 4.9 | 4.2 | 3.8 | 0.3 | 1.8 | 1.1 | 2.3 | | | 0.7 | 0.1 | 0.1 | 1.3 | 1.0 | 3.3 | 2.3 | 6.6 | 6.4 | 14.4 | | 3.0 | |
| 2015 | 5.6 | 1.0 | | | | 3.8 | 1.4 | 1.0 | 7.0 | 5.1 | 3.9 | 4.9 | 3.7 | 2.6 | 3.4 | 1.0 | 3.4 | 1.0 | | 0.4 | 0.3 | 0.4 | 0.1 | 1.7 | 0.1 | 0.4 | 0.1 | 1.4 | 1.0 | 0.7 | 3.4 | 1.9 | 7.0 | 6.6 | 1.8 | |
| 2016 | 3.4 | 1.3 | | | 0.7 | 0.9 | 2.7 | 1.4 | 2.0 | 3.4 | 4.9 | 3.1 | 4.4 | 4.1 | 3.1 | 3.1 | 3.2 | 1.5 | | 0.8 | 0.3 | 0.4 | 0.7 | 0.9 | 3.7 | 2.6 | 0.7 | 0.6 | 2.4 | 0.1 | 0.3 | 0.1 | 1.9 | 0.9 | 1.1 | |
| 2017 | | | | | | | 0.3 | 4.9 | 2.7 | 2.7 | 3.4 | 4.6 | 4.4 | 2.9 | 3.3 | 1.0 | 3.0 | 0.7 | 0.8 | 0.7 | 0.3 | 0.3 | 0.6 | 1.0 | | 0.6 | 0.1 | 0.6 | 0.4 | 0.1 | 0.3 | 0.1 | 0.3 | 2.6 | 0.5 | |
| 2018 | 1.5 | | | | 0.1 | 0.3 | 0.1 | 1.3 | 4.0 | 4.4 | 4.1 | 3.9 | 2.9 | 3.9 | 4.3 | 1.0 | 3.0 | | | | 0.4 | | | 0.7 | 0.7 | 1.3 | | 0.7 | 0.4 | 1.7 | | | 0.6 | 1.1 | 9.3 | 1.2 |
| 2019 | | | | | | | | 0.9 | 3.9 | 5.6 | 3.0 | 3.4 | 5.9 | 5.6 | 4.3 | 2.1 | 3.5 | | | | 0.6 | 0.1 | | 0.4 | 0.3 | | | | | | | 1.6 | 1.1 | 0.3 | 0.3 | |
| Mean | 9.8 | 5.8 | 0.03 | | 1.2 | 3.6 | 3.6 | 4.4 | 6.2 | 7.7 | 6.4 | 5.8 | 7.2 | 5.4 | 5.8 | 3.3 | 5.6 | 1.3 | 0.5 | 0.9 | 0.8 | 0.5 | 0.6 | 1.0 | 0.6 | 0.8 | 0.3 | 0.9 | 1.9 | 3.4 | 3.9 | 6.7 | 21.3 | 3.9 | 3.3 | |

Similar to Canada Goose, late fall migrants commonly continue into November and even December (as late as January in 2007), and the earliest spring arrivals reach MBO before the end of March in most years. Patterns of abundance across spring vary substantially from year to year, though in most years Mallard is somewhat more abundant in April than May, and numbers are almost always substantially lower by the final week of the season. Numbers were exceptionally high throughout most of spring in 2006, with a mean daily count more than triple the long-term average; conversely, the mean daily counts for the past six years have consistently been lower than in all previous years. Small numbers have been observed in summer in 11 of 15 years; the mean daily count generally remains similarly low over the first eight weeks of fall. On average, abundance then increases over the next few weeks; from 2007 through 2015 numbers always spiked substantially from Week 12 to Week 13, but since 2016 they have remained fairly flat, with only a modest increase in Week 14 in 2018. Overall, fall abundance has declined considerably over time, with the season average in each of the past four years far less than half of the 15-year average.

ABDU: American Black Duck / Canard noir (*Anas rubripes*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|---------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|------|-------|-------|------|-------|------|-------|------|-------|-------|------|-------|-------|
| First | 4-20 | 4-19 | 4-2 | 4-17 | | 4-28 | | 4-12 | 4-9 | 4-22 | | 4-28 | 4-10 | 4-24 | 4-21 | 4-17 | 10-8 | 8-7 | 10-24 | 8-26 | 8-23 | 10-4 | 10-2 | 8-3 | 8-15 | 10-12 | 8-23 | 10-27 | 10-21 | 11-4 | 10-25 | 9-22 |
| Peak | 5-2 | 4-19 | 4-3 | 4-17 | | 4-28 | | 4-12 | 4-10 | 4-22 | | 4-28 | 4-12 | 4-24 | 5-4 | 4-20 | 10-8 | 10-26 | 10-30 | 9-18 | 8-23 | 10-4 | 10-2 | 10-17 | 8-16 | 10-28 | 8-23 | 10-27 | 10-21 | 11-4 | 10-25 | 10-6 |
| Last | 5-2 | 6-1 | 5-26 | 5-13 | | 4-28 | | 4-12 | 5-5 | 5-7 | | 4-30 | 5-27 | 5-7 | 6-1 | 5-10 | 10-11 | 10-26 | 10-30 | 9-20 | 10-28 | 10-27 | 10-2 | 10-30 | 8-16 | 10-28 | 8-23 | 10-27 | 10-21 | 11-4 | 10-31 | 10-13 |
| Span | 13 | 44 | 55 | 27 | | 1 | | 1 | 27 | 16 | | 3 | 48 | 14 | 42 | 24 | 4 | 81 | 7 | 26 | 67 | 24 | 1 | 89 | 2 | 17 | 1 | 1 | 1 | 1 | 7 | 22 |
| # days | 4 | 16 | 8 | 6 | | 1 | | 1 | 4 | 2 | | 2 | 3 | 2 | 6 | 5 | 2 | 4 | 5 | 3 | 2 | 3 | 1 | 9 | 2 | 2 | 1 | 1 | 1 | 1 | 4 | 3 |
| % days | 7 | 23 | 11 | 9 | | 1 | | 1 | 6 | 3 | | 3 | 4 | 3 | 9 | 7 | 2 | 4 | 5 | 3 | 2 | 3 | 1 | 10 | 2 | 2 | 1 | 1 | 1 | 1 | 4 | 3 |
| High | 4 | 4 | 14 | 2 | | 5 | | 2 | 11 | 2 | | 1 | 6 | 2 | 4 | 5 | 8 | 4 | 10 | 3 | 2 | 1 | 1 | 8 | 4 | 2 | 1 | 6 | 5 | 2 | 2 | 4 |
| Total | 9 | 40 | 34 | 11 | | 5 | | 2 | 23 | 4 | | 2 | 11 | 4 | 15 | 11 | 16 | 8 | 20 | 5 | 3 | 3 | 1 | 36 | 5 | 3 | 1 | 6 | 5 | 2 | 8 | 8 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | | | |
|-------------|------|-----|-----|-----|------|------|-----|-----|-----|-----|-----|-----|-----|------|-----|------|------|------|-----|--------|------|------|------|------|-----|----|------|------|------|-----|------|-----|-----|-----|------|------|------|------|------|
| 2005 | | | | | | | | | | 0.5 | 0.3 | 0.6 | | | | | 0.2 | | | | | | | | | | | | | | | | | | 0.2 | | | | |
| 2006 | | | | | | | | | | 0.7 | 1.4 | 0.6 | 1.1 | 0.1 | 1.1 | 0.6 | 0.6 | | | | 0.1 | | | | | | | | | | | | | | 0.09 | | | | |
| 2007 | 0.1 | 2.1 | | | | 0.4 | 3.3 | | 0.7 | 0.3 | | 0.3 | | 0.1 | 0.1 | | 0.5 | | | | | | | | | | | | | | | | | | 0.2 | | | | |
| 2008 | 0.8 | | | | | 0.2 | | | 0.3 | 0.7 | 0.3 | | 0.3 | | | | 0.2 | | | | | | | 0.1 | | | 0.4 | 0.1 | | | | | | | 0.05 | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | 0.3 | | | | | | | | | | | 0.03 | | | |
| 2010 | | | | | | | | | | | | 0.7 | | | | | 0.07 | 0.3 | | | 0.1 | | | | | | | | | | | | | | | 0.03 | | | |
| 2011 | 0.1 | | | | | 0.03 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.01 | | |
| 2012 | 0.1 | | | | 0.4 | 0.1 | | | | 0.3 | | | | | | | 0.03 | | | | 0.1 | 0.1 | | | | | | | | | | | 3.0 | 1.9 | | 0.4 | | | |
| 2013 | | | | | | | | | 2.4 | 0.7 | | | | | | | 0.3 | | | | | | 0.7 | | | | | | | | | | | | | 0.05 | | | |
| 2014 | | | | | | | | | | 0.3 | | | | | | | 0.06 | | | | | | | | | | | | | | | | | | | 0.03 | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | | | | 0.01 | |
| 2016 | | | | | | | | | | | 0.3 | | | | | | 0.03 | | | | | | | | | | | | | | | | | | | | 0.06 | | |
| 2017 | | | | | | | | 0.6 | 0.9 | | | | | | 0.1 | | 0.2 | | | | | | | | | | | | | | | | | | | | 0.05 | | |
| 2018 | | | | | | | | | | 0.3 | | | 0.3 | | | | 0.06 | | | | | | | | | | | | | | | | | | | | 0.3 | 0.02 | |
| 2019 | | | | | | | | | | 0.3 | 0.3 | 0.9 | | 0.6 | | 0.1 | 0.2 | | | | | | | | | | | | | | | | | | | | 0.9 | 0.3 | 0.08 |
| Mean | 0.06 | 0.2 | | | 0.02 | 0.05 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.06 | 0.1 | 0.05 | 0.2 | 0.01 | | <0.005 | 0.02 | 0.01 | 0.05 | 0.04 | | | 0.03 | 0.01 | 0.01 | 0.1 | 0.09 | 0.3 | 0.5 | 0.1 | 0.09 | | | | |

American Black Duck has been observed at MBO in all seasons, but is generally uncommon at best. In spring, it was a fairly regular presence over the first few years, although in low numbers, but then was generally scarce from 2009 through 2016, except for a fairly large flock observed in Week 2 of 2013. Numbers have also been somewhat higher again in two of the past three years, but sightings have remained limited to six or fewer days every year since 2008. Despite the generally low abundance, there is a general pattern that most sightings have been in April or early May. There has been only one summer record, curiously in a year (2010) with spring observations limited to a single day in late April. In fall, American Black Duck has always been rare, with only scattered sightings over most of the season. Only in Week 13 have there been observations in more than three years. As a late fall migrant, observations have continued over into early winter in four years; there was also one late winter sighting in 2012 that was presumably an early spring migrant.

AGWT: (American) Green-winged Teal / Sarcelle d'hiver (*Anas crecca carolinensis*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|---------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|-------|------|-------|-------|-------|------|------|------|-------|------|------|------|------|-------|
| First | 4-21 | 5-26 | 4-3 | 4-22 | 4-18 | 4-1 | 4-6 | 3-31 | 4-16 | 4-16 | 4-11 | 4-21 | 4-25 | 4-19 | 4-18 | 4-16 | 10-15 | | 10-27 | | 10-28 | 10-9 | 10-11 | | | | 10-14 | | 9-8 | | | 10-11 |
| Peak | 4-21 | 5-26 | 4-3 | 4-22 | 4-18 | 4-15 | 4-6 | 5-6 | 4-28 | 5-2 | 4-15 | 4-28 | 5-3 | 4-23 | 4-21 | 4-23 | 10-15 | | 10-27 | | 10-28 | 10-14 | 10-11 | | | | 10-14 | | 9-8 | | | 10-12 |
| Last | 4-21 | 5-26 | 4-14 | 4-22 | 4-27 | 5-3 | 4-12 | 5-6 | 5-6 | 5-9 | 4-29 | 5-21 | 5-16 | 5-15 | 5-24 | 5-4 | 10-15 | | 10-27 | | 10-28 | 10-26 | 10-11 | | | | 10-14 | | 9-27 | | | 10-16 |
| Span | 1 | 1 | 12 | 1 | 10 | 33 | 7 | 37 | 21 | 24 | 19 | 31 | 22 | 27 | 37 | 19 | 1 | | 1 | | 1 | 18 | 1 | | | | 1 | | 20 | | | 6 |
| # days | 1 | 1 | 2 | 1 | 2 | 23 | 2 | 24 | 13 | 5 | 7 | 23 | 8 | 12 | 19 | 10 | 1 | | 1 | | 1 | 4 | 1 | | | | 1 | | 3 | | | 2 |
| % days | 2 | 1 | 3 | 1 | 3 | 33 | 3 | 34 | 19 | 7 | 10 | 33 | 11 | 17 | 27 | 14 | 1 | | 1 | | 1 | 4 | 1 | | | | 1 | | 3 | | | 2 |
| High | 7 | 1 | 4 | 16 | 3 | 5 | 5 | 16 | 18 | 15 | 20 | 16 | 6 | 13 | 16 | 11 | 1 | | 1 | | 2 | 6 | 1 | | | | 3 | | 6 | | | 3 |
| Total | 7 | 1 | 5 | 16 | 5 | 48 | 7 | 119 | 60 | 34 | 52 | 94 | 20 | 40 | 51 | 37 | 1 | | 1 | | 2 | 16 | 1 | | | | 3 | | 11 | | | 2 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|-------------|-----|-----|-----|-----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|------|-----|-----|----|----|----|----|----|----|------|----|------|------|------|-----|-----|------|-----|----|------|
| 2005 | | | | | | | | | | 1.2 | | | | | | | 0.1 | | | | | | | | | | | | | | | | | | | 0.01 |
| 2006 | | | | | | | | | | | | | | | 0.1 | | 0.01 | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | 0.6 | | 0.1 | | | | | | | | 0.07 | | | | | | | | | | | | | | | | | | | 0.01 |
| 2008 | | | | | | | | | | 2.3 | | | | | | | 0.2 | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | 0.4 | 0.3 | | | | | | 0.07 | | | | | | | | | | | | | | | | | | | 0.02 |
| 2010 | | | | | | | 0.6 | 0.7 | 1.9 | 1.7 | 1.7 | 0.3 | | | | | 0.7 | | | | | | | | | | | 0.4 | 1.0 | | 0.9 | | | | | 0.2 |
| 2011 | | | | | | | 0.7 | 0.3 | | | | | | | | | 0.1 | | | | | | | | | | | | | | | | | | | 0.01 |
| 2012 | | | | | 1.8 | 0.4 | 0.7 | 1.9 | 1.9 | 3.7 | 3.9 | 5.0 | | | | | 1.7 | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | 0.3 | 2.1 | 5.0 | 1.1 | | | | 0.9 | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | 0.4 | 1.7 | 2.6 | 0.1 | | | | 0.5 | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | 4.4 | 2.6 | 0.4 | | | | | 0.7 | | | | | | | | | | | | | | | | | | | 0.03 |
| 2016 | | | | | | | | | | 2.7 | 5.7 | 2.7 | 0.9 | 1.4 | | | 1.3 | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | 0.1 | 1.4 | 1.0 | 0.3 | | | 0.3 | | | | | | | | | 0.9 | | 0.6 | 0.1 | | | | | | | 0.1 |
| 2018 | | | | | | | | | | 2.7 | 0.4 | 2.4 | 0.1 | | | | 0.6 | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | 3.6 | 1.0 | 1.0 | 1.0 | 0.4 | 0.3 | | 0.7 | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | 0.07 | 0.02 | 0.1 | 0.2 | 0.6 | 1.7 | 1.2 | 1.1 | 0.2 | 0.1 | 0.03 | | 0.5 | | | | | | | | | 0.06 | | 0.04 | 0.01 | 0.03 | 0.1 | | 0.09 | | | 0.03 |

Green-winged Teal is an uncommon spring and very rare fall migrant at MBO. In spring it has been observed annually, with most records between mid-April and early May, but ranging overall between 31 March and 26 May. It was scarce over the first five years, occurring just once or twice per spring; since then the species has on average been observed 14 days each spring. Counts increased correspondingly, and were particularly high in 2012 and 2016. In fall, there have only been sightings in seven years. From 2005 through 2015, all observations were between 9 October and 28 October; in contrast, all three records in 2017 were in September. The only winter records are from March 2012, which was unusually warm and resulted in a number of species arriving earlier than usual.

REDH: Redhead / Fuligule à tête rouge (*Aythya americana*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| First | | | | | | | | | | | | | | | 5-23 | 5-23 | | | | | | | | | | | | | | | | |
| Peak | | | | | | | | | | | | | | | 5-23 | 5-23 | | | | | | | | | | | | | | | | |
| Last | | | | | | | | | | | | | | | 5-23 | 5-23 | | | | | | | | | | | | | | | | |
| Span | | | | | | | | | | | | | | | 1 | 1 | | | | | | | | | | | | | | | | |
| # days | | | | | | | | | | | | | | | 1 | 1 | | | | | | | | | | | | | | | | |
| % days | | | | | | | | | | | | | | | 1 | 1 | | | | | | | | | | | | | | | | |
| High | | | | | | | | | | | | | | | 7 | 7 | | | | | | | | | | | | | | | | |
| Total | | | | | | | | | | | | | | | 7 | 0 | | | | | | | | | | | | | | | | 0 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Redhead has been observed at MBO only once, a flock of seven flying overhead on 23 May 2019.

RNDU: Ring-necked Duck / Fuligule à collier (*Aythya collaris*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|---|
| First | | | 4-4 | | | 4-17 | | | | | 4-14 | 4-16 | | | | 4-12 | | | | | | | | | | | | | | | | | |
| Peak | | | 4-22 | | | 4-17 | | | | | 4-14 | 4-16 | | | | 4-17 | | | | | | | | | | | | | | | | | |
| Last | | | 5-2 | | | 4-17 | | | | | 4-14 | 4-16 | | | | 4-19 | | | | | | | | | | | | | | | | | |
| Span | | | 29 | | | 1 | | | | | 1 | 1 | | | | 8 | | | | | | | | | | | | | | | | | |
| # days | | | 8 | | | 1 | | | | | 1 | 1 | | | | 3 | | | | | | | | | | | | | | | | | |
| % days | | | 11 | | | 1 | | | | | 1 | 1 | | | | 4 | | | | | | | | | | | | | | | | | |
| High | | | 6 | | | 4 | | | | | 6 | 1 | | | | 4 | | | | | | | | | | | | | | | | | |
| Total | | | 19 | | | 4 | | | | | 6 | 1 | | | | 2 | | | | | | | | | | | | | | | | | 0 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|------|-----|------|-----|------|----|----|----|-----|------|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | 1.1 | 0.6 | 0.9 | 0.1 | | | | | 0.3 | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | 0.6 | | | | | | | | 0.06 | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | 0.9 | | | | | | | | 0.09 | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | 0.1 | | | | | | | | 0.01 | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | 0.08 | 0.1 | 0.06 | | 0.01 | | | | | 0.03 | | | | | | | | | | | | | | | | | | | | |

Ring-necked Duck is an irregular spring migrant at MBO, with observations limited to four years between 2007 and 2016. Only in 2007 did records span more than a single day, with sightings on eight days over a span of nearly one month. All subsequent records in 2010, 2015, and 2016 were of transients observed between April 14 and April 17.

GRSC: Greater Scaup / Fuligule milouinan (*Aythya marila*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|--|
| First | | | 5-22 | | | | | | | 5-21 | | | | | | 5-21 | | | | | | | | | | | | | | | | | |
| Peak | | | 5-22 | | | | | | | 5-21 | | | | | | 5-21 | | | | | | | | | | | | | | | | | |
| Last | | | 5-22 | | | | | | | 5-21 | | | | | | 5-21 | | | | | | | | | | | | | | | | | |
| Span | | | 1 | | | | | | | 1 | | | | | | 1 | | | | | | | | | | | | | | | | | |
| # days | | | 1 | | | | | | | 1 | | | | | | 1 | | | | | | | | | | | | | | | | | |
| % days | | | 1 | | | | | | | 1 | | | | | | 1 | | | | | | | | | | | | | | | | | |
| High | | | 175 | | | | | | | 15 | | | | | | 95 | | | | | | | | | | | | | | | | | |
| Total | | | 175 | | | | | | | 15 | | | | | | 13 | | | | | | | | | | | | | | | | | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|------|----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | 25.0 | | | 2.5 | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | 2.1 | | | 0.2 | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | 1.8 | | | 0.2 | | | | | | | | | | | | | | | | | | |

Greater Scaup is a rare spring migrant at MBO, observed only on 22 May 2007 and 21 May 2014. Both observations were of flocks flying overhead, with the one in 2007 particularly large.

LESC: Lesser Scaup / Petit Fuligule (*Aythya affinis*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| First | | | | | | | | | | | | | | | | | 10-27 | | | | | | | | | | | | | | | 10-27 |
| Peak | | | | | | | | | | | | | | | | | 10-27 | | | | | | | | | | | | | | | 10-27 |
| Last | | | | | | | | | | | | | | | | | 10-27 | | | | | | | | | | | | | | | 10-27 |
| Span | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | 1 | |
| # days | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | 1 | |
| % days | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | 1 | |
| High | | | | | | | | | | | | | | | | | 5 | | | | | | | | | | | | | | 5 | |
| Total | | | | | | | | | | | | | | | | | 0 | 5 | | | | | | | | | | | | | 0 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|------|--------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.7 | | 0.06 |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.05 | <0.005 |

Lesser Scaup has been observed at MBO only once, 5 individuals that were identified to species within a large flock of 1180 that flew over MBO on 27 October 2005. A smaller flock of unidentified scaup that flew overhead in November 2006 may also have included Lesser Scaup, but not enough detail was observed to distinguish reliably between Greater and Lesser Scaup.

WWSC: White-winged Scoter / Macreuse brune (*Melanitta deglandi*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|--|
| First | | 5-21 | | | | | | | | | | | 5-20 | | 5-23 | 5-21 | | | | | | | | | | | | | | | | | |
| Peak | | 5-21 | | | | | | | | | | | 5-28 | | 5-23 | 5-24 | | | | | | | | | | | | | | | | | |
| Last | | 5-21 | | | | | | | | | | | 5-28 | | 5-23 | 5-24 | | | | | | | | | | | | | | | | | |
| Span | | 1 | | | | | | | | | | | 9 | | 1 | 4 | | | | | | | | | | | | | | | | | |
| # days | | 1 | | | | | | | | | | | 2 | | 1 | 1 | | | | | | | | | | | | | | | | | |
| % days | | 1 | | | | | | | | | | | 3 | | 1 | 2 | | | | | | | | | | | | | | | | | |
| High | | 47 | | | | | | | | | | | 20 | | 15 | 27 | | | | | | | | | | | | | | | | | |
| Total | | 47 | | | | | | | | | | | 28 | | 15 | 6 | | | | | | | | | | | | | | | | | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|-----|-----|-----|------|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | 6.7 | | | 0.7 | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | 1.1 | 2.9 | | 0.4 | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | 0.5 | 0.3 | | 0.09 | | | | | | | | | | | | | | | | | | | |

White-winged Scoter is a very rare spring migrant at MBO, observed once in 2006, twice in 2017, and once in 2019. All sightings were between May 20 and 28, and involved flocks of between 8 and 47 individuals flying over MBO.

BLSC: Black Scoter / Macreuse à bec jaune (*Melanitta americana*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|------|
| First | | | | | | | | | | | | | 5-20 | | 5-23 | 5-21 | | | | | | | | | | | | | 10-21 | | 9-12 | 10-1 |
| Peak | | | | | | | | | | | | | 5-20 | | 5-23 | 5-21 | | | | | | | | | | | | | 10-21 | | 9-12 | 10-1 |
| Last | | | | | | | | | | | | | 5-20 | | 5-23 | 5-21 | | | | | | | | | | | | | 10-21 | | 9-12 | 10-1 |
| Span | | | | | | | | | | | | | 1 | | 1 | 1 | | | | | | | | | | | | | 1 | | 1 | 1 |
| # days | | | | | | | | | | | | | 1 | | 1 | 1 | | | | | | | | | | | | | 1 | | 1 | 1 |
| % days | | | | | | | | | | | | | 1 | | 1 | 1 | | | | | | | | | | | | | 1 | | 1 | 1 |
| High | | | | | | | | | | | | | 120 | | 17 | 68 | | | | | | | | | | | | | 14 | | 12 | 13 |
| Total | | | | | | | | | | | | | 120 | | 17 | 9 | | | | | | | | | | | | | 14 | | 12 | 2 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|-----|------|-----|-----|-----|-----|----|----|----|----|----|----|----|-----|----|----|-----|-----|-----|-----|-----|----|------|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | 17.1 | | | 1.7 | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | 2.4 | | 0.2 | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | 1.1 | 0.2 | | 0.1 | | | | | | | | | | 0.1 | | | | | | | | | 0.02 | |

Black Scoter is a very rare spring and fall migrant at MBO. In both seasons, it has been observed only twice, once each in 2017 and 2019. The two spring sightings were on very similar dates, May 20 and May 23; the timing of the two fall records is much less consistent, on September 12 and October 21. The first observation involved the largest flock by far, 120 individuals; all others were smaller groups of 12 to 17.

COGO: Common Goldeneye / Garrot à oeil d'or (*Bucephala clangula*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | | | | | | | | | | | | | | | | | | | | | | | 10-1 | | | | | | | | | 10-1 |
| Peak | | | | | | | | | | | | | | | | | | | | | | | 10-1 | | | | | | | | | 10-1 |
| Last | | | | | | | | | | | | | | | | | | | | | | | 10-1 | | | | | | | | | 10-1 |
| Span | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | 1 |
| # days | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | 1 |
| % days | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | 1 |
| High | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | 1 |
| Total | | | | | | | | | | | | | | | | | | | | | | | 0 | | | | | | | | | 0 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | <0.005 |

Despite being a common migrant and overwintering species in the Montreal region, Common Goldeneye has only been observed at MBO once, a lone individual flying over on 1 October 2011.

HOME: Hooded Merganser / Harle couronné (*Lophodytes cucullatus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|-----|
| First | 4-10 | 5-19 | 4-2 | | 4-23 | 4-29 | 4-8 | | 4-7 | 4-22 | 4-14 | 4-30 | 6-1 | 4-21 | 4-19 | 4-22 | | 8-2 | | | | | | | | | | | | 8-10 | 8-6 | |
| Peak | 4-10 | 5-19 | 4-2 | | 4-23 | 4-29 | 4-29 | | 4-7 | 4-22 | 4-15 | 4-30 | 6-1 | 4-24 | 4-29 | 4-25 | | 8-2 | | | | | | | | | | | | 8-13 | 8-7 | |
| Last | 4-11 | 5-19 | 4-17 | | 4-23 | 4-29 | 6-1 | | 4-7 | 4-30 | 5-22 | 4-30 | 6-3 | 6-1 | 5-31 | 5-8 | | 8-2 | | | | | | | | | | | 10-24 | 9-12 | | |
| Span | 2 | 1 | 16 | | 1 | 1 | 55 | | 1 | 9 | 39 | 1 | 3 | 42 | 43 | 16 | | 1 | | | | | | | | | | | 76 | 38 | | |
| # days | 2 | 1 | 3 | | 1 | 1 | 7 | | 1 | 2 | 12 | 1 | 2 | 14 | 24 | 5 | | 1 | | | | | | | | | | | 9 | 5 | | |
| % days | 3 | 1 | 4 | | 1 | 1 | 10 | | 1 | 3 | 17 | 1 | 3 | 20 | 34 | 8 | | 1 | | | | | | | | | | | 9 | 5 | | |
| High | 3 | 1 | 3 | | 2 | 1 | 3 | | 2 | 5 | 5 | 1 | 9 | 4 | 3 | 3 | | 1 | | | | | | | | | | | 2 | 2 | | |
| Total | 5 | 1 | 6 | | 2 | 1 | 14 | | 2 | 6 | 25 | 1 | 15 | 33 | 41 | 10 | | 1 | | | | | | | | | | | 10 | 1 | | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|------|--------|------|------|-----|-----|-----|-----|------|------|------|-----|------|-----|-----|----|------|------|------|----|----|----|----|----|----|------|------|-----|-----|--------|------|--|
| 2005 | | | | | | | | 0.5 | 0.3 | | | | | | | | 0.08 | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | 0.1 | | | 0.01 | | | | 0.1 | | | | | | | | | | | | | | 0.01 | |
| 2007 | | | | | | | 0.4 | | 0.4 | | | | | | | | 0.09 | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | 0.3 | | | | | | | 0.03 | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | 0.1 | | | | | | | 0.01 | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | 0.6 | | 0.7 | 0.6 | | | | 0.1 | 0.2 | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | 0.6 | 0.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | 0.3 | | | | | | | | | 0.03 | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | 0.7 | 0.1 | | | | | | | 0.09 | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | 1.1 | 1.1 | 0.9 | 0.1 | | 0.3 | | | 0.4 | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | 0.1 | | | | | | | 0.01 | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | 2.1 | 0.2 | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | 1.4 | 0.4 | 2.4 | | 0.1 | 0.1 | 0.1 | 0.5 | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | 0.6 | 1.7 | 1.4 | 0.7 | 0.1 | 1.1 | 0.1 | 0.6 | | | | | 0.4 | 0.7 | | | | | | | | 0.1 | 0.1 | | | 0.1 | | |
| Mean | | | | | 0.02 | <0.005 | 0.03 | 0.09 | 0.1 | 0.3 | 0.3 | 0.3 | 0.05 | 0.05 | 0.09 | 0.2 | 0.1 | | | | 0.01 | 0.03 | 0.05 | | | | | | | 0.01 | 0.01 | | | <0.005 | | |

Hooded Merganser is uncommon to rare at MBO in spring, but only very rare in fall and winter. It has been observed every spring except 2008 and 2012, though often in small numbers, with eight years having a season total of less than 10. The most notable exceptions were 2015, 2018, and 2019, with repeated sightings spanning six or more weeks in each of those years, and breeding confirmed every year since 2017. There have been no sightings to date during MBO's summer season, but this may simply be because the MAPS program does not reach the back ponds where this species primarily occurs. There was one sighting in early August in 2006; other than that the only fall sightings occurred in 2019, clustered around mid-August and mid-late October. The lone winter records are from March 2012, a year when spring migration was substantially advanced.

COME: Common Merganser / Grand Harle (*Mergus merganser*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|------|------|-------|-------|-------|------|------|-------|-------|-------|
| First | | 5-23 | 3-31 | 4-11 | 4-23 | | | 4-24 | 3-30 | 4-6 | 4-15 | | 4-19 | 4-1 | 4-22 | 4-15 | | | | | 8-21 | 10-1 | 8-29 | 9-30 | 10-4 | 8-3 | 10-28 | 9-18 | 11-6 | 10-30 | 10-21 | 9-28 |
| Peak | | 5-23 | 3-31 | 4-11 | 4-25 | | | 5-18 | 3-30 | 5-23 | 4-15 | | 4-19 | 4-21 | 4-26 | 4-24 | | | | | 8-21 | 10-1 | 8-29 | 10-7 | 10-23 | 8-3 | 10-29 | 11-5 | 11-6 | 10-30 | 11-6 | 10-6 |
| Last | | 5-23 | 4-21 | 5-30 | 5-19 | | | 5-21 | 5-8 | 5-28 | 4-25 | | 4-30 | 5-10 | 5-9 | 5-12 | | | | | 10-27 | 10-14 | 8-29 | 10-7 | 10-23 | 10-25 | 10-31 | 11-5 | 11-6 | 10-30 | 11-6 | 10-21 |
| Span | | 1 | 22 | 50 | 27 | | | 28 | 40 | 53 | 11 | | 12 | 40 | 18 | 27 | | | | | 68 | 14 | 1 | 8 | 20 | 84 | 4 | 49 | 1 | 1 | 17 | 24 |
| # days | | 1 | 3 | 6 | 7 | | | 4 | 10 | 3 | 2 | | 4 | 8 | 5 | 5 | | | | | 3 | 3 | 1 | 2 | 2 | 2 | 3 | 2 | 1 | 1 | 2 | 2 |
| % days | | 1 | 4 | 9 | 10 | | | 6 | 14 | 4 | 3 | | 6 | 11 | 7 | 7 | | | | | 3 | 3 | 1 | 2 | 2 | 2 | 3 | 2 | 1 | 1 | 2 | 2 |
| High | | 1 | 7 | 2 | 3 | | | 3 | 2 | 3 | 2 | | 2 | 8 | 3 | 3 | | | | | 11 | 3 | 1 | 14 | 2 | 4 | 7 | 3 | 5 | 3 | 2 | 5 |
| Total | | 1 | 12 | 7 | 13 | | | 8 | 13 | 6 | 3 | | 5 | 26 | 7 | 7 | | | | | 13 | 5 | 1 | 15 | 3 | 5 | 12 | 4 | 5 | 3 | 3 | 5 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|------|------|-----|-----|------|------|-----|------|------|-----|-----|-----|------|------|------|------|------|-----|-----|----|------|----|-----|----|------|----|------|-----|------|-----|------|------|-----|-----|-----|------|------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | 0.1 | | | | 0.03 | | | | | | | | | 0.1 | | 0.01 | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | 1.0 | | | 0.7 | | | | | | | 0.2 | | | | | | | | | | | | | | | | | | | | |
| 2008 | 1.0 | | | | | 0.3 | | | 0.3 | 0.1 | 0.1 | 0.1 | | | 0.1 | 0.1 | 0.1 | | | | | | | | | | | | | | | | | | | | |
| 2009 | 0.4 | | | | | 0.08 | | | | 0.1 | 0.7 | 0.6 | 0.3 | 0.1 | | | 0.2 | | | | | | 1.6 | | | | | | | | 0.1 | 0.1 | | | 0.1 | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.4 | 0.1 | 0.1 | | | | | | 0.05 | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | | 0.01 | |
| 2012 | | | | | | | | | | 0.1 | | | | 1.0 | | | 0.1 | | | | | | | | | | | 0.1 | 2.0 | | | | | | 0.2 | | |
| 2013 | | | | | | | 0.3 | | | 0.9 | 0.3 | 0.4 | | | | | 0.2 | | | | | | | | | | | 0.1 | 0.1 | | 0.3 | | | | | 0.03 | |
| 2014 | | | | | | | | 0.3 | | | | | | | 0.6 | | 0.09 | | | | 0.6 | | | | | | | | | | | 0.1 | | | | 0.05 | |
| 2015 | | | | | | | | | 0.3 | | 0.1 | | | | | | 0.04 | | | | | | | | | | | | | | | | 1.4 | 0.3 | | 0.1 | |
| 2016 | | | | | 0.2 | 0.06 | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | 0.4 | | 0.04 |
| 2017 | | | | | | | | | | 0.6 | 0.1 | | | | | | 0.07 | | | | | | | | | | | | | | | | | | 0.7 | | 0.05 |
| 2018 | | | | | | | 0.4 | | | 2.6 | 0.1 | 0.4 | 0.1 | | | | 0.4 | | | | | | | | | | | | | | | | 0.4 | | | 0.03 | |
| 2019 | | | | | | | | | | 0.1 | 0.6 | 0.1 | 0.1 | | | | 0.1 | | | | | | | | | | | | | | 0.1 | | | 0.3 | | 0.03 | |
| Mean | 0.07 | 0.02 | | | 0.02 | 0.03 | 0.1 | 0.02 | 0.04 | 0.4 | 0.1 | 0.1 | 0.04 | 0.08 | 0.06 | 0.01 | 0.1 | | | | 0.04 | | 0.1 | | 0.01 | | 0.01 | | 0.04 | 0.2 | 0.01 | 0.04 | 0.1 | 0.3 | | 0.05 | |

Common Merganser has been observed at MBO in all seasons except summer, but is always scarce. Both in spring and fall, the species has been recorded in 11 of 15 years. Spring migrants arrive as early as March in some years, but are most regular in late April and early May, and very rare in Week 7 and beyond, with observations in no more than three years each week. In fall, there have been just four sightings in the first half of the season; the results suggest that this is a species that is being documented better through the addition of Week 14.

RBME: Red-breasted Merganser / Harle huppé (*Mergus serrator*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| First | | | | | | | 4-24 | | | | | | | | | 4-24 | | | | | 10-7 | | | | | | | | | | 10-7 | |
| Peak | | | | | | | 4-24 | | | | | | | | | 4-24 | | | | | 10-7 | | | | | | | | | | 10-7 | |
| Last | | | | | | | 4-24 | | | | | | | | | 4-24 | | | | | 10-7 | | | | | | | | | | 10-7 | |
| Span | | | | | | | 1 | | | | | | | | | 1 | | | | | 1 | | | | | | | | | 1 | | |
| # days | | | | | | | 1 | | | | | | | | | 1 | | | | | 1 | | | | | | | | | 1 | | |
| % days | | | | | | | 1 | | | | | | | | | 1 | | | | | 1 | | | | | | | | | 1 | | |
| High | | | | | | | 3 | | | | | | | | | 3 | | | | | 3 | | | | | | | | | 3 | | |
| Total | | | | | | | 3 | | | | | | | | | 0 | | | | | 3 | | | | | | | | | 0 | | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|------|----|----|----|----|----|-----|--------|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | 0.4 | | | | | | | 0.04 | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | 0.03 | | | | | | | <0.005 | | | | | | | | | | | | | | | | | | | <0.005 |

Red-breasted Merganser is a very rare spring and fall migrant at MBO, with only one observation in each season. The lone spring sighting was of three individuals flying past on 24 April 2011; in fall, another flock of three was observed on 7 October 2009.

RUGR: Ruffed Grouse / Gélinotte huppée (*Bonasa umbellus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|------|------|------|-------|------|------|------|------|------|------|
| First | | | | | 3-31 | | | | | | 3-29 | | 3-29 | 3-28 | | 3-29 | | | | 10-12 | | 8-5 | | | | 10-13 | 8-7 | 9-7 | 8-29 | 8-26 | | 9-5 |
| Peak | | | | | 3-31 | | | | | | 3-29 | | 3-29 | 3-28 | | 3-29 | | | | 10-12 | | 8-5 | | | | 10-13 | 9-13 | 9-7 | 8-29 | 8-26 | | 9-10 |
| Last | | | | | 3-31 | | | | | | 4-12 | | 3-31 | 3-28 | | 4-2 | | | | 10-30 | | 9-2 | | | | 10-26 | 11-5 | 11-3 | 8-29 | 8-26 | | 10-4 |
| Span | | | | | 1 | | | | | | 15 | | 3 | 1 | | 5 | | | | 19 | | 29 | | | | 14 | 91 | 58 | 1 | 1 | | 30 |
| # days | | | | | 1 | | | | | | 2 | | 2 | 1 | | 2 | | | | 3 | | 2 | | | | 3 | 8 | 5 | 1 | 1 | | 3 |
| % days | | | | | 1 | | | | | | 3 | | 3 | 1 | | 2 | | | | 3 | | 2 | | | | 3 | 8 | 5 | 1 | 1 | | 3 |
| High | | | | | 1 | | | | | | 1 | | 1 | 1 | | 1 | | | | 1 | | 1 | | | | 1 | 3 | 1 | 1 | 1 | | 1 |
| Total | | | | | 1 | | | | | | 2 | | 2 | 1 | | 0 | | | | 3 | | 2 | | | | 3 | 11 | 5 | 1 | 1 | | 2 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | | |
|------|------|-----|------|------|------|------|------|----|------|----|----|----|----|----|----|-----|--------|------|-----|----|----|------|----|-----|------|------|------|------|----|-----|-----|-----|-----|------|------|------|-----|------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | 0.3 | | 0.07 | 0.05 | 0.1 | | | | | | | | | | 0.01 | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | 0.1 | | | | | | | | | | | | 0.02 |
| 2011 | | | | 0.2 | 0.1 | 0.05 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | 0.06 | | | | | 0.04 | 0.1 | | 0.1 | | | | | | | | 0.03 | | | | | 0.1 | | | | 0.1 | 0.4 | | | | | 0.1 | 0.1 | 0.1 | | 0.03 | | |
| 2016 | 0.5 | | 0.08 | | | 0.09 | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | 0.1 | 0.1 | 0.3 | | 0.05 |
| 2017 | | | | | | | 0.3 | | | | | | | | | | | 0.03 | | | | | | | | | | | | | | | | | | | | 0.01 |
| 2018 | | | | | | | 0.1 | | | | | | | | | | | 0.01 | | | | | | 0.1 | | | | | | | | | | | | | | 0.01 |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | 0.03 | | 0.02 | 0.01 | 0.02 | 0.02 | 0.05 | | 0.01 | | | | | | | | <0.005 | | | | | 0.02 | | | 0.01 | 0.02 | 0.02 | 0.03 | | | | | | 0.02 | 0.04 | 0.06 | 0.1 | 0.02 |

Ruffed Grouse is a rare bird at MBO. It was first observed in October 2008, twice more in winter, early in spring 2009, twice more in fall 2010, and twice in winter 2011. After a 3-year absence, it was observed annually in fall from 2014 through 2018, although just once in each of the last two years. In spring, it was again recorded early in the season in 2015, 2017, and 2018. All but one of the five spring observations have been within the first four days of the season. In fall, observations are more scattered, although they have been most frequent from mid-October onward. One individual was caught on 2 November 2016, but was not banded, as banding of this species is not permitted.

WITU: Wild Turkey / Dindon sauvage (*Meleagris gallopavo*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | | | | | | | | | | | | | | | 5-16 | 5-16 | | | | | | | | | | | | | | | 8-26 | 8-26 |
| Peak | | | | | | | | | | | | | | | 5-16 | 5-16 | | | | | | | | | | | | | | | 8-26 | 8-26 |
| Last | | | | | | | | | | | | | | | 5-16 | 5-16 | | | | | | | | | | | | | | | 8-26 | 8-26 |
| Span | | | | | | | | | | | | | | | 1 | 1 | | | | | | | | | | | | | | 1 | 1 | |
| # days | | | | | | | | | | | | | | | 1 | 1 | | | | | | | | | | | | | | 1 | 1 | |
| % days | | | | | | | | | | | | | | | 1 | 1 | | | | | | | | | | | | | | 1 | 1 | |
| High | | | | | | | | | | | | | | | 1 | 1 | | | | | | | | | | | | | | 1 | 1 | |
| Total | | | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | 1 | 0 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|------|-----|-----|-----|-----|--------|----|----|----|----|----|----|----|----|----|-----|--------|------|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|--------|------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | 0.1 | | | | | 0.08 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | 0.01 | | | | | | | | | | | | | | | | | | 0.01 |
| Mean | 0.01 | | | | | <0.005 | | | | | | | | | | | <0.005 | | | | | | | | | | | | | | | | | | <0.005 | |

Wild Turkey was first observed at MBO in November 2014, but then was not detected again until a single sighting in spring on 16 May 2019. To date, the species has also been observed just once in fall, a lone individual on 26 August 2019.

PBGR: Pied-billed Grebe / Grèbe à bec bigarré (*Podilymbus podiceps*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| First | 4-16 | 5-24 | | 4-22 | | 4-19 | | 5-14 | | | | | | | | 5-1 | 8-3 | | | | 9-1 | | | | | | | | | | 8-12 | |
| Peak | 4-19 | 5-24 | | 4-22 | | 4-19 | | 5-14 | | | | | | | | 5-1 | 8-3 | | | | 9-1 | | | | | | | | | | 8-12 | |
| Last | 5-31 | 5-24 | | 5-18 | | 5-16 | | 5-14 | | | | | | | | 5-20 | 8-3 | | | | 9-1 | | | | | | | | | | 8-12 | |
| Span | 46 | 1 | | 27 | | 28 | | 1 | | | | | | | | 21 | 1 | | | | 1 | | | | | | | | | | 1 | |
| # days | 24 | 1 | | 3 | | 2 | | 1 | | | | | | | | 6 | 1 | | | | 1 | | | | | | | | | | 1 | |
| % days | 41 | 1 | | 4 | | 3 | | 1 | | | | | | | | 9 | 1 | | | | 1 | | | | | | | | | | 1 | |
| High | 2 | 1 | | 1 | | 1 | | 1 | | | | | | | | 1 | 1 | | | | 1 | | | | | | | | | | 1 | |
| Total | 30 | 1 | | 3 | | 2 | | 1 | | | | | | | | 2 | 1 | | | | 1 | | | | | | | | | | | 0 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | | | |
|------|-----|-----|-----|-----|-----|----|----|----|------|------|------|------|------|------|------|------|------|------|------|------|------|----|----|----|------|----|----|----|----|-----|-----|-----|-----|-----|----|------|--|--------|------|
| 2005 | | | | | | | | | 0.1 | 0.5 | 0.6 | 0.3 | 0.9 | 0.9 | 1.0 | 0.2 | 0.5 | 0.1 | 0.2 | 0.2 | 0.1 | | | | | | | | | | | | | | | 0.01 | | | |
| 2006 | | | | | | | | | | | | | | | 0.1 | | 0.01 | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | 0.1 | | 0.1 | | 0.1 | | | 0.04 | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | 0.1 | | | | 0.1 | | | 0.03 | | | | | | | | 0.1 | | | | | | | | | | | | | 0.01 | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | 0.1 | | | | 0.01 | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.01 |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 0.01 | 0.05 | 0.04 | 0.03 | 0.07 | 0.08 | 0.08 | 0.01 | 0.04 | 0.03 | 0.05 | 0.04 | 0.02 | | | | 0.01 | | | | | | | | | | | | | <0.005 | |

In 2005, Pied-billed Grebe was observed at MBO through much of spring and summer, as a pair was established on Stoneycroft Pond. There were also sightings in four of the next five years, but never more than three per year. Since then, there has been only a single spring record in 2012, and just one fall record in 2014.

ROPI: Rock Pigeon / Pigeon biset (*Columba livia*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|---------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|------|------|-------|
| First | 4-7 | 3-28 | 4-18 | 3-29 | 4-9 | 3-29 | 4-19 | 4-5 | 5-12 | 4-21 | 3-30 | 4-18 | 5-9 | 4-18 | 4-18 | 4-13 | 8-3 | 8-2 | 8-8 | 8-1 | 8-3 | 8-4 | 8-5 | 8-10 | 8-2 | 8-19 | 8-3 | 8-1 | 8-26 | 8-2 | 8-3 | 8-6 |
| Peak | 4-18 | 4-26 | 5-29 | 5-1 | 5-12 | 5-26 | 5-2 | 4-5 | 5-12 | 5-19 | 5-15 | 5-21 | 5-16 | 5-5 | 5-21 | 5-9 | 10-13 | 9-17 | 9-2 | 8-12 | 10-27 | 9-2 | 10-27 | 10-28 | 8-16 | 8-20 | 11-4 | 8-23 | 9-5 | 10-6 | 9-13 | 9-20 |
| Last | 5-16 | 6-2 | 5-31 | 5-14 | 6-1 | 5-31 | 5-30 | 5-30 | 5-30 | 5-31 | 5-30 | 6-4 | 5-16 | 5-25 | 5-30 | 5-27 | 10-30 | 10-30 | 10-30 | 10-28 | 10-27 | 10-30 | 10-28 | 10-29 | 10-29 | 10-28 | 11-6 | 11-6 | 10-27 | 11-5 | 11-5 | 10-30 |
| Span | 40 | 67 | 44 | 47 | 54 | 64 | 42 | 56 | 19 | 41 | 62 | 48 | 8 | 38 | 43 | 45 | 89 | 90 | 84 | 89 | 86 | 88 | 85 | 81 | 89 | 71 | 96 | 98 | 63 | 96 | 95 | 87 |
| # days | 10 | 45 | 16 | 14 | 9 | 7 | 11 | 6 | 7 | 10 | 11 | 15 | 2 | 8 | 11 | 12 | 27 | 49 | 21 | 20 | 33 | 10 | 31 | 27 | 29 | 23 | 26 | 23 | 12 | 42 | 39 | 27 |
| % days | 17 | 65 | 23 | 20 | 13 | 10 | 16 | 9 | 10 | 15 | 16 | 21 | 3 | 11 | 16 | 18 | 31 | 54 | 23 | 22 | 36 | 11 | 34 | 30 | 32 | 25 | 27 | 23 | 12 | 43 | 40 | 29 |
| High | 7 | 23 | 12 | 6 | 49 | 4 | 6 | 4 | 6 | 7 | 9 | 11 | 2 | 30 | 5 | 12 | 51 | 20 | 16 | 7 | 16 | 25 | 14 | 22 | 24 | 12 | 13 | 20 | 12 | 45 | 32 | 22 |
| Total | 27 | 224 | 63 | 35 | 65 | 15 | 38 | 16 | 17 | 33 | 41 | 51 | 3 | 39 | 28 | 46 | 204 | 137 | 96 | 53 | 120 | 92 | 116 | 132 | 166 | 89 | 113 | 95 | 61 | 270 | 238 | 132 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|------|-----|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|--|
| 2005 | 0.5 | | | | | 0.1 | | 0.8 | | 1.5 | 0.6 | | 1.0 | 0.3 | | | 0.5 | 0.4 | 0.2 | 0.3 | 0.6 | | 1.0 | 3.3 | 0.4 | 0.4 | 0.4 | 0.4 | 3.3 | 0.7 | 12.3 | 4.9 | 3.7 | | 2.3 | |
| 2006 | 0.1 | 10.7 | 3.0 | 0.5 | 0.7 | 3.2 | 0.3 | 0.7 | 2.0 | 2.6 | 7.6 | 5.1 | 5.1 | 2.3 | 3.0 | 3.4 | 3.2 | 0.1 | 1.0 | 0.6 | 1.7 | 1.1 | 2.0 | 1.7 | 1.1 | 2.1 | 3.3 | 0.7 | 0.6 | 1.9 | 0.6 | 1.3 | 1.4 | | 1.5 | |
| 2007 | 0.1 | 1.4 | 1.2 | | 0.2 | 0.5 | | | | 1.4 | 0.9 | 0.4 | 2.4 | 0.9 | 2.1 | 0.9 | 0.9 | 1.0 | | 0.5 | | 0.7 | 0.6 | 2.4 | 3.9 | 2.6 | 0.7 | | 0.1 | 0.3 | | 2.4 | | 1.1 | | |
| 2008 | 0.5 | 1.0 | | 0.4 | | 0.5 | 0.3 | 0.4 | 0.6 | 0.7 | 1.6 | 0.6 | 0.9 | | | | 0.5 | | | | 1.0 | 1.0 | 2.0 | | | 0.4 | 0.7 | 0.1 | 1.0 | 0.6 | | 0.4 | 0.3 | | 0.6 | |
| 2009 | | 5.0 | | | | 0.3 | | 0.3 | 0.1 | 0.4 | 0.3 | | 7.0 | 0.9 | 0.1 | 0.1 | 0.9 | | | | 0.3 | 0.7 | 0.9 | 2.1 | | 2.3 | 0.1 | 0.3 | 0.1 | | 3.4 | 4.1 | 2.7 | | 1.3 | |
| 2010 | 0.5 | | 0.2 | | 0.08 | 0.2 | 0.3 | 0.3 | | | 0.4 | | | 0.1 | 0.9 | 0.1 | 0.2 | | | | 0.1 | | 1.7 | 0.4 | 7.0 | 0.6 | | | | 0.1 | | 3.1 | | 1.0 | | |
| 2011 | 2.4 | | 0.4 | | | 0.8 | | | | 0.1 | 1.1 | 1.0 | 0.4 | 1.7 | 0.7 | 0.3 | 0.5 | 1.0 | | 0.4 | 0.1 | 0.6 | 1.0 | 0.7 | 0.1 | 1.4 | 0.9 | 1.6 | 1.3 | 2.0 | 1.7 | 1.6 | 3.6 | | 1.3 | |
| 2012 | 5.9 | 1.3 | | | | 2.6 | | 0.6 | 0.6 | | 0.9 | | | | | 0.3 | 0.2 | | | | | 0.7 | 2.0 | 1.6 | 1.1 | 5.1 | 0.4 | 0.9 | | 0.4 | 0.4 | | 6.1 | | 1.5 | |
| 2013 | | | | | 0.2 | 0.06 | | | | | | | 0.9 | 1.1 | 0.1 | 0.3 | 0.2 | | | | 2.0 | 1.1 | 5.1 | 0.9 | 1.0 | 1.6 | 1.4 | 0.1 | 0.6 | 6.7 | 0.4 | | 2.7 | | 1.8 | |
| 2014 | | | | | | | | | | 0.1 | | 1.1 | | 1.3 | 1.3 | 1.0 | 0.5 | | | | | | 2.9 | | 0.3 | 1.0 | 1.1 | 1.9 | 1.7 | 0.4 | 1.0 | 0.1 | 2.3 | | 1.0 | |
| 2015 | | | | | | | 0.4 | | | 0.1 | 0.9 | 1.4 | 1.3 | | 1.1 | 0.6 | 0.6 | | | | 0.6 | 0.3 | | 1.0 | 0.4 | 0.3 | 1.0 | 1.3 | 0.6 | 0.1 | | 2.1 | 1.6 | 6.9 | 1.2 | |
| 2016 | 1.3 | | | | | 0.2 | | | | 2.7 | 0.4 | | 0.7 | 2.0 | 0.4 | 1.0 | 0.7 | | | | 1.4 | 2.7 | 1.0 | 4.1 | 0.6 | | 0.1 | 1.0 | 0.3 | 0.1 | 0.6 | | | 1.6 | 1.0 | |
| 2017 | | | | | | | | | | | | 0.1 | 0.3 | | | | 0.04 | | 1.3 | 0.7 | | | | 0.6 | 0.9 | 2.4 | 0.9 | 0.6 | 1.1 | 0.4 | 1.1 | | 0.7 | | 0.6 | |
| 2018 | | | | | 0.3 | 0.07 | | | | 0.3 | 0.1 | 4.6 | 0.1 | | 0.4 | | 0.6 | | | | 0.9 | 0.6 | 4.7 | 4.0 | 1.9 | 4.0 | 3.3 | 0.6 | 2.1 | 8.1 | 0.9 | 3.9 | 2.0 | 1.7 | 2.8 | |
| 2019 | | | | | | | | | | 0.3 | 0.7 | 0.3 | 0.4 | 1.9 | | 0.4 | 0.4 | | | | 0.4 | 4.7 | 0.1 | 0.6 | 1.7 | 6.0 | 6.3 | 4.4 | 1.1 | 0.4 | 1.3 | 2.4 | 1.9 | 2.6 | 2.4 | |
| Mean | 0.7 | 2.2 | 0.5 | 0.07 | 0.1 | 0.6 | 0.09 | 0.2 | 0.2 | 0.7 | 1.0 | 1.0 | 1.4 | 0.8 | 0.7 | 0.6 | 0.7 | 0.2 | 0.2 | 0.2 | 0.6 | 1.0 | 1.7 | 1.6 | 1.4 | 2.0 | 1.4 | 0.9 | 0.9 | 1.5 | 1.5 | 1.4 | 2.3 | 2.5 | 1.4 | |

Rock Pigeon is observed at MBO in all seasons, but generally is irregular in its occurrence; all sightings to date have been of individuals or flocks flying past the site. Sightings are scarcest from February to mid-April. Spring counts are on average highest between late April and mid-late May, but vary considerably from year to year. There were annual sightings in summer for the first three years when observer effort was greatest, but only in two years since (2011 and 2017). Sightings often occur throughout fall, but generally in small to moderate numbers; peak counts have ranged from as early as mid-August to as late as early November. Winter observations are most frequent in November and December, and were more regular in the first few years; the species has only been recorded in winter in two months over the past six years.

MODO: Mourning Dove / Tourterelle triste (*Zenaida macroura*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|------|------|------|
| First | 4-5 | 3-28 | 3-30 | 3-30 | 3-28 | 3-28 | 3-28 | 4-6 | 3-28 | 3-29 | 3-29 | 3-28 | 3-31 | 4-22 | 3-31 | 3-31 | 8-1 | 8-2 | 8-1 | 8-1 | 8-2 | 8-1 | 8-2 | 8-2 | 8-1 | 8-3 | 8-1 | 8-1 | 8-2 | 8-5 | 8-7 | 8-2 |
| Peak | 4-20 | 4-29 | 5-21 | 5-6 | 3-28 | 4-7 | 4-19 | 4-18 | 3-28 | 3-29 | 5-4 | 4-18 | 5-2 | 5-22 | 5-23 | 4-24 | 10-29 | 8-25 | 10-30 | 10-18 | 9-23 | 10-27 | 10-11 | 10-27 | 8-27 | 10-30 | 11-2 | 11-4 | 10-25 | 8-23 | 9-11 | 10-8 |
| Last | 6-2 | 6-3 | 5-31 | 6-4 | 5-27 | 5-28 | 6-1 | 5-27 | 6-4 | 6-1 | 5-27 | 6-1 | 6-2 | 5-28 | 6-1 | 5-31 | 10-30 | 10-30 | 10-30 | 10-26 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 11-6 | 11-6 | 11-6 | 11-6 | 11-6 | 11-1 |
| Span | 59 | 68 | 63 | 67 | 61 | 62 | 66 | 52 | 69 | 65 | 60 | 66 | 64 | 37 | 63 | 61 | 91 | 90 | 91 | 87 | 90 | 91 | 90 | 90 | 91 | 89 | 98 | 98 | 97 | 94 | 92 | 92 |
| # days | 37 | 57 | 42 | 33 | 13 | 22 | 16 | 12 | 42 | 30 | 28 | 32 | 20 | 16 | 20 | 28 | 55 | 72 | 66 | 46 | 58 | 51 | 59 | 73 | 51 | 46 | 62 | 65 | 53 | 29 | 59 | 56 |
| % days | 63 | 83 | 60 | 47 | 19 | 31 | 23 | 17 | 60 | 44 | 40 | 46 | 29 | 23 | 29 | 41 | 62 | 79 | 73 | 51 | 64 | 56 | 65 | 80 | 56 | 51 | 63 | 66 | 54 | 30 | 60 | 60 |
| High | 5 | 11 | 8 | 6 | 2 | 3 | 4 | 3 | 8 | 4 | 3 | 5 | 3 | 3 | 3 | 5 | 75 | 12 | 16 | 8 | 13 | 18 | 18 | 44 | 5 | 12 | 70 | 12 | 7 | 4 | 8 | 21 |
| Total | 59 | 161 | 92 | 65 | 16 | 32 | 26 | 20 | 71 | 53 | 41 | 48 | 29 | 22 | 29 | 51 | 539 | 231 | 226 | 81 | 215 | 153 | 203 | 727 | 109 | 121 | 406 | 145 | 103 | 49 | 148 | 230 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|------|------|------|------|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|-----|
| 2005 | 0.5 | 1.0 | | 0.3 | 1.5 | 0.8 | | 0.7 | 0.6 | 1.5 | 0.3 | 1.4 | 1.1 | 1.9 | 0.7 | 0.8 | 1.0 | 0.3 | 0.7 | 0.5 | 0.3 | 1.4 | 1.6 | 1.0 | 1.3 | 1.1 | 0.6 | 2.3 | 2.0 | 1.7 | 6.7 | 22.3 | 36.3 | | 6.1 |
| 2006 | 8.4 | 3.4 | 4.4 | 4.9 | 2.2 | 4.7 | 0.4 | 3.3 | 2.3 | 3.7 | 6.1 | 3.4 | 1.1 | 1.0 | 1.3 | 0.7 | 2.3 | 0.4 | 1.4 | 1.0 | 1.4 | 1.1 | 0.6 | 4.0 | 1.6 | 4.1 | 2.7 | 2.1 | 2.0 | 2.3 | 3.9 | 4.1 | 3.0 | | 2.5 |
| 2007 | 2.8 | 6.7 | 14.5 | 5.0 | 4.2 | 5.5 | 0.6 | 0.6 | 0.7 | 3.6 | 1.1 | 1.6 | 1.3 | 1.9 | 1.7 | 0.1 | 1.3 | 0.1 | 0.2 | 0.2 | 1.6 | 1.1 | 1.0 | 2.9 | 0.7 | 1.6 | 2.1 | 3.4 | 1.6 | 2.7 | 2.1 | 4.6 | 6.9 | | 2.5 |
| 2008 | 1.4 | | | | | 0.5 | 0.6 | 0.3 | 1.0 | 1.7 | 1.1 | 1.1 | 1.6 | 1.1 | 0.1 | 0.6 | 0.9 | | | | 0.7 | 0.3 | 1.1 | 0.6 | 0.6 | 0.4 | 0.3 | 1.9 | 1.7 | 0.4 | 0.9 | 2.1 | 0.6 | | 0.9 |
| 2009 | 1.9 | 11.0 | 3.3 | 2.2 | 1.3 | 2.4 | 0.6 | | | 0.1 | 0.6 | 0.1 | | 0.4 | 0.4 | | 0.2 | 0.3 | 0.3 | 0.3 | 1.6 | 0.9 | 0.3 | 1.1 | 0.6 | 1.6 | 2.4 | 2.7 | 2.7 | 1.7 | 3.7 | 5.4 | 6.0 | | 2.4 |
| 2010 | 10.7 | 13.9 | 5.7 | 11.4 | 2.8 | 8.8 | 0.6 | 0.7 | 0.1 | 0.9 | 0.3 | 0.3 | 0.7 | 0.4 | 0.6 | | 0.5 | | 0.3 | 0.2 | 0.1 | 0.6 | | 0.4 | 0.4 | 0.4 | 0.9 | 1.3 | 2.3 | 2.7 | 2.3 | 2.7 | 7.7 | | 1.7 |
| 2011 | 2.7 | 1.0 | 1.8 | 1.8 | 1.6 | 2.0 | 0.3 | 0.1 | | 0.6 | 0.3 | 0.4 | 0.7 | 0.4 | 0.7 | 0.1 | 0.4 | 0.7 | 0.3 | 0.4 | 1.0 | 0.9 | 1.6 | 0.9 | 1.0 | 0.3 | 0.4 | 1.9 | 1.7 | 3.4 | 5.7 | 5.0 | 5.3 | | 2.2 |
| 2012 | 5.1 | 12.0 | 2.7 | 5.7 | 1.6 | 5.3 | | 0.3 | 0.3 | 0.7 | 0.6 | 0.3 | 0.1 | 0.4 | 0.1 | | 0.3 | 0.5 | | 0.2 | 0.9 | 1.0 | 0.7 | 0.7 | 3.7 | 1.6 | 2.3 | 5.7 | 12.4 | 16.4 | 17.6 | 16.3 | 24.6 | | 8.0 |
| 2013 | 2.4 | 5.1 | 16.0 | 9.4 | 3.9 | 7.9 | 2.0 | 1.3 | 1.1 | 1.3 | 0.7 | 0.4 | 1.1 | 1.0 | 0.6 | 0.6 | 1.0 | 0.7 | 0.3 | 0.4 | 1.6 | 1.1 | 1.7 | 1.7 | 1.1 | 0.6 | 1.1 | 1.3 | 0.6 | 0.1 | 1.4 | 1.9 | 1.3 | | 1.2 |
| 2014 | 4.0 | 7.5 | 2.1 | 2.4 | 4.2 | 3.6 | 1.7 | 0.9 | 0.3 | 1.1 | 0.6 | 0.7 | 0.6 | 0.7 | 1.1 | 0.2 | 0.8 | | 0.5 | 0.3 | 1.4 | 1.0 | 0.1 | 0.3 | 1.1 | 1.9 | 0.9 | 0.1 | 0.4 | 0.3 | 1.3 | 2.9 | 5.6 | | 1.3 |
| 2015 | 6.8 | 2.0 | 3.0 | 11.0 | 0.6 | 5.3 | 0.6 | 0.6 | 0.4 | 0.6 | | 1.7 | 0.3 | 1.0 | 0.7 | | 0.6 | | 0.3 | 0.1 | 1.3 | 0.3 | 0.7 | 2.4 | 1.3 | 1.0 | 1.0 | 0.7 | 1.3 | 0.7 | 0.7 | 2.7 | 17.3 | 26.6 | 4.1 |
| 2016 | 35.1 | 37.3 | 6.8 | 1.6 | 0.8 | 13.0 | 0.9 | 0.1 | 0.4 | 1.6 | 0.9 | 0.6 | 0.6 | 0.6 | 1.1 | 0.1 | 0.7 | | 0.3 | 0.1 | 1.9 | 0.6 | 1.3 | 1.9 | 1.1 | 0.7 | 0.7 | 0.6 | 1.4 | 0.9 | 1.6 | 0.7 | 0.7 | 6.7 | 1.5 |
| 2017 | 3.8 | 2.0 | 0.3 | 0.4 | | 1.3 | 0.1 | 0.3 | | 0.7 | 0.6 | 0.7 | 0.1 | 0.4 | 0.3 | 0.9 | 0.4 | 0.3 | 0.3 | 0.3 | 1.3 | 0.6 | 1.0 | 1.4 | 0.7 | 1.6 | 0.4 | 0.4 | 0.4 | 1.6 | 0.7 | 1.3 | 2.6 | 0.7 | 1.1 |
| 2018 | 5.9 | 1.2 | | 0.4 | | 1.4 | | | | 0.3 | 0.4 | 0.6 | 0.7 | 0.4 | | | 0.3 | | | | 0.3 | 0.4 | 0.9 | 0.9 | 1.0 | 0.4 | 0.7 | 0.1 | 0.3 | 0.7 | 0.6 | 0.3 | | 0.4 | 0.5 |
| 2019 | 10.2 | 16.3 | 6.1 | | 0.8 | 7.5 | 0.3 | 0.6 | 0.3 | 0.4 | 0.3 | 0.4 | 0.3 | 0.4 | 1.0 | 0.1 | 0.4 | | 0.5 | 0.3 | 0.4 | 1.0 | 0.6 | 0.6 | 1.1 | 2.1 | 3.0 | 3.0 | 1.6 | 1.3 | 1.0 | 1.4 | 2.0 | 2.0 | 1.5 |
| Mean | 7.1 | 10.3 | 5.6 | 3.4 | 1.9 | 5.4 | 0.6 | 0.6 | 0.5 | 1.3 | 0.9 | 0.9 | 0.7 | 0.8 | 0.7 | 0.3 | 0.7 | 0.2 | 0.5 | 0.4 | 1.0 | 0.8 | 0.9 | 1.4 | 1.2 | 1.3 | 1.3 | 1.8 | 2.2 | 2.5 | 3.3 | 4.9 | 8.0 | 7.3 | 2.5 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|-----|----|----|----|----|----|------|----|----|----|-----|------|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|------|------|----|-----|
| 2005 | 1 | | | | 1 | 2 | | | | | | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | |
| 2006 | 8 | | 1 | 1 | 1 | 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | 4 | 1 | 1 | | | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | 10 | | | 6 | 1 | 17 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | 1 | | | | 1 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | 5 | | | | | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | 1 |
| 2013 | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | 5 | 1 | | | | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | 2 | 1 | | | | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | 2 | | | | | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | 2 | 1 | | | | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | 2.9 | 0.4 | 0.4 | 1.0 | 0.5 | 4.2 | | | | | | 0.07 | | | | | 0.07 | | | | | | | | | | | | | | | | 0.07 | 0.07 | | 0.1 |

Mourning Dove occurs at MBO in all seasons, but is one of only a few species that is recorded in larger numbers in winter. The peak of abundance on average begins around Week 13 of fall and continues through December or January, then tapers off over the rest of winter and remains at a low level throughout spring and summer. Given the generally low numbers in spring, there is no clear pattern in abundance during the season; overall counts for the season have been low for the past three years but otherwise fluctuating over time. In fall, large flocks of migrants (>40) were observed late in the season in 2005, 2012, and 2015, but in five other years, the highest daily count remained below 10. Overall, fall numbers have been well below average for six of the seven most recent years. The vast majority of Mourning Doves banded have been in winter, especially in November.

YBCU: Yellow-billed Cuckoo / Coulicou à bec jaune (*Coccyzus americanus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|------|
| First | 6-1 | | | | | | | | | | | | | | | 6-1 | 10-12 | | | | | 8-20 | 9-4 | | 9-7 | | 8-31 | | 10-28 | | | 9-16 |
| Peak | 6-1 | | | | | | | | | | | | | | | 6-1 | 10-12 | | | | | 8-20 | 9-4 | | 9-7 | | 8-31 | | 10-28 | | | 9-16 |
| Last | 6-1 | | | | | | | | | | | | | | | 6-1 | 10-12 | | | | | 8-20 | 9-4 | | 9-7 | | 9-24 | | 10-28 | | | 9-20 |
| Span | 1 | | | | | | | | | | | | | | | 1 | 1 | | | | | 1 | 1 | | 1 | | 25 | | 1 | | | 5 |
| # days | 1 | | | | | | | | | | | | | | | 1 | 1 | | | | | 1 | 1 | | 1 | | 3 | | 1 | | | 1 |
| % days | 2 | | | | | | | | | | | | | | | 2 | 1 | | | | | 1 | 1 | | 1 | | 3 | | 1 | | | 1 |
| High | 1 | | | | | | | | | | | | | | | 1 | 1 | | | | | 1 | 1 | | 1 | | 1 | | 1 | | | 1 |
| Total | 1 | | | | | | | | | | | | | | | 0 | 1 | | | | | 1 | 1 | | 1 | | 3 | | 1 | | | 1 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|------|--------|-----|-----|----|----|----|------|------|------|------|----|-----|------|-----|------|-----|-----|--------|----|------|
| 2005 | | | | | | | | | | | | | | | | 0.2 | 0.02 | | | | | | | | | | | | | | | | | | | 0.01 |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | | | | 0.01 |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | | 0.01 |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | 0.01 |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | 0.3 | | | | | | | | 0.03 |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | 0.01 |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | 0.01 | <0.005 | | | | | | 0.01 | 0.02 | 0.01 | 0.02 | | | 0.01 | | 0.01 | | | <0.005 | | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|------|----|-----|------|-----|-----|-----|----|-----|---|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.07 | | | 0.07 | | | | | 0.1 | |

A single Yellow-billed Cuckoo was observed at MBO in the final week of spring 2005, but otherwise all sightings have been in fall. Even in fall, it is a rare species, with one individual each in 2005, 2010, 2011, 2013, and 2017, and an unusually high total of three birds in 2015. The timing of sightings has varied considerably, from mid-August to late October. Only two individuals have been banded, ten years apart in 2005 and 2015.

BBCU: Black-billed Cuckoo / Coulicou à bec noir (*Coccyzus erythrophthalmus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | | 5-28 | 5-22 | 5-24 | | 5-29 | 5-29 | | 5-19 | 5-24 | 5-20 | 5-28 | 5-25 | 5-25 | 5-23 | 5-24 | | 8-6 | 8-27 | 8-1 | 9-5 | | | | 8-13 | 8-7 | 8-18 | 8-1 | 8-2 | 8-1 | 8-3 | 8-1 | 8-9 |
| Peak | | 5-28 | 5-22 | 5-25 | | 5-29 | 5-29 | | 5-19 | 5-24 | 5-20 | 5-28 | 5-27 | 5-29 | 5-24 | 5-25 | | 8-6 | 8-27 | 8-1 | 9-5 | | | | 8-13 | 8-7 | 8-18 | 8-16 | 8-4 | 8-20 | 8-3 | 8-1 | 8-12 |
| Last | | 5-30 | 5-22 | 6-1 | | 5-29 | 5-31 | | 6-4 | 5-25 | 5-20 | 6-1 | 6-5 | 5-31 | 5-31 | 5-29 | | 8-6 | 9-1 | 9-1 | 9-17 | | | | 9-20 | 10-8 | 8-18 | 9-7 | 9-5 | 10-1 | 9-5 | 8-27 | 9-6 |
| Span | | 3 | 1 | 9 | | 1 | 3 | | 17 | 2 | 1 | 5 | 12 | 7 | 9 | 6 | | 1 | 6 | 32 | 13 | | | | 39 | 63 | 1 | 38 | 35 | 62 | 34 | 27 | 29 |
| # days | | 3 | 1 | 5 | | 1 | 3 | | 2 | 2 | 1 | 3 | 8 | 4 | 3 | 3 | | 1 | 3 | 3 | 2 | | | | 2 | 5 | 1 | 11 | 20 | 16 | 7 | 4 | 6 |
| % days | | 4 | 1 | 7 | | 1 | 4 | | 3 | 3 | 1 | 4 | 11 | 6 | 4 | 4 | | 1 | 3 | 3 | 2 | | | | 2 | 5 | 1 | 11 | 20 | 16 | 7 | 4 | 7 |
| High | | 1 | 1 | 2 | | 1 | 1 | | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 1 | | 1 | 1 | 1 | 1 | | | | 1 | 1 | 1 | 2 | 3 | 3 | 1 | 1 | 1 |
| Total | | 3 | 1 | 7 | | 1 | 3 | | 2 | 2 | 1 | 4 | 9 | 5 | 4 | 3 | | 1 | 3 | 3 | 2 | | | | 2 | 5 | 1 | 12 | 29 | 21 | 7 | 4 | 6 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|------|-----|-----|------|------|------|------|-----|-----|-----|-----|------|------|------|------|------|------|-----|-----|-----|------|------|
| 2005 | | | | | | | | | | | | | | | | | | | 0.06 | 0.03 | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | 0.3 | 0.1 | 0.04 | | | | 0.1 | | | | | | | | | | | | | | 0.01 |
| 2007 | | | | | | | | | | | | | | 0.1 | | | 0.01 | | | | | | 0.3 | 0.1 | | | | | | | | | | | 0.03 |
| 2008 | | | | | | | | | | | | | | | 0.6 | 0.4 | 0.1 | 0.2 | | 0.1 | 0.1 | | 0.1 | | | | | | | | | | | 0.03 | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | 0.1 | | | | | | | | 0.02 |
| 2010 | | | | | | | | | | | | | | | 0.1 | | 0.01 | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | 0.1 | 0.3 | 0.04 | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.02 |
| 2013 | | | | | | | | | | | | | | 0.1 | | 0.1 | 0.03 | | | | 0.1 | | | | | | | 0.1 | | 0.1 | 0.4 | | | | 0.05 |
| 2014 | | | | | | | | | | | | | | | 0.3 | | 0.03 | | 0.5 | 0.3 | | | 0.1 | | | | | | | | | | | 0.01 | |
| 2015 | | | | | | | | | | | | | | | 0.1 | | 0.01 | | | | 0.6 | 0.3 | 0.4 | 0.1 | 0.1 | 0.1 | | | | | | | | 0.1 | |
| 2016 | | | | | | | | | | | | | | | 0.4 | 0.1 | 0.06 | | 1.0 | 0.5 | 1.9 | 0.9 | 0.6 | 0.4 | 0.3 | 0.1 | | | | | | | | 0.3 | |
| 2017 | | | | | | | | | | | | | | | 0.7 | 0.6 | 0.1 | | 0.3 | 0.1 | 0.4 | 0.4 | 0.6 | 0.9 | 0.3 | 0.1 | 0.1 | | 0.1 | | | | | 0.2 | |
| 2018 | | | | | | | | | | | | | | | 0.6 | 0.1 | 0.07 | | | | 0.3 | 0.3 | | 0.1 | 0.1 | 0.1 | | | | | | | | 0.07 | |
| 2019 | | | | | | | | | | | | | | | 0.4 | 0.1 | 0.06 | | 0.3 | 0.1 | 0.4 | 0.4 | | 0.1 | | | | | | | | | | 0.04 | |
| Mean | | | | | | | | | | | | | | 0.03 | 0.2 | 0.1 | 0.04 | 0.01 | 0.1 | 0.06 | 0.3 | 0.1 | 0.1 | 0.1 | 0.08 | 0.05 | 0.02 | 0.01 | 0.02 | 0.03 | | | | 0.06 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|------|-----|-----|-----|-----|------|------|-----|-----|-----|-----|------|----|------|------|----|-----|-----|-----|-----|-----|----|---|
| 2005 | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | 1 | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | 1 | | | | | | | | | | 1 |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | 1 |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | 1 | | 1 | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 2013 | | | | | | | | | | | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | | | 1 |
| 2014 | | | | | | | | | | | | | | | | | | | 1 | 1 | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | | | | | | | | | | | | 2 |
| 2016 | | | | | | | | | | | | | | | | | | | | | | 2 | | 1 | | | | | | | | | | | | 3 |
| 2017 | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | 1 |
| 2018 | | | | | | | | | | | | | | | | | | | | | | 2 | | | | | | | | | | | | | | 2 |
| 2019 | | | | | | | | | | | | | | | 1 | | 1 | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | 0.07 | 0.1 | | 0.2 | | 0.07 | 0.07 | 0.3 | 0.1 | 0.2 | 0.1 | 0.07 | | 0.07 | 0.07 | | | | | | 1.0 | | |

Black-billed Cuckoo is uncommon at MBO from late spring to early-mid fall, but is much more regular than Yellow-billed Cuckoo, with observations in 12 of 15 years in both spring and fall, and in six years in summer. In spring, the vast majority of individuals are observed within a narrow window, the average first day of observation being May 24, and the average last day May 29. Fall migration spans a longer period, though numbers are on average much higher in Week 1 than any later time in the season. Sightings were unusually frequent from 2015 through 2017, perhaps reflecting a locally breeding pair and offspring. The number of Black-billed Cuckoos banded in fall is five times higher than in spring.

CONI: Common Nighthawk / Engoulevent d'Amérique (*Chordeiles minor*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | | | | | | | | | | | | | | | | | | | | 8-27 | | 8-18 | 8-22 | 8-27 | 8-24 | 8-21 | | 8-14 | | 9-3 | 8-29 | 8-24 |
| Peak | | | | | | | | | | | | | | | | | | | | 8-27 | | 8-18 | 8-22 | 8-27 | 8-24 | 9-2 | | 8-14 | | 9-3 | 8-29 | 8-25 |
| Last | | | | | | | | | | | | | | | | | | | | 8-27 | | 8-21 | 9-19 | 9-14 | 8-24 | 9-6 | | 8-14 | | 9-6 | 8-29 | 8-31 |
| Span | | | | | | | | | | | | | | | | | | | | 1 | | 4 | 29 | 19 | 1 | 17 | | 1 | | 4 | 1 | 9 |
| # days | | | | | | | | | | | | | | | | | | | | 1 | | 2 | 2 | 5 | 1 | 4 | | 1 | | 2 | 1 | 2 |
| % days | | | | | | | | | | | | | | | | | | | | 1 | | 2 | 2 | 5 | 1 | 4 | | 1 | | 2 | 1 | 2 |
| High | | | | | | | | | | | | | | | | | | | | 1 | | 1 | 1 | 3 | 1 | 14 | | 1 | | 2 | 1 | 3 |
| Total | | | | | | | | | | | | | | | | | 0 | | | 1 | | 2 | 2 | 7 | 1 | 19 | | 1 | | 4 | 1 | 3 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Common Nighthawk is a rare early-mid fall migrant at MBO, with small numbers observed in 9 of 12 years since 2008. Results in 2014 were exceptional, thanks to a flock of 14 feeding over the Morgan Arboretum on September 2; in most other years sightings have been limited to lone individuals observed on site early in the morning. Fall observations have all been between August 14 and September 19, with the majority in late August and early September. To date there have been no spring observations, and only one in summer, on 24 June 2016.

EWPW: Eastern Whip-poor-will / Engoulevent bois-pourri (*Antrastomus vociferus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| First | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 9-9 | 9-9 |
| Peak | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 9-9 | 9-9 |
| Last | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 9-9 | 9-9 |
| Span | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 |
| # days | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 |
| % days | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 |
| High | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 |
| Total | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|------|--------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.01 |
| Mean | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.01 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | <0.005 |

Eastern Whip-poor-will has only been observed at MBO once, on 9 September 2019.

CHSW: Chimney Swift / Martinet ramoneur (*Chaetura pelagica*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | 5-8 | 5-18 | 5-19 | 5-9 | 5-21 | 5-26 | 5-24 | 5-6 | 5-17 | 5-16 | 5-24 | 5-13 | 5-16 | 5-13 | | 5-16 | 8-2 | 8-1 | 8-1 | 8-1 | 8-12 | 8-4 | 8-4 | 8-1 | 8-11 | 8-19 | 8-1 | 8-7 | 8-7 | 8-3 | 8-8 | 8-5 |
| Peak | 5-8 | 5-18 | 5-19 | 5-9 | 5-21 | 5-26 | 5-24 | 5-6 | 5-17 | 5-16 | 5-24 | 5-13 | 5-16 | 5-13 | | 5-16 | 8-11 | 8-22 | 8-3 | 8-14 | 8-21 | 8-4 | 8-11 | 8-10 | 8-16 | 8-19 | 8-22 | 8-24 | 8-17 | 8-26 | 8-31 | 8-16 |
| Last | 5-8 | 5-25 | 5-19 | 5-29 | 5-26 | 5-26 | 5-24 | 5-21 | 5-19 | 6-1 | 6-5 | 5-28 | 5-30 | 5-14 | | 5-24 | 9-20 | 8-23 | 9-8 | 9-4 | 8-26 | 8-4 | 8-19 | 8-22 | 8-16 | 8-19 | 8-28 | 8-26 | 8-17 | 8-27 | 8-31 | 8-25 |
| Span | 1 | 8 | 1 | 21 | 6 | 1 | 1 | 16 | 3 | 17 | 13 | 16 | 15 | 2 | | 9 | 50 | 23 | 39 | 35 | 15 | 1 | 16 | 22 | 6 | 1 | 28 | 20 | 11 | 25 | 24 | 21 |
| # days | 1 | 3 | 1 | 5 | 2 | 1 | 1 | 2 | 2 | 3 | 2 | 3 | 3 | 2 | | 2 | 10 | 10 | 16 | 13 | 6 | 1 | 9 | 10 | 3 | 1 | 9 | 9 | 4 | 4 | 2 | 7 |
| % days | 2 | 4 | 1 | 7 | 3 | 1 | 1 | 3 | 3 | 4 | 3 | 4 | 4 | 3 | | 3 | 11 | 11 | 18 | 14 | 7 | 1 | 10 | 11 | 3 | 1 | 9 | 9 | 4 | 4 | 2 | 8 |
| High | 2 | 1 | 3 | 2 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 2 | | 2 | 4 | 7 | 4 | 4 | 25 | 1 | 8 | 16 | 6 | 5 | 8 | 7 | 12 | 8 | 2 | 8 |
| Total | 2 | 3 | 3 | 8 | 2 | 2 | 1 | 2 | 3 | 3 | 2 | 3 | 3 | 3 | | 3 | 18 | 29 | 36 | 23 | 44 | 1 | 38 | 51 | 8 | 5 | 21 | 21 | 16 | 12 | 3 | 22 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|------|------|-----|-----|------|------|------|------|------|-----|-----|-----|-----|------|------|------|-----|----|-----|-----|-----|-----|-----|-----|------|------|------|
| 2005 | | | | | | | | | | | | 0.3 | | | | | 0.03 | | 0.06 | 0.03 | 0.4 | 1.4 | 0.3 | 0.3 | | | | 0.1 | | | | | | 0.2 | | | | |
| 2006 | | | | | | | | | | | | | | 0.1 | 0.3 | | 0.04 | | 0.3 | 0.2 | 1.7 | 0.6 | 0.7 | 1.1 | | | | | | | | | | 0.3 | | | | |
| 2007 | | | | | | | | | | | | | | 0.4 | | | 0.04 | | | | 2.0 | 1.4 | 1.0 | 0.6 | | 0.1 | | | | | | | | | 0.4 | | | |
| 2008 | | | | | | | | | | | | | 0.7 | 0.1 | 0.3 | | 0.1 | | | | 0.9 | 1.4 | 0.9 | | 0.1 | | | | | | | | | | 0.3 | | | |
| 2009 | | | | | | | | | | | | | | 0.1 | 0.1 | | 0.03 | | | | | 0.3 | 3.7 | 2.3 | | | | | | | | | | | 0.5 | | | |
| 2010 | | | | | | | | | | | | | | | 0.3 | | 0.03 | | | | 0.1 | | | | | | | | | | | | | | | 0.01 | | |
| 2011 | | | | | | | | | | | | | | | 0.1 | | 0.01 | | 0.8 | 0.4 | 2.1 | 1.4 | 1.9 | | | | | | | | | | | | | 0.4 | | |
| 2012 | | | | | | | | | | | | 0.1 | | 0.1 | | | 0.03 | 0.3 | | 0.1 | 0.9 | 4.6 | 1.6 | 0.3 | | | | | | | | | | | | 0.6 | | |
| 2013 | | | | | | | | | | | | | | 0.4 | | | 0.04 | | | | | 0.1 | 1.0 | | | | | | | | | | | | | | 0.09 | |
| 2014 | | | | | | | | | | | | | | 0.3 | | 0.2 | 0.04 | | | | | | 0.7 | | | | | | | | | | | | | | 0.05 | |
| 2015 | | | | | | | | | | | | | | | 0.1 | 0.1 | 0.03 | | 0.3 | 0.1 | 0.7 | 0.3 | 0.1 | 1.9 | | | | | | | | | | | | | 0.2 | |
| 2016 | | | | | | | | | | | | | 0.1 | | 0.3 | | 0.04 | | | | 0.7 | 0.4 | 0.6 | 1.3 | | | | | | | | | | | | | 0.2 | |
| 2017 | | | | | | | | | | | | | | 0.3 | | 0.1 | 0.04 | | | | 0.1 | 0.4 | 1.7 | | | | | | | | | | | | | | 0.2 | |
| 2018 | | | | | | | | | | | | | 0.4 | | | | 0.04 | | | | 0.1 | | | 1.6 | | | | | | | | | | | | | | 0.1 |
| 2019 | | | | | | | | | | | | | | | | | 0.04 | | 0.3 | 0.1 | | 0.1 | | | 0.3 | | | | | | | | | | | | | 0.03 |
| Mean | | | | | | | | | | | | 0.03 | 0.09 | 0.1 | 0.1 | 0.03 | 0.04 | 0.01 | 0.1 | 0.07 | 0.7 | 0.8 | 0.9 | 0.6 | 0.03 | 0.01 | 0.01 | | | | | | | | | | 0.2 | |

Chimney Swift is rare at MBO in spring, although it has been observed every year except 2019. In most years, only 1-3 individuals were observed during the season, with 2008 (total of 8) the only exception. Except for a couple of records in early June in 2014 and 2015, all spring observations have been in spring. Summer records are scarce, with small numbers in 6 of 15 years. Chimney Swift is slightly more numerous in fall, though numbers have tended to decline somewhat over time, with the mean daily count at or well below the long-term average each year since 2013. The vast majority of fall sightings occur in August, extending into September in only three years (2005, 2007, and 2008).

RTHU: Ruby-throated Hummingbird / Colibri à gorge rubis (*Archilochus colubris*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | 5-17 | 5-10 | 5-11 | 5-6 | 5-9 | 5-15 | 5-11 | 5-8 | 5-16 | 5-15 | 5-8 | 5-12 | 5-13 | 5-11 | 5-8 | 5-11 | 8-1 | 8-5 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-2 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 |
| Peak | 5-25 | 5-25 | 5-23 | 5-25 | 5-18 | 5-29 | 5-22 | 5-26 | 5-31 | 5-24 | 5-10 | 5-27 | 5-20 | 5-22 | 5-21 | 5-23 | 8-10 | 8-13 | 8-9 | 8-17 | 8-21 | 8-15 | 8-24 | 8-14 | 8-21 | 8-26 | 8-31 | 8-29 | 8-9 | 8-16 | 8-13 | 8-17 |
| Last | 5-30 | 6-5 | 6-5 | 6-4 | 6-3 | 6-5 | 6-5 | 6-3 | 6-3 | 6-4 | 6-5 | 6-4 | 6-4 | 6-1 | 6-2 | 6-3 | 9-18 | 9-16 | 9-10 | 9-11 | 9-12 | 9-14 | 9-23 | 9-17 | 9-15 | 9-23 | 9-21 | 9-20 | 9-19 | 9-16 | 9-21 | 9-17 |
| Span | 14 | 27 | 26 | 30 | 26 | 22 | 26 | 27 | 19 | 21 | 29 | 24 | 23 | 22 | 26 | 24 | 49 | 43 | 41 | 42 | 43 | 45 | 54 | 48 | 46 | 53 | 52 | 51 | 50 | 47 | 52 | 48 |
| # days | 9 | 14 | 13 | 19 | 21 | 13 | 17 | 22 | 13 | 15 | 24 | 21 | 15 | 20 | 23 | 17 | 42 | 34 | 39 | 40 | 41 | 39 | 45 | 45 | 43 | 46 | 44 | 45 | 43 | 47 | 47 | 43 |
| % days | 15 | 20 | 19 | 27 | 30 | 19 | 24 | 31 | 19 | 22 | 34 | 30 | 21 | 29 | 33 | 25 | 48 | 37 | 43 | 44 | 45 | 43 | 49 | 49 | 47 | 51 | 45 | 46 | 44 | 48 | 48 | 46 |
| High | 7 | 5 | 4 | 4 | 4 | 3 | 3 | 4 | 4 | 6 | 4 | 4 | 4 | 4 | 6 | 4 | 10 | 12 | 5 | 10 | 9 | 9 | 16 | 12 | 15 | 10 | 10 | 8 | 10 | 9 | 9 | 10 |
| Total | 19 | 33 | 21 | 36 | 36 | 18 | 29 | 40 | 26 | 27 | 57 | 43 | 28 | 43 | 60 | 34 | 133 | 184 | 92 | 163 | 153 | 108 | 171 | 193 | 214 | 168 | 156 | 142 | 155 | 178 | 185 | 160 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|----|-----|-----|-----|-----|-----|----|
| 2005 | | | | | | | | | | | | | | 0.6 | 1.9 | 0.4 | 0.3 | 0.3 | 0.4 | 0.3 | 2.0 | 5.3 | 2.6 | 2.6 | 2.7 | 3.1 | 0.7 | | | | | | | 1.5 | |
| 2006 | | | | | | | | | | | | | 0.9 | 0.9 | 2.3 | 0.7 | 0.5 | 0.6 | 0.7 | 0.6 | 2.4 | 6.1 | 7.0 | 5.4 | 4.0 | 1.0 | 0.3 | | | | | | | 2.0 | |
| 2007 | | | | | | | | | | | | | 0.1 | 0.4 | 1.9 | 0.6 | 0.3 | 0.7 | 0.2 | 0.5 | 2.7 | 3.1 | 2.0 | 3.0 | 1.3 | 1.0 | | | | | | | | 1.0 | |
| 2008 | | | | | | | | | | | | 0.1 | 0.3 | 1.9 | 2.1 | 0.7 | 0.5 | 0.6 | 1.0 | 0.8 | 3.6 | 4.0 | 6.1 | 4.0 | 2.9 | 2.7 | | | | | | | | 1.8 | |
| 2009 | | | | | | | | | | | | | 1.0 | 2.3 | 0.9 | 1.0 | 0.5 | 2.0 | 1.3 | 1.6 | 3.7 | 3.7 | 4.7 | 3.7 | 3.9 | 2.0 | 0.1 | | | | | | | 1.7 | |
| 2010 | | | | | | | | | | | | | 0.1 | 0.4 | 1.3 | 0.7 | 0.3 | 0.7 | 0.7 | 0.7 | 1.6 | 2.7 | 4.3 | 3.7 | 2.0 | 0.9 | 0.3 | | | | | | | 1.2 | |
| 2011 | | | | | | | | | | | | | 0.6 | 1.1 | 1.1 | 1.3 | 0.4 | 1.7 | 0.8 | 1.1 | 3.4 | 3.9 | 5.7 | 5.4 | 3.0 | 2.0 | 0.9 | 0.1 | | | | | | 1.9 | |
| 2012 | | | | | | | | | | | | 0.1 | 1.0 | 1.3 | 2.1 | 1.1 | 0.6 | 1.3 | 1.3 | 1.2 | 3.1 | 5.3 | 6.4 | 5.0 | 3.7 | 2.7 | 1.3 | | | | | | | 2.1 | |
| 2013 | | | | | | | | | | | | | | 1.7 | 0.9 | 1.1 | 0.4 | 1.7 | 0.8 | 1.1 | 2.9 | 3.7 | 8.1 | 7.4 | 4.4 | 3.4 | 0.6 | | | | | | | 2.4 | |
| 2014 | | | | | | | | | | | | | 0.1 | 1.1 | 2.1 | 0.5 | 0.4 | 2.3 | 1.8 | 2.0 | 1.7 | 4.3 | 3.4 | 5.7 | 3.4 | 3.7 | 1.4 | 0.3 | | | | | | 1.8 | |
| 2015 | | | | | | | | | | | | 0.3 | 2.6 | 2.4 | 2.0 | 0.9 | 0.8 | 2.3 | 3.0 | 2.7 | 2.9 | 2.6 | 4.4 | 5.6 | 4.9 | 1.4 | 0.3 | 0.3 | | | | | | 1.6 | |
| 2016 | | | | | | | | | | | | | 0.4 | 2.0 | 2.4 | 1.3 | 0.6 | 1.8 | 2.3 | 2.0 | 3.3 | 2.4 | 3.4 | 4.0 | 4.6 | 1.9 | 0.6 | 0.1 | | | | | | 1.4 | |
| 2017 | | | | | | | | | | | | | 0.1 | 1.7 | 1.4 | 0.7 | 0.4 | 1.7 | 1.5 | 1.6 | 2.0 | 4.3 | 3.3 | 5.1 | 3.7 | 2.6 | 1.0 | 0.1 | | | | | | 1.6 | |
| 2018 | | | | | | | | | | | | | 1.0 | 2.0 | 2.3 | 0.9 | 0.6 | 2.0 | 0.8 | 1.3 | 4.1 | 4.4 | 5.3 | 3.0 | 4.0 | 3.0 | 1.6 | | | | | | | 1.8 | |
| 2019 | | | | | | | | | | | | 0.1 | 0.9 | 2.7 | 3.0 | 1.9 | 0.9 | 1.3 | 1.3 | 1.3 | 4.7 | 4.7 | 4.4 | 4.9 | 4.0 | 2.6 | 0.9 | 0.3 | | | | | | 1.9 | |
| Mean | | | | | | | | | | | | 0.05 | 0.6 | 1.5 | 1.8 | 0.9 | 0.5 | 1.1 | 1.0 | 1.0 | 2.9 | 4.0 | 4.8 | 4.6 | 3.5 | 2.3 | 0.7 | 0.09 | | | | | | 1.7 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|------|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|-----|-----|----|----|----|-----|-----|-----|-----|-----|----|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | 18 | 13 | 19 | 14 | 4 | | | | | | | | | 68 | |
| 2019 | | | | | | | | | | | | | 1 | 7 | 2 | 2 | 12 | | 1 | 1 | 7 | 20 | 14 | 19 | 6 | 6 | | | | | | | | | 72 | |
| Mean | | | | | | | | | | | | | 0.07 | 0.5 | 0.1 | 0.1 | 0.8 | | 0.07 | 0.07 | 0.5 | 2.5 | 1.8 | 2.5 | 1.3 | 0.7 | | | | | | | | 9.3 | | |

Ruby-throated Hummingbird is regular at MBO from early-mid May to around mid-September. Only rarely have the first spring arrivals been before May 10, never earlier than May 6. Numbers typically increase sharply around mid-May and peak in Week 9, with a smaller number remaining on site in Week 10 and through summer. In fall, counts quickly build to a peak over the second half of August, shifting closer to the end of the month in most years since 2014. Numbers drop off sharply by Week 7, and sightings have extended into Week 8 in just six years, all since 2011. Hummingbird banding began only in fall 2018, using a feeder trap to supplement the nets. It revealed far higher counts than were expected based on observations. In spring and summer, there has been somewhat of an increase in observations over time, whereas in fall numbers were notably above average in 2012 and 2013 and quite low in 2007 and 2010, but otherwise have varied quite little among years.

VIRA: Virginia Rail / Râle de Virginie (*Rallus limicola*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | 5-24 | 4-22 | 5-5 | 5-9 | 4-23 | 4-23 | 5-1 | 4-21 | 5-4 | 5-10 | 5-6 | 4-18 | 4-27 | 4-19 | 5-7 | 4-30 | | 9-4 | 8-21 | 9-16 | 8-7 | | | | | 8-3 | | 8-18 | | | | 8-21 |
| Peak | 5-24 | 4-22 | 5-5 | 5-9 | 5-17 | 5-2 | 5-19 | 4-21 | 5-4 | 5-19 | 5-6 | 4-18 | 4-27 | 5-18 | 5-9 | 5-6 | | 9-4 | 8-21 | 9-16 | 8-7 | | | | | 8-3 | | 8-18 | | | | 8-21 |
| Last | 5-24 | 6-2 | 6-1 | 5-23 | 5-25 | 5-24 | 6-4 | 6-2 | 5-30 | 6-4 | 5-30 | 5-30 | 5-25 | 6-1 | 6-5 | 5-29 | | 9-4 | 8-27 | 9-16 | 8-7 | | | | | 8-3 | | 8-18 | | | | 8-22 |
| Span | 1 | 42 | 28 | 15 | 33 | 32 | 35 | 43 | 27 | 26 | 25 | 43 | 29 | 44 | 30 | 30 | | 1 | 7 | 1 | 1 | | | | | 1 | | 1 | | | 2 | |
| # days | 1 | 2 | 3 | 8 | 14 | 20 | 26 | 8 | 14 | 19 | 5 | 22 | 7 | 17 | 19 | 12 | | 1 | 2 | 1 | 1 | | | | | 1 | | 1 | | | 1 | |
| % days | 2 | 3 | 4 | 11 | 20 | 29 | 37 | 11 | 20 | 28 | 7 | 31 | 10 | 24 | 27 | 18 | | 1 | 2 | 1 | 1 | | | | | 1 | | 1 | | | 1 | |
| High | 1 | 1 | 1 | 2 | 3 | 3 | 3 | 1 | 1 | 3 | 1 | 1 | 1 | 3 | 2 | 2 | | 1 | 1 | 2 | 1 | | | | | 1 | | 1 | | | 1 | |
| Total | 1 | 2 | 3 | 9 | 20 | 25 | 32 | 8 | 14 | 23 | 5 | 22 | 7 | 27 | 23 | 15 | | 1 | 2 | 2 | 1 | | | | | 1 | | 1 | | | 1 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|----|------|------|------|----|------|----|----|-----|-----|-----|-----|-----|--------|------|
| 2005 | | | | | | | | | | | | | | | 0.1 | | 0.02 | 0.06 | 0.06 | 0.06 | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | 0.1 | | | | | | 0.1 | 0.03 | | | | | | | | 0.1 | | | | | | | | | | | 0.01 |
| 2007 | | | | | | | | | | | | 0.3 | | | | | 0.04 | | | | | | 0.1 | 0.1 | | | | | | | | | | | | 0.02 |
| 2008 | | | | | | | | | | | | | 0.7 | 0.4 | 0.1 | | 0.1 | | | | | | | | | | 0.3 | | | | | | | | | 0.02 |
| 2009 | | | | | | | | | | 0.3 | 0.3 | 0.4 | 0.9 | 0.9 | 0.1 | | 0.3 | 0.3 | 0.3 | 0.3 | 0.1 | | | | | | | | | | | | | | | 0.01 |
| 2010 | | | | | | | | | | 0.3 | 1.4 | 1.3 | 0.4 | | 0.1 | | 0.4 | 0.7 | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | 0.1 | 1.0 | 1.3 | 0.9 | 0.7 | 0.6 | 0.5 | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | 0.1 | 0.3 | 0.1 | | | 0.1 | 0.4 | 0.1 | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | 0.6 | 0.4 | 0.6 | 0.3 | 0.1 | 0.2 | | 0.3 | 0.1 | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | 0.9 | 1.4 | 0.9 | 0.2 | 0.3 | 0.7 | | 0.3 | 0.1 | | | | | | | | | | | | | | | 0.01 |
| 2015 | | | | | | | | | | | | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.07 | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | 0.9 | 0.3 | 0.4 | 0.6 | 0.4 | 0.4 | 0.1 | 0.3 | 0.3 | | 0.1 | | | 0.1 | | | | | | | | | | | | | 0.01 |
| 2017 | | | | | | | | | | | 0.1 | 0.1 | 0.3 | 0.3 | 0.1 | | 0.1 | 0.7 | | 0.3 | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | 0.1 | 0.1 | 0.1 | 1.7 | 1.1 | 0.6 | 0.4 | 0.3 | | | 0.1 | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | 0.3 | 0.9 | 0.3 | 0.9 | 1.0 | 0.3 | 0.3 | | 0.1 | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.4 | 0.2 | 0.2 | 0.2 | 0.03 | 0.09 | 0.02 | | 0.02 | 0.01 | 0.01 | | 0.02 | | | | | | | | <0.005 | |

Virginia Rail is an annual visitor to MBO in spring, sometimes lingering into summer; fall records are rare. Most of the spring observations likely pertain to individuals or pairs that are resident in Stonecroft Pond at MBO; the peak count has only reached three individuals in five years. The first sightings are in late April in most years, and often continue infrequently until near the end of the season. The species has bred at MBO in at least a few years. Fall observations are much less frequent, with a total of seven sightings scattered across six years between 2006 and 2016, all in the first half of the season.

SORA: Sora / Marouette de Caroline (*Porzana carolina*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| First | 5-16 | | | 5-11 | | 5-9 | | | 5-27 | 5-17 | 5-9 | 5-3 | 5-4 | 5-2 | 5-11 | 5-10 | | | 8-4 | | | | | | | | | | | 9-16 | 8-25 | |
| Peak | 5-16 | | | 5-11 | | 5-9 | | | 5-27 | 5-17 | 5-9 | 5-3 | 5-4 | 5-2 | 5-11 | 5-10 | | | 8-4 | | | | | | | | | | | 9-16 | 8-25 | |
| Last | 5-27 | | | 5-30 | | 6-4 | | | 5-27 | 5-29 | 5-9 | 5-31 | 5-18 | 5-2 | 6-5 | 5-24 | | | 9-8 | | | | | | | | | | | 9-21 | 9-14 | |
| Span | 12 | | | 20 | | 27 | | | 1 | 13 | 1 | 29 | 15 | 1 | 26 | 14 | | | 36 | | | | | | | | | | 6 | 21 | | |
| # days | 2 | | | 3 | | 12 | | | 1 | 13 | 1 | 19 | 2 | 1 | 15 | 7 | | | 2 | | | | | | | | | | 2 | 2 | | |
| % days | 3 | | | 4 | | 17 | | | 1 | 19 | 1 | 27 | 3 | 1 | 21 | 10 | | | 2 | | | | | | | | | | 2 | 2 | | |
| High | 1 | | | 1 | | 2 | | | 1 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | | | 1 | | | | | | | | | | 1 | 1 | | |
| Total | 2 | | | 3 | | 15 | | | 1 | 16 | 1 | 26 | 2 | 1 | 15 | 5 | | | 2 | | | | | | | | | | 2 | 0 | | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|------|-----|-----|-----|-----|------|------|-----|------|------|----|----|----|----|------|------|------|----|-----|-----|-----|-----|-----|--------|------|
| 2005 | | | | | | | | | | | | | | 0.1 | 0.1 | | 0.03 | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | 0.1 | | | | | | | | | | 0.02 |
| 2008 | | | | | | | | | | | | | 0.1 | | 0.1 | 0.1 | 0.04 | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | 0.4 | 0.6 | 0.7 | 0.4 | 0.2 | 1.3 | | | 0.4 | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | 0.1 | | 0.01 | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | 1.1 | 1.1 | | 0.2 | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | 0.1 | | | | 0.01 | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | 0.9 | 0.4 | 1.6 | 0.6 | 0.3 | 0.4 | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | 0.1 | | 0.1 | | | 0.03 | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | 0.1 | | | | | 0.01 | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | 0.3 | 0.3 | 0.9 | 0.7 | 0.2 | | | | | | | | | | | 0.1 | 0.1 | | | | | | | 0.02 | |
| Mean | | | | | | | | | | | | 0.08 | 0.1 | 0.3 | 0.2 | 0.1 | 0.08 | 0.05 | | 0.03 | 0.01 | | | | | 0.01 | 0.01 | 0.01 | | | | | | | <0.005 | |

Sora is somewhat less frequently observed at MBO than Virginia Rail, though it has been annual in spring since 2013 after being detected in just three of the first eight years. Counts were elevated in 2010, 2014, 2016, and 2019, when individuals or pairs appeared to establish territories on site. In 2010, there was successful nesting, with sightings carrying over into the first part of summer for the only time; breeding was suspected in 2016 and 2019 as well, but unconfirmed. There have been only four fall observations, two each in 2007 and 2019; three of them were close to mid-September, while the other was considerably earlier, near the beginning of August.

COGA: Common Gallinule / Gallinule d'Amérique (*Gallinula galeata*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| First | | | | | | 5-5 | | | | | | | | | | 5-5 | | | 8-18 | | | | | | | | | | | | 8-18 | |
| Peak | | | | | | 5-5 | | | | | | | | | | 5-5 | | | 8-18 | | | | | | | | | | | | 8-18 | |
| Last | | | | | | 5-9 | | | | | | | | | | 5-9 | | | 8-18 | | | | | | | | | | | | 8-18 | |
| Span | | | | | | 5 | | | | | | | | | | 5 | | | 1 | | | | | | | | | | | | 1 | |
| # days | | | | | | 3 | | | | | | | | | | 3 | | | 1 | | | | | | | | | | | | 1 | |
| % days | | | | | | 4 | | | | | | | | | | 4 | | | 1 | | | | | | | | | | | | 1 | |
| High | | | | | | 1 | | | | | | | | | | 1 | | | 1 | | | | | | | | | | | | 1 | |
| Total | | | | | | 3 | | | | | | | | | | 0 | | | 1 | | | | | | | | | | | | 0 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|------|------|----|----|-----|--------|-----|-----|----|----|----|------|----|----|----|----|----|----|-----|-----|-----|-----|-----|--------|------|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | | | | 0.01 | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | 0.3 | 0.1 | | | | 0.04 | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | 0.02 | 0.01 | | | | <0.005 | | | | | | 0.01 | | | | | | | | | | | | <0.005 | | |

Common Gallinule is a very rare species at MBO. The only spring records involve an individual that was observed on three days within a five-day span in early May 2010. There has been just one fall sighting, on 18 August 2007.

SACR: Sandhill Crane / Grue du Canada (*Antigone canadensis*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | | |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | | | 4-24 | | | | | | | | 5-3 | | | 5-9 | 3-28 | 4-23 | | | | | | | | | | | | | | | | 10-8 | 10-8 | |
| Peak | | | 4-24 | | | | | | | | 5-3 | | | 5-9 | 3-28 | 4-23 | | | | | | | | | | | | | | | | | 10-8 | 10-8 |
| Last | | | 5-12 | | | | | | | | 5-3 | | | 5-9 | 4-17 | 5-2 | | | | | | | | | | | | | | | | | 10-8 | 10-8 |
| Span | | | 19 | | | | | | | | 1 | | | 1 | 21 | 10 | | | | | | | | | | | | | | | | | 1 | 1 |
| # days | | | 2 | | | | | | | | 1 | | | 1 | 2 | 2 | | | | | | | | | | | | | | | | | 1 | 1 |
| % days | | | 3 | | | | | | | | 1 | | | 1 | 3 | 2 | | | | | | | | | | | | | | | | | 1 | 1 |
| High | | | 1 | | | | | | | | 1 | | | 6 | 2 | 2 | | | | | | | | | | | | | | | | | 1 | 1 |
| Total | | | 2 | | | | | | | | 1 | | | 6 | 3 | 1 | | | | | | | | | | | | | | | | | 1 | 0 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|------|----|------|------|----|------|------|-----|----|-----|------|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|--------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | 0.1 | | | 0.1 | | | | 0.03 | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | 0.1 | | | | | 0.01 | | | | | | | | | | | | | | | | | | 0.1 | 0.01 |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | 0.9 | | | 0.09 | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | 0.3 | | 0.1 | | | | | | | | 0.04 | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | 0.02 | | 0.01 | 0.01 | | 0.01 | 0.07 | | | | 0.01 | | | | | | | | | | | | | | | | | | | <0.005 |

MBO's first two Sandhill Crane sightings occurred in spring 2007; the next was not until eight years later in May 2015. Later that year, the only fall observation to date was recorded on 8 October. Spring sightings appear to have become slightly more frequent in recent years, with a small flock of six individuals observed in May 2018, and observations on two dates early in spring 2019.

BBPL: Black-bellied Plover / Pluvier argenté (*Pluvialis squatarola*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| First | | | | | | | | 5-26 | | | | | | | | 5-26 | | | | | | | | | | | | | | | | |
| Peak | | | | | | | | 5-26 | | | | | | | | 5-26 | | | | | | | | | | | | | | | | |
| Last | | | | | | | | 5-26 | | | | | | | | 5-26 | | | | | | | | | | | | | | | | |
| Span | | | | | | | | 1 | | | | | | | | 1 | | | | | | | | | | | | | | | | |
| # days | | | | | | | | 1 | | | | | | | | 1 | | | | | | | | | | | | | | | | |
| % days | | | | | | | | 1 | | | | | | | | 1 | | | | | | | | | | | | | | | | |
| High | | | | | | | | 1 | | | | | | | | 1 | | | | | | | | | | | | | | | | |
| Total | | | | | | | | 1 | | | | | | | | 0 | | | | | | | | | | | | | | | | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|------|--------|------|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | 0.1 | 0.01 | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | 0.01 | <0.005 | | | | | | | | | | | | | | | | | | | |

Black-bellied Plover has been observed at MBO only once, a lone individual flying over on 26 May 2012.

KILL: Killdeer / Pluvier kildir (*Charadrius vociferus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|------|-------|------|------|------|------|------|------|------|
| First | 4-8 | 3-29 | 3-28 | 4-4 | 3-29 | 4-2 | 4-5 | 4-17 | 3-31 | 4-7 | 4-4 | 4-2 | 4-3 | 4-2 | 4-19 | 4-4 | 10-2 | | 8-15 | 8-3 | 10-18 | 9-15 | | 9-19 | 8-3 | 8-17 | 8-1 | 8-2 | | | 8-7 | 8-26 |
| Peak | 4-20 | 4-28 | 4-10 | 4-6 | 4-2 | 5-12 | 5-24 | 5-7 | 5-6 | 4-25 | 5-3 | 5-14 | 5-5 | 4-22 | 4-19 | 4-27 | 10-2 | | 8-15 | 8-3 | 10-18 | 9-15 | | 9-19 | 9-20 | 8-17 | 8-1 | 8-2 | | | 8-7 | 8-30 |
| Last | 6-2 | 5-28 | 6-1 | 6-1 | 5-31 | 5-24 | 6-5 | 5-31 | 5-22 | 6-2 | 5-22 | 6-1 | 5-30 | 6-3 | 6-1 | 5-30 | 10-8 | | 9-11 | 9-26 | 10-18 | 9-15 | | 10-4 | 10-20 | 8-17 | 11-2 | 8-22 | | | 8-27 | 9-23 |
| Span | 56 | 61 | 66 | 59 | 64 | 53 | 62 | 45 | 53 | 57 | 49 | 61 | 58 | 63 | 44 | 57 | 7 | | 28 | 55 | 1 | 1 | | 16 | 79 | 1 | 94 | 21 | | | 21 | 29 |
| # days | 18 | 43 | 27 | 26 | 28 | 16 | 29 | 18 | 27 | 27 | 17 | 32 | 16 | 27 | 21 | 25 | 2 | | 5 | 2 | 1 | 1 | | 2 | 5 | 1 | 6 | 7 | | | 3 | 3 |
| % days | 31 | 62 | 39 | 37 | 41 | 23 | 41 | 26 | 39 | 40 | 24 | 46 | 23 | 39 | 30 | 36 | 2 | | 5 | 2 | 1 | 1 | | 2 | 5 | 1 | 6 | 7 | | | 3 | 3 |
| High | 4 | 4 | 3 | 3 | 2 | 3 | 8 | 3 | 4 | 4 | 2 | 3 | 3 | 3 | 2 | 3 | 2 | | 1 | 1 | 1 | 1 | | 1 | 4 | 1 | 1 | 1 | | | 1 | 1 |
| Total | 27 | 65 | 36 | 31 | 31 | 21 | 57 | 24 | 41 | 41 | 18 | 50 | 22 | 39 | 29 | 35 | 4 | | 5 | 2 | 1 | 1 | | 2 | 9 | 1 | 6 | 7 | | | 3 | 3 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|-----|------|------|------|--|
| 2005 | | | | | | | | 0.2 | 0.4 | 1.5 | | 0.4 | 0.3 | 0.6 | 0.3 | 0.6 | 0.5 | | 0.1 | 0.06 | | | | | | | | | 0.3 | 0.3 | | | | | | 0.05 | |
| 2006 | | | | | | | 0.7 | 0.5 | 0.6 | 0.9 | 1.3 | 1.4 | 1.7 | 1.1 | 1.1 | | 0.9 | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | 0.3 | 0.4 | | 1.0 | 0.3 | 0.6 | 1.1 | 0.6 | 0.6 | 0.3 | 0.5 | 0.1 | | 0.08 | | | 0.4 | | 0.1 | 0.1 | | | | | | | | | | 0.05 | |
| 2008 | | | | | | | | 1.1 | 0.4 | 0.7 | 0.4 | 0.3 | 0.4 | 0.6 | 0.1 | 0.3 | 0.4 | | | | 0.1 | | | | | | | 0.1 | | | | | | | | 0.02 | |
| 2009 | | | | | 0.07 | 0.03 | 0.6 | 0.3 | 0.1 | 0.9 | 0.1 | 0.9 | 0.6 | 0.4 | 0.4 | 0.1 | 0.4 | | | | | | | | | | | | | | 0.1 | | | 0.1 | | 0.01 | |
| 2010 | | | | | 0.2 | 0.05 | 0.4 | 0.1 | 0.3 | | 0.6 | 0.3 | 0.6 | 0.6 | 0.1 | | 0.3 | | | | | | | | | | 0.1 | | | | | | | | | 0.01 | |
| 2011 | | | | | | | | 0.3 | 0.1 | 0.4 | 0.3 | 1.0 | 1.0 | 0.9 | 2.9 | 1.3 | 0.8 | 1.0 | 0.3 | 0.6 | | | | | | | | | | | | | | | | | |
| 2012 | | | | | 2.6 | 0.5 | | | 0.3 | 0.6 | 0.1 | 0.9 | 0.6 | 0.4 | 0.4 | 0.1 | 0.3 | | | | | | | | | | | 0.1 | | 0.1 | | | | | | 0.02 | |
| 2013 | | | | | 0.07 | 0.02 | 0.1 | 0.4 | 0.6 | 0.7 | 0.4 | 1.7 | 0.9 | 1.0 | | | 0.6 | 0.3 | 0.5 | 0.4 | 0.1 | | 0.3 | | | 0.1 | | 0.6 | | | 0.1 | | | | 0.1 | 0.1 | |
| 2014 | | | | | | | | 0.1 | 0.9 | 1.9 | 1.6 | 0.6 | 0.4 | 0.1 | | 0.3 | 0.6 | | | | | | 0.1 | | | | | | | | | | | | | 0.01 | |
| 2015 | | | | | | | | 0.1 | 0.4 | 0.4 | | 0.9 | 0.3 | 0.4 | | | 0.3 | | | | 0.4 | 0.1 | | | | | | 0.1 | | | | | | 0.1 | | 0.06 | |
| 2016 | | | | | 0.08 | 0.02 | 0.1 | | 0.1 | 0.3 | 0.3 | 0.7 | 1.7 | 1.7 | 1.6 | 0.6 | 0.7 | | 0.5 | 0.2 | 0.3 | 0.3 | 0.3 | 0.1 | | | | | | | | | | | | 0.07 | |
| 2017 | | | | | | | 0.3 | | | 0.1 | 0.3 | 0.6 | 0.1 | 0.7 | 0.9 | 0.1 | 0.3 | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | 0.1 | | 0.1 | 1.1 | 0.3 | 0.4 | 0.7 | 1.1 | 0.4 | 1.1 | 0.6 | 0.3 | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | 0.7 | 0.9 | 1.0 | 0.1 | 0.4 | 0.7 | 0.3 | 0.4 | 0.7 | | 0.3 | 0.1 | 0.1 | | 0.1 | | | | | | | | | | | | 0.03 | |
| Mean | | | | | 0.1 | 0.03 | 0.2 | 0.2 | 0.3 | 0.7 | 0.5 | 0.8 | 0.7 | 0.7 | 0.6 | 0.3 | 0.5 | 0.1 | 0.08 | 0.09 | 0.08 | 0.04 | 0.08 | 0.02 | 0.01 | 0.02 | 0.01 | 0.05 | 0.04 | 0.03 | | 0.02 | | 0.03 | 0.03 | | |

Killdeer has been observed at MBO in all seasons, but is annual only in spring. In five years between 2009 and 2016, the earliest spring migrants were already observed in the last part of MBO’s winter season. In most other years, they have been observed in the first week or two of spring; the only exception was 2019 when none were noted until 19 April. There typically are not distinct peaks in spring, perhaps reflecting more sightings of local birds rather than flocks of migrants passing through. There have been only scattered summer records. Killdeer sightings in fall are much scarcer than in spring, with none at all in four years, and only a single individual in three others. Sightings span almost the entire season, without any distinct pattern of occurrence.

SEPL: Semipalmated Plover / Pluvier semipalmé (*Charadrius semipalmatus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| First | | 5-28 | | | | | | | | | | | | | | 5-28 | | | | | | | | | | | | | | | | |
| Peak | | 5-28 | | | | | | | | | | | | | | 5-28 | | | | | | | | | | | | | | | | |
| Last | | 5-28 | | | | | | | | | | | | | | 5-28 | | | | | | | | | | | | | | | | |
| Span | | 1 | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | | |
| # days | | 1 | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | | |
| % days | | 1 | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | | |
| High | | 10 | | | | | | | | | | | | | | 10 | | | | | | | | | | | | | | | | |
| Total | | 10 | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | | 0 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|-----|-----|------|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | 1.4 | | 0.1 | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | 0.1 | | 0.01 | | | | | | | | | | | | | | | | | | |

There has been only one Semipalmated Plover sighting at MBO, a flock of 10 passing by on 28 May 2006.

DUNL: Dunlin / Bécasseau variable (*Calidris alpina*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | | | | | | | | | | | | | | | | | 10-8 | | | | | | | | | | | | | | | 10-8 |
| Peak | | | | | | | | | | | | | | | | | 10-8 | | | | | | | | | | | | | | | 10-8 |
| Last | | | | | | | | | | | | | | | | | 10-8 | | | | | | | | | | | | | | | 10-8 |
| Span | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | 1 | |
| # days | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | 1 | |
| % days | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | 1 | |
| High | | | | | | | | | | | | | | | | | 30 | | | | | | | | | | | | | | 30 | |
| Total | | | | | | | | | | | | | | | | | 0 | 30 | | | | | | | | | | | | | 2 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|-----|------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.3 | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.02 |

There has been only one Dunlin sighting at MBO, a flock of 30 passing by on 8 October 2005.

LESA: Least Sandpiper / Bécasseau minuscule (*Calidris minutilla*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| First | | | | | | | | | 5-15 | | | | | 5-24 | | 5-19 | | | 8-11 | | 8-28 | | | | | | | | | | 8-19 | |
| Peak | | | | | | | | | 5-15 | | | | | 5-24 | | 5-19 | | | 8-11 | | 8-28 | | | | | | | | | | 8-19 | |
| Last | | | | | | | | | 5-15 | | | | | 5-24 | | 5-19 | | | 8-11 | | 8-28 | | | | | | | | | | 8-19 | |
| Span | | | | | | | | | 1 | | | | | 1 | | 1 | | | 1 | | 1 | | | | | | | | | | 1 | |
| # days | | | | | | | | | 1 | | | | | 1 | | 1 | | | 1 | | 1 | | | | | | | | | | 1 | |
| % days | | | | | | | | | 1 | | | | | 1 | | 1 | | | 1 | | 1 | | | | | | | | | | 1 | |
| High | | | | | | | | | 6 | | | | | 3 | | 4 | | | 1 | | 3 | | | | | | | | | | 2 | |
| Total | | | | | | | | | 6 | | | | | 3 | | 1 | | | 1 | | 3 | | | | | | | | | | 0 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|------|----|------|-----|--------|-----|-----|----|----|------|-----|------|----|----|----|----|----|-----|-----|-----|-----|-----|--------|------|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | | | | 0.01 | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | 0.4 | | | | | | | | | | | | 0.03 | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | 0.9 | | | | 0.09 | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | 0.4 | | 0.04 | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | 0.06 | | 0.03 | | <0.005 | | | | | 0.01 | | 0.03 | | | | | | | | | | | <0.005 | | |

Least Sandpiper is a rare migrant at MBO, with observations on only two dates in spring and two dates in fall. In spring, both records were in the second half of May, whereas in fall, both were in August.

AMWO: American Woodcock / Bécasse d'Amérique (*Scolopax minor*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|------|-------|------|------|------|------|
| First | | | | 4-9 | 4-10 | | 4-1 | 5-19 | 4-3 | 4-10 | 4-15 | 4-1 | 5-28 | 4-2 | 4-18 | 4-16 | 8-1 | 8-2 | | 8-13 | 8-15 | 8-30 | 8-8 | 8-3 | 8-5 | 10-11 | 9-3 | 8-2 | 9-4 | 8-5 | 8-23 | 8-17 |
| Peak | | | | 4-9 | 4-10 | | 4-1 | 5-19 | 4-25 | 4-21 | 4-15 | 4-1 | 5-28 | 4-23 | 4-19 | 4-21 | 8-1 | 8-2 | | 8-13 | 8-15 | 8-30 | 8-8 | 10-7 | 10-5 | 10-11 | 9-3 | 8-14 | 9-4 | 9-30 | 8-23 | 8-31 |
| Last | | | | 4-19 | 4-10 | | 5-4 | 6-1 | 5-15 | 5-31 | 5-28 | 5-25 | 5-31 | 5-26 | 5-20 | 5-16 | 8-1 | 8-19 | | 8-20 | 9-19 | 8-30 | 8-8 | 10-22 | 10-19 | 10-11 | 9-8 | 10-24 | 11-3 | 11-6 | 8-30 | 9-19 |
| Span | | | | 11 | 1 | | 34 | 14 | 43 | 52 | 44 | 55 | 4 | 55 | 33 | 31 | 1 | 18 | | 8 | 36 | 1 | 1 | 81 | 76 | 1 | 6 | 84 | 61 | 94 | 8 | 34 |
| # days | | | | 5 | 1 | | 3 | 2 | 11 | 8 | 4 | 2 | 2 | 7 | 9 | 5 | 1 | 4 | | 2 | 6 | 1 | 1 | 6 | 17 | 1 | 3 | 9 | 4 | 7 | 2 | 5 |
| % days | | | | 7 | 1 | | 4 | 3 | 16 | 12 | 6 | 3 | 3 | 10 | 13 | 7 | 1 | 4 | | 2 | 7 | 1 | 1 | 7 | 19 | 1 | 3 | 9 | 4 | 7 | 2 | 5 |
| High | | | | 2 | 1 | | 1 | 1 | 2 | 3 | 1 | 1 | 1 | 2 | 2 | 2 | 1 | 1 | | 1 | 1 | 1 | 1 | 2 | 3 | 1 | 1 | 2 | 1 | 2 | 2 | 1 |
| Total | | | | 6 | 1 | | 3 | 2 | 13 | 12 | 4 | 2 | 2 | 8 | 10 | 4 | 1 | 4 | | 2 | 6 | 1 | 1 | 8 | 20 | 1 | 3 | 12 | 4 | 9 | 3 | 5 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|------|--------|------|------|------|-----|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 2005 | | | | | | | | | | | | | | | | | | | 0.1 | 0.06 | 0.1 | | | | | | | | | | | | | | 0.01 | |
| 2006 | | | | | | | | | | | | | | | | | | | 0.1 | 0.2 | 0.1 | 0.3 | 0.1 | 0.1 | | | | | | | | | | | 0.04 | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | 0.3 | 0.4 | 0.1 | | | | | | 0.09 | | | | | 0.1 | 0.1 | | | | | | | | | | | | 0.02 | |
| 2009 | | | | | | | | | 0.2 | | | | | | | | 0.01 | 0.3 | | 0.1 | | | 0.1 | 0.1 | | 0.1 | 0.3 | 0.1 | | | | | | | 0.07 | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | | 0.01 |
| 2011 | | | | | | | 0.1 | 0.1 | | | | 0.1 | | | | | 0.04 | | | | | | 0.1 | | | | | | | | | | | | | 0.01 |
| 2012 | | | | | 0.2 | 0.04 | | | | | | | | | 0.1 | | 0.03 | | | | | 0.1 | 0.1 | | | | | | | 0.4 | | 0.4 | | | 0.09 | |
| 2013 | | | | | | | 0.1 | 0.1 | 0.1 | 0.3 | 0.4 | 0.4 | 0.3 | | | 0.2 | | | | | 0.3 | 0.6 | 0.6 | 0.3 | | 0.1 | 0.1 | 0.1 | | 0.4 | 0.1 | 0.1 | | | 0.2 | |
| 2014 | | | | | | | | 0.1 | | 0.4 | 0.6 | 0.1 | | | 0.3 | 0.2 | 0.2 | | | | | | | | | | | | | | 0.1 | | | | | 0.01 |
| 2015 | | | | | | | | | 0.1 | 0.3 | | | | | 0.1 | | 0.06 | | 0.3 | 0.1 | | | | | 0.1 | 0.3 | | | | | | | | | 0.03 | |
| 2016 | | | | | | | 0.1 | | | | | | | | 0.1 | | 0.03 | | 0.8 | 0.4 | 0.4 | 0.3 | 0.7 | | | | | 0.1 | | | | 0.1 | | | 0.1 | |
| 2017 | | | | | | | | | | | | | | | 0.1 | 0.1 | 0.03 | | | | | | | 0.1 | 0.3 | | | | | | | | | 0.1 | 0.04 | |
| 2018 | | | | | | | 0.1 | | | 0.3 | | 0.3 | 0.3 | | 0.1 | 0.1 | 0.1 | | | | 0.1 | 0.1 | | | | | | 0.4 | | | 0.3 | | 0.3 | | 0.09 | |
| 2019 | | | | | | | | | | 0.7 | 0.3 | 0.3 | 0.1 | | | 0.1 | | | | | | | | 0.3 | 0.1 | | | | | | | | | | 0.03 | |
| Mean | | | | | 0.01 | <0.005 | 0.04 | 0.06 | 0.05 | 0.1 | 0.09 | 0.07 | 0.06 | 0.02 | 0.06 | 0.03 | 0.06 | 0.03 | 0.09 | 0.06 | 0.1 | 0.1 | 0.1 | 0.05 | 0.04 | 0.06 | 0.03 | 0.02 | 0.04 | 0.06 | 0.02 | 0.06 | 0.01 | 0.09 | 0.05 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|------|----|------|-----|-----|-----|-----|-----|----|----|-----|----|------|------|----|----|----|-----|-----|-----|-----|-----|-----|--|---|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | 1 | | 1 | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | 1 | 1 | | | | | | 1 | | | | | | | | | | | 1 |
| 2016 | | | | | | | | | | | | | | | | | | | 1 | 1 | | | | 2 | | | | | | | | | | | | | 2 |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | 1 |
| Mean | | | | | | | | | | | | | 0.07 | | 0.07 | | 0.1 | | 0.1 | 0.1 | | | 0.1 | | 0.07 | 0.07 | | | | | | | | | 0.3 | | |

American Woodcock is one of the more regular shorebirds at MBO. Although irregular in spring at first, it has been annual since 2011. Sightings have occurred throughout the season, but tend to be most frequent in late April. There have been a few summer sightings, and it is highly likely that the species nested at MBO in at least 2015 and 2016, when juveniles were caught during the MAPS program in July. There have been fall observations in every year except 2007, broadly scattered throughout the season, although most commonly over the first three weeks of August. Only eight individuals have been banded, all since 2013.

WISN: Wilson's Snipe / Bécassine de Wilson (*Gallinago delicata*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|-------|------|-------|------|------|------|------|------|-------|------|------|------|------|------|
| First | | | 4-22 | 5-20 | | 5-22 | | | 4-20 | | 5-12 | 4-25 | | | 4-22 | 5-3 | 8-15 | 9-9 | 8-4 | | 10-13 | | | | 9-17 | 8-31 | 8-21 | | 10-2 | | 8-4 | 9-2 |
| Peak | | | 4-22 | 5-20 | | 5-22 | | | 4-20 | | 5-12 | 4-25 | | | 4-22 | 5-3 | 8-15 | 9-9 | 8-4 | | 10-13 | | | | 9-17 | 8-31 | 8-21 | | 10-2 | | 8-4 | 9-2 |
| Last | | | 5-15 | 5-20 | | 5-23 | | | 4-20 | | 5-12 | 4-25 | | | 5-11 | 5-9 | 9-5 | 9-25 | 10-29 | | 10-13 | | | | 9-17 | 10-9 | 10-10 | | 10-2 | | 8-11 | 9-26 |
| Span | | | 24 | 1 | | 2 | | | 1 | | 1 | 1 | | | 20 | 7 | 22 | 17 | 87 | | 1 | | | | 1 | 40 | 51 | | 1 | | 8 | 25 |
| # days | | | 4 | 1 | | 2 | | | 1 | | 1 | 1 | | | 2 | 2 | 3 | 3 | 5 | | 1 | | | | 1 | 2 | 2 | | 1 | | 2 | 2 |
| % days | | | 6 | 1 | | 3 | | | 1 | | 1 | 1 | | | 3 | 2 | 3 | 3 | 5 | | 1 | | | | 1 | 2 | 2 | | 1 | | 2 | 2 |
| High | | | 1 | 1 | | 1 | | | 1 | | 1 | 1 | | | 1 | 1 | 1 | 1 | 1 | | 1 | | | | 3 | 1 | 1 | | 1 | | 1 | 1 |
| Total | | | 4 | 1 | | 2 | | | 1 | | 1 | 1 | | | 2 | 1 | 3 | 3 | 5 | | 1 | | | | 3 | 2 | 2 | | 1 | | 2 | 1 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|------|------|------|------|------|------|-----|------|-----|-----|----|----|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | 0.03 | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | 0.3 | | | | | | | | | 0.03 |
| 2007 | | | | | | | | | | 0.1 | | 0.1 | 0.3 | | | | 0.06 | | | | | 0.1 | | 0.1 | 0.1 | 0.1 | | | | | | | | | 0.05 | | |
| 2008 | | | | | | | | | | | | | | 0.1 | | | 0.01 | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | 0.01 | |
| 2010 | | | | | | | | | | | | | | | | | 0.03 | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | 0.1 | | | | | | | 0.01 | | | | | | | | | | | 0.4 | | | | | | | | 0.03 | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | 0.1 | | | | | | 0.02 | |
| 2015 | | | | | | | | | | | | | 0.1 | | | | 0.01 | | | | | | 0.1 | | | | | | | | 0.1 | | | | | 0.02 | |
| 2016 | | | | | | | | | | | 0.1 | | | | | | 0.01 | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | 0.01 |
| 2019 | | | | | | | | | | 0.1 | | | 0.1 | | | | 0.03 | | | | | 0.1 | 0.1 | | | | | | | | | | | | | 0.02 | |
| Mean | | | | | | | | | | 0.03 | 0.01 | 0.01 | 0.04 | 0.02 | 0.01 | | 0.01 | | | | | 0.02 | 0.01 | 0.04 | 0.01 | 0.02 | 0.02 | 0.03 | 0.02 | 0.01 | 0.01 | 0.02 | | 0.01 | 0.02 | | |

Wilson's Snipe is a migrant at MBO, with observations in seven years in spring and nine years in fall. The spring observations have all been between Weeks 4 and 9, varying a fair bit from year to year. In fall, there have been sightings as early as the first week of August twice, and as late as the end of October once, but vary widely throughout the season overall.

SPSA: Spotted Sandpiper / Chevalier grivelé (*Actitis macularius*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | 5-24 | 5-11 | 5-15 | 5-15 | 5-25 | 5-4 | | 5-14 | | 5-13 | | 5-14 | 5-4 | 5-6 | 5-6 | 5-12 | 8-3 | 8-1 | 9-14 | 8-28 | 9-8 | | 8-11 | | 8-5 | 8-1 | 8-1 | 9-4 | 8-1 | | 8-6 | 8-14 |
| Peak | 5-26 | 5-11 | 5-15 | 5-15 | 5-25 | 5-17 | | 5-14 | | 5-13 | | 5-26 | 5-10 | 6-1 | 5-21 | 5-18 | 8-3 | 8-1 | 9-14 | 8-28 | 9-8 | | 8-11 | | 8-5 | 8-18 | 8-1 | 9-4 | 8-1 | | 8-6 | 8-16 |
| Last | 5-26 | 5-11 | 5-23 | 5-27 | 5-25 | 5-17 | | 5-14 | | 5-13 | | 6-1 | 5-30 | 6-1 | 5-31 | 5-23 | 8-3 | 8-5 | 9-14 | 8-28 | 9-8 | | 8-21 | | 8-11 | 8-18 | 8-1 | 9-4 | 9-11 | | 8-6 | 8-21 |
| Span | 3 | 1 | 9 | 13 | 1 | 14 | | 1 | | 1 | | 19 | 27 | 27 | 26 | 12 | 1 | 5 | 1 | 1 | 1 | | 11 | | 7 | 18 | 1 | 1 | 42 | | 1 | 8 |
| # days | 2 | 1 | 2 | 5 | 1 | 2 | | 1 | | 1 | | 7 | 6 | 10 | 9 | 4 | 1 | 3 | 1 | 1 | 1 | | 2 | | 4 | 7 | 1 | 1 | 3 | | 1 | 2 |
| % days | 3 | 1 | 3 | 7 | 1 | 3 | | 1 | | 1 | | 10 | 9 | 14 | 13 | 6 | 1 | 3 | 1 | 1 | 1 | | 2 | | 4 | 8 | 1 | 1 | 3 | | 1 | 2 |
| High | 2 | 1 | 1 | 1 | 1 | 2 | | 1 | | 1 | | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | | 1 | | 1 | 4 | 1 | 1 | 1 | | 1 | 1 |
| Total | 3 | 1 | 2 | 5 | 1 | 3 | | 1 | | 1 | | 9 | 8 | 11 | 11 | 4 | 1 | 3 | 1 | 1 | 1 | | 2 | | 4 | 10 | 1 | 1 | 3 | | 1 | 2 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|------|-----|-----|-----|------|------|------|------|------|-----|------|------|------|------|------|------|----|----|-----|-----|-----|-----|-----|------|------|------|
| 2005 | | | | | | | | | | | | | | | 0.4 | | 0.05 | | | | 0.1 | | | | | | | | | | | | | | 0.01 | | |
| 2006 | | | | | | | | | | | | | 0.1 | | | | 0.01 | | | | 0.4 | | | | | | | | | | | | | | 0.03 | | |
| 2007 | | | | | | | | | | | | | 0.1 | | 0.1 | | 0.03 | | | | | | | | | | 0.1 | | | | | | | | 0.01 | | |
| 2008 | | | | | | | | | | | | | 0.1 | 0.3 | 0.3 | | 0.07 | | | | | | | 0.1 | | | | | | | | | | | 0.01 | | |
| 2009 | | | | | | | | | | | | | | | 0.1 | | 0.01 | | | | | | | | | 0.1 | | | | | | | | | 0.01 | | |
| 2010 | | | | | | | | | | | | 0.1 | | 0.3 | | | 0.04 | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | 0.1 | 0.1 | | | | | | | | | | | 0.02 | | |
| 2012 | | | | | | | | | | | | | 0.1 | | | | 0.01 | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | 0.4 | 0.1 | | | | | | | | | | | | | | 0.04 | |
| 2014 | | | | | | | | | | | | | 0.1 | | | | 0.01 | | 0.3 | 0.1 | 0.1 | 0.6 | 0.7 | | | | | | | | | | | | 0.1 | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | | | | | | | 0.01 |
| 2016 | | | | | | | | | | | | | 0.1 | 0.1 | 0.7 | 0.3 | 0.1 | 0.3 | | | 0.1 | | | | 0.1 | | | | | | | | | | | 0.01 | |
| 2017 | | | | | | | | | | | | 0.1 | 0.6 | 0.3 | | 0.1 | 0.1 | | | | 0.1 | | | | 0.3 | | | | | | | | | | | 0.03 | |
| 2018 | | | | | | | | | | | | 0.3 | 0.6 | 0.1 | 0.3 | 0.3 | 0.2 | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | 0.3 | 0.6 | 0.6 | | 0.1 | 0.2 | | | | 0.1 | | | | | | | | | | | | | | | 0.01 | |
| Mean | | | | | | | | | | | | 0.06 | 0.2 | 0.1 | 0.1 | 0.06 | 0.05 | 0.01 | 0.01 | 0.01 | 0.1 | 0.06 | 0.06 | 0.01 | 0.01 | 0.03 | 0.01 | | | | | | | | 0.02 | | |

Spotted Sandpiper has been missed only three times in each of spring and fall. In spring the vast majority of sightings have been between Week 7 and Week 9, although over the past four years they have also been spotted in Week 10. There have been summer sightings in just two years, 2014 and 2016. Fall sightings have been limited to the first half of the season, and sometimes even to as little as the first week of fall. Numbers are generally low, aside from a distinctly higher count in 2014.

SOSA: Solitary Sandpiper / Chevalier solitaire (*Tringa solitaria*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|------|------|------|------|------|------|
| First | 5-7 | 5-6 | 5-15 | 4-27 | 4-18 | 5-4 | 5-5 | 4-21 | 5-1 | 5-5 | 5-5 | 5-9 | 4-15 | 5-3 | 5-7 | 5-1 | 8-7 | 8-12 | 8-25 | 8-16 | 8-1 | 8-4 | 8-4 | 8-23 | 8-9 | 8-11 | 8-21 | 8-4 | 8-24 | 9-12 | 8-5 | 8-13 |
| Peak | 5-14 | 5-21 | 5-22 | 5-9 | 5-5 | 5-16 | 5-19 | 5-5 | 5-14 | 5-21 | 5-9 | 5-11 | 5-12 | 5-9 | 5-22 | 5-13 | 8-7 | 8-12 | 8-25 | 8-25 | 8-29 | 8-4 | 8-4 | 8-23 | 8-17 | 8-16 | 8-27 | 8-4 | 8-29 | 9-12 | 8-27 | 8-19 |
| Last | 5-30 | 5-28 | 5-23 | 5-25 | 5-24 | 5-26 | 5-20 | 5-19 | 5-30 | 5-23 | 5-18 | 6-2 | 5-23 | 5-31 | 5-29 | 5-25 | 8-23 | 8-13 | 9-26 | 9-18 | 9-22 | 9-17 | 10-5 | 10-12 | 9-13 | 9-21 | 10-7 | 9-25 | 9-27 | 9-12 | 8-27 | 9-17 |
| Span | 24 | 23 | 9 | 29 | 37 | 23 | 16 | 29 | 30 | 19 | 14 | 25 | 39 | 29 | 23 | 25 | 17 | 2 | 33 | 34 | 53 | 45 | 63 | 51 | 36 | 42 | 48 | 53 | 35 | 1 | 23 | 36 |
| # days | 18 | 13 | 6 | 17 | 15 | 11 | 15 | 14 | 19 | 16 | 13 | 21 | 23 | 23 | 18 | 16 | 4 | 2 | 23 | 18 | 11 | 10 | 10 | 10 | 10 | 30 | 11 | 21 | 12 | 1 | 2 | 12 |
| % days | 31 | 19 | 9 | 24 | 22 | 16 | 21 | 20 | 27 | 24 | 19 | 30 | 33 | 33 | 26 | 23 | 5 | 2 | 25 | 20 | 12 | 11 | 11 | 11 | 11 | 33 | 11 | 21 | 12 | 1 | 2 | 13 |
| High | 5 | 4 | 2 | 7 | 3 | 2 | 3 | 6 | 5 | 4 | 3 | 3 | 6 | 5 | 8 | 4 | 1 | 1 | 3 | 2 | 2 | 1 | 2 | 1 | 2 | 3 | 3 | 1 | 2 | 1 | 2 | 2 |
| Total | 34 | 19 | 7 | 58 | 24 | 14 | 19 | 23 | 38 | 27 | 22 | 34 | 53 | 61 | 57 | 33 | 4 | 2 | 32 | 21 | 13 | 10 | 12 | 10 | 12 | 44 | 20 | 21 | 13 | 1 | 3 | 15 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|------|------|------|-----|-----|-----|-----|------|-----|-----|-----|----|------|-----|-----|-----|-----|-----|-----|-----|------|------|------|-----|-----|-----|------|------|
| 2005 | | | | | | | | | | | | 0.1 | 1.7 | 1.9 | 1.0 | 0.2 | 0.6 | | | | 0.1 | 0.3 | | 0.1 | | | | | | | | | | | 0.05 | |
| 2006 | | | | | | | | | | | | 0.4 | 0.7 | 1.0 | 0.6 | | 0.3 | | | | | 0.3 | | | | | | | | | | | | | 0.02 | |
| 2007 | | | | | | | | | | | | | 0.1 | 0.7 | 0.1 | | 0.1 | | | | | | | 0.6 | 0.9 | 0.7 | 1.1 | 1.1 | 0.1 | | | | | | 0.4 | |
| 2008 | | | | | | | | | | 0.1 | 0.9 | 3.7 | 3.1 | 0.4 | | 0.8 | | | | | 0.3 | 0.7 | 0.9 | 0.9 | 0.3 | | | | | | | | | 0.2 | | |
| 2009 | | | | | | | | | 0.3 | | | 1.3 | 1.1 | 0.6 | 0.1 | | 0.3 | | | | 0.3 | | | 0.1 | 0.9 | 0.3 | 0.1 | 0.1 | | | | | | | 0.1 | |
| 2010 | | | | | | | | | | | | 0.3 | 0.6 | 0.7 | 0.4 | | 0.2 | | | | 0.1 | 0.3 | | | | 0.3 | 0.7 | | | | | | | | 0.1 | |
| 2011 | | | | | | | | | | | | 0.6 | 1.1 | 1.0 | | | 0.3 | | | | 0.3 | 0.4 | 0.1 | 0.3 | 0.1 | 0.3 | | | | 0.1 | | | | 0.1 | | |
| 2012 | | | | | | | | | 0.3 | | | 2.0 | 0.7 | 0.3 | | | 0.3 | | | | | | | 0.1 | | | 0.6 | 0.1 | 0.4 | | 0.1 | | | | 0.1 | |
| 2013 | | | | | | | | | | 0.1 | 1.0 | 2.0 | 2.0 | 0.1 | 0.1 | 0.5 | | | | | 0.1 | 0.6 | 0.1 | 0.1 | 0.6 | 0.1 | | | | | | | | 0.1 | | |
| 2014 | | | | | | | | | | | | 0.3 | 1.9 | 1.6 | 0.1 | | 0.4 | | | | | 0.4 | 1.7 | 1.4 | 1.7 | 0.4 | 0.4 | 0.1 | | | | | | | 0.5 | |
| 2015 | | | | | | | | | | | | 0.6 | 2.1 | 0.4 | | | 0.3 | | | | | | 0.3 | 0.7 | 1.1 | 0.4 | | 0.1 | | 0.1 | | | | | 0.2 | |
| 2016 | | | | | | | | | | | | | 2.4 | 1.1 | 1.0 | 0.3 | 0.5 | | | | 0.1 | | 0.1 | 0.4 | 0.6 | 0.9 | 0.6 | 0.3 | | | | | | | 0.2 | |
| 2017 | | | | | | | | | 0.1 | | 0.3 | 1.7 | 3.3 | 2.0 | 0.1 | | 0.8 | | | | | | | 0.1 | 0.4 | 0.3 | 0.4 | 0.3 | 0.3 | | | | | | 0.1 | |
| 2018 | | | | | | | | | | | | 1.9 | 4.1 | 2.1 | 0.3 | 0.3 | 0.9 | | | | | | | | | | | | | | | | | | | 0.01 |
| 2019 | | | | | | | | | | | | 0.1 | 1.6 | 4.9 | 1.6 | | 0.8 | | | | 0.1 | | | 0.3 | | | | | | | | | | | | 0.03 |
| Mean | | | | | | | | | 0.01 | 0.04 | 0.04 | 0.7 | 1.8 | 1.6 | 0.4 | 0.06 | 0.5 | | | | 0.08 | 0.1 | 0.2 | 0.3 | 0.4 | 0.3 | 0.3 | 0.2 | 0.06 | 0.02 | 0.01 | | | | 0.2 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|------|-----|-----|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | 1 | | 1 | | 2 | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | 2 | | | 2 | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | 0.07 | 0.2 | 0.3 | | 0.5 | | | | | | | | | | | | | | | | | | | | |

Solitary Sandpiper is the only shorebird that has been observed at MBO in every spring and fall. There have been a few spring sightings in the first half of the season, but typically the first arrivals are early April, with the vast majority passing through during Weeks 7 and 8, and only rarely still a few individuals lingering as late as Week 10. Although there have never been any summer sightings, early fall migrants have been observed in the first week of August in six years. Solitary Sandpiper is a reasonably regular migrant from around mid-August to mid-September; late migrants have been spotted in October in three years. Although larger numbers have been observed in fall than spring, all eight individuals banded have been in spring.

LEYE: Lesser Yellowlegs / Petit Chevalier (*Tringa flavipes*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| First | | | | 5-12 | | | 5-13 | 5-16 | | | | | | 5-5 | | 5-11 | | | | 8-10 | | | | | | | | | | 8-4 | 8-7 | |
| Peak | | | | 5-12 | | | 5-13 | 5-16 | | | | | | 5-11 | | 5-13 | | | | 8-10 | | | | | | | | | | 8-4 | 8-7 | |
| Last | | | | 5-12 | | | 5-13 | 5-16 | | | | | | 5-18 | | 5-14 | | | | 8-10 | | | | | | | | | | 8-4 | 8-7 | |
| Span | | | | 1 | | | 1 | 1 | | | | | | 14 | | 4 | | | | 1 | | | | | | | | | | 1 | 1 | |
| # days | | | | 1 | | | 1 | 1 | | | | | | 5 | | 2 | | | | 1 | | | | | | | | | | 1 | 1 | |
| % days | | | | 1 | | | 1 | 1 | | | | | | 7 | | 3 | | | | 1 | | | | | | | | | | 1 | 1 | |
| High | | | | 1 | | | 1 | 1 | | | | | | 5 | | 2 | | | | 1 | | | | | | | | | | 1 | 1 | |
| Total | | | | 1 | | | 1 | 1 | | | | | | 17 | | 1 | | | | 1 | | | | | | | | | | 1 | 0 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|------|-----|------|----|-----|------|------|-----|----|------|------|-----|----|----|----|----|----|----|-----|-----|-----|-----|--------|------|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | 0.1 | | | | | 0.01 | | | | | 0.1 | | | | | | | | | | | | 0.01 | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | 0.1 | | | | | 0.01 | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | 0.1 | | | | 0.01 | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | 0.6 | 1.4 | 0.4 | | | | 0.2 | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | | | | 0.01 | |
| Mean | | | | | | | | | | | | 0.04 | 0.1 | 0.04 | | | 0.02 | | | | 0.01 | 0.01 | | | | | | | | | | | | <0.005 | | |

Lesser Yellowlegs is an irregular spring migrant, with sightings only in 2008, 2011, 2012, and 2018. Over the first three of those years, all sightings were between 12 May and 16 May. 2018 was the first year with observations on multiple dates, centered around the same period. There have been only two fall sightings, lone individuals on 10 August 2008 and 4 August 2019.

GRYE: Greater Yellowlegs / Grand Chevalier (*Tringa melanoleuca*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|------|------|------|------|------|------|-------|------|------|------|------|------|------|------|
| First | 5-27 | 5-7 | 5-10 | | | | | 4-20 | 4-26 | 5-15 | | | 5-4 | 5-8 | 4-21 | 5-5 | 8-13 | 9-6 | | 9-23 | | 9-12 | 9-1 | 10-1 | 8-13 | 8-10 | 9-15 | 9-27 | 8-13 | | | 9-3 |
| Peak | 5-27 | 5-7 | 5-10 | | | | | 5-2 | 4-26 | 5-15 | | | 5-4 | 5-18 | 5-17 | 5-10 | 8-13 | 9-6 | | 9-23 | | 9-12 | 10-4 | 10-1 | 8-13 | 8-10 | 9-15 | 9-27 | 8-20 | | | 9-7 |
| Last | 5-27 | 5-21 | 5-11 | | | | | 5-19 | 5-18 | 5-15 | | | 5-4 | 5-28 | 5-20 | 5-18 | 10-13 | 10-22 | | 9-23 | | 9-12 | 10-4 | 10-1 | 10-30 | 9-7 | 9-15 | 9-27 | 8-20 | | | 9-26 |
| Span | 1 | 15 | 2 | | | | | 30 | 23 | 1 | | | 1 | 21 | 30 | 14 | 62 | 47 | | 1 | | 1 | 34 | 1 | 79 | 29 | 1 | 1 | 8 | | | 24 |
| # days | 1 | 3 | 2 | | | | | 5 | 3 | 1 | | | 1 | 6 | 8 | 3 | 4 | 3 | | 1 | | 1 | 4 | 1 | 2 | 2 | 1 | 1 | 2 | | | 2 |
| % days | 2 | 4 | 3 | | | | | 7 | 4 | 1 | | | 1 | 9 | 11 | 5 | 5 | 3 | | 1 | | 1 | 4 | 1 | 2 | 2 | 1 | 1 | 2 | | | 2 |
| High | 1 | 5 | 1 | | | | | 2 | 1 | 1 | | | 1 | 2 | 6 | 2 | 2 | 2 | | 1 | | 1 | 12 | 1 | 1 | 2 | 1 | 1 | 2 | | | 2 |
| Total | 1 | 9 | 2 | | | | | 6 | 3 | 1 | | | 1 | 9 | 14 | 3 | 5 | 4 | | 1 | | 1 | 16 | 1 | 2 | 3 | 1 | 1 | 3 | | | 3 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|------|------|-----|------|-----|------|-----|------|------|-----|-----|----|------|------|-----|------|------|------|------|------|-----|------|------|------|-----|------|------|------|
| 2005 | | | | | | | | | | | | | | | 0.1 | | 0.02 | | | | | 0.3 | | | | | | | | | | | | | 0.06 | |
| 2006 | | | | | | | | | | | | 0.7 | 0.4 | 0.1 | | | 0.1 | | | | | | | | | 0.3 | | | | | | | 0.3 | | 0.04 | |
| 2007 | | | | | | | | | | | | | 0.3 | | | | 0.03 | | | | | | | | | | | | | | | | | | 0.01 | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | 0.01 |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | 0.1 | | | 0.3 | 1.7 | | | | | 0.2 | |
| 2012 | | | | | | | | | 0.3 | | | 0.4 | | 0.1 | | | 0.09 | | | | | | | | | | | | 0.1 | | | | | | 0.01 | |
| 2013 | | | | | | | | | | | 0.1 | 0.1 | | 0.1 | | | 0.04 | | | | | 0.1 | | | | | | | | | | 0.1 | | | 0.02 | |
| 2014 | | | | | | | | | | | | | | 0.1 | | | 0.01 | | | | | 0.3 | | | | | 0.1 | | | | | | | | 0.03 | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | 0.01 |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | 0.01 |
| 2017 | | | | | | | | | | | | 0.1 | | | | | 0.01 | | | | | 0.1 | 0.3 | | | | | | | | | | | | 0.03 | |
| 2018 | | | | | | | | | | | | 0.1 | 0.1 | 0.7 | 0.3 | | 0.1 | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | 0.1 | | | 0.6 | 0.3 | 1.0 | | | 0.2 | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 0.03 | 0.01 | 0.1 | 0.09 | 0.1 | 0.03 | | 0.04 | | | | | 0.06 | 0.02 | | 0.01 | 0.04 | 0.02 | 0.01 | 0.04 | 0.1 | 0.01 | 0.02 | 0.01 | | 0.03 | | |

Greater Yellowlegs is a much more frequent migrant at MBO than Lesser Yellowlegs. In spring, individuals have arrived as early as April in three years, but are primarily concentrated in the first half of May, and always gone by the end of the month. The earliest fall migrants return in the second week of August, but sightings have been scattered throughout most of the season, as late as 30 October. In both spring and fall there has been only a single year with somewhat more elevated counts (2019 and 2011, respectively).

RBGU: Ring-billed Gull / Goéland à bec cerclé (*Larus delawarensis*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|---------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|------|
| First | 4-5 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 3-29 | 3-28 | 3-29 | 3-29 | 3-28 | 3-28 | 3-28 | 3-29 | 3-28 | 8-1 | 8-3 | 8-8 | 8-5 | 8-1 | 8-1 | 8-2 | 8-2 | 8-4 | 8-1 | 8-1 | 8-1 | 8-10 | 8-7 | 8-4 | 8-3 |
| Peak | 5-12 | 5-2 | 4-24 | 4-20 | 5-19 | 5-14 | 6-3 | 5-12 | 5-15 | 5-13 | 5-8 | 5-15 | 5-4 | 5-27 | 6-4 | 5-12 | 10-24 | 10-7 | 8-18 | 10-23 | 10-16 | 9-20 | 9-21 | 10-28 | 10-16 | 9-13 | 10-30 | 10-15 | 10-3 | 10-9 | 10-29 | 10-8 |
| Last | 6-3 | 6-5 | 6-4 | 6-5 | 6-5 | 6-4 | 6-5 | 6-4 | 6-4 | 6-4 | 6-5 | 6-5 | 6-5 | 6-3 | 6-5 | 6-4 | 10-30 | 10-30 | 10-30 | 10-29 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 11-6 | 11-6 | 11-6 | 11-6 | 11-6 | 11-1 |
| Span | 60 | 70 | 69 | 70 | 70 | 69 | 70 | 68 | 69 | 68 | 69 | 70 | 70 | 68 | 69 | 69 | 91 | 89 | 84 | 86 | 91 | 91 | 90 | 90 | 88 | 91 | 98 | 98 | 89 | 92 | 95 | 91 |
| # days | 58 | 69 | 65 | 65 | 68 | 65 | 66 | 66 | 67 | 64 | 64 | 68 | 68 | 67 | 66 | 66 | 36 | 42 | 47 | 38 | 44 | 28 | 54 | 50 | 52 | 49 | 53 | 67 | 32 | 31 | 31 | 44 |
| % days | 98 | 100 | 93 | 93 | 99 | 93 | 94 | 94 | 96 | 94 | 91 | 97 | 97 | 96 | 94 | 95 | 41 | 46 | 52 | 42 | 48 | 31 | 59 | 55 | 57 | 54 | 54 | 68 | 33 | 32 | 32 | 47 |
| High | 128 | 205 | 102 | 140 | 130 | 92 | 114 | 150 | 230 | 320 | 78 | 375 | 140 | 125 | 100 | 162 | 101 | 57 | 31 | 300 | 39 | 47 | 150 | 330 | 250 | 302 | 110 | 48 | 80 | 28 | 51 | 128 |
| Total | 1176 | 3583 | 1046 | 1362 | 1757 | 898 | 1123 | 1040 | 1588 | 2826 | 1192 | 5074 | 1531 | 1404 | 1418 | 1801 | 405 | 240 | 264 | 614 | 216 | 190 | 620 | 2066 | 825 | 858 | 327 | 403 | 136 | 122 | 165 | 497 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|------|------|------|-----|-----|------|------|------|------|------|------|------|-------|-------|-------|------|------|------|-----|------|-----|-----|-----|-----|------|-----|------|------|------|------|------|------|-------|-----|------|
| 2005 | 0.5 | | | | 1.3 | 0.5 | | 6.0 | 4.9 | 6.2 | 8.3 | 10.3 | 39.4 | 48.0 | 33.4 | 18.6 | 19.9 | 4.9 | 1.6 | 3.2 | 0.9 | 1.1 | 1.4 | 0.3 | 0.3 | | 1.9 | 3.3 | 6.3 | 0.5 | 0.8 | 22.6 | 19.6 | | 4.6 |
| 2006 | 2.1 | 0.07 | | | 0.5 | 0.6 | 17.4 | 69.3 | 77.7 | 51.1 | 34.9 | 96.9 | 98.9 | 22.9 | 43.0 | 9.7 | 51.9 | 5.8 | 0.3 | 2.8 | 0.6 | 0.4 | 0.9 | 0.4 | 1.0 | 1.7 | 6.9 | 0.7 | 4.1 | 10.9 | 1.3 | 1.9 | 3.6 | | 2.6 |
| 2007 | 0.2 | 0.4 | 0.3 | | 1.2 | 0.4 | 16.9 | 13.4 | 7.6 | 31.6 | 6.4 | 24.4 | 24.3 | 11.1 | 9.0 | 4.7 | 14.9 | 1.4 | 3.0 | 2.2 | | 7.3 | 6.6 | 3.0 | 0.7 | 1.6 | 1.7 | 2.0 | 2.1 | 0.9 | 4.1 | 4.0 | 3.7 | | 2.9 |
| 2008 | 18.9 | | | | | 6.3 | 2.7 | 5.7 | 19.4 | 70.6 | 21.9 | 13.9 | 21.3 | 12.0 | 18.0 | 9.1 | 19.5 | 7.8 | 0.6 | 4.2 | 0.1 | 1.6 | 4.1 | 0.4 | 0.4 | 0.1 | 2.6 | 5.7 | 0.3 | 3.6 | 1.6 | 58.0 | 9.1 | | 6.7 |
| 2009 | 0.1 | | | | 5.4 | 2.2 | 26.1 | 22.0 | 10.0 | 19.4 | 18.9 | 5.9 | 18.1 | 78.7 | 40.9 | 14.1 | 25.5 | | | | 1.6 | 0.1 | 6.3 | 0.7 | 1.6 | 5.1 | 0.4 | 1.4 | 4.1 | 0.7 | 6.0 | 1.4 | 1.3 | | 2.4 |
| 2010 | 4.1 | 0.1 | | | 3.7 | 2.0 | 4.7 | 3.9 | 3.7 | 5.3 | 3.6 | 13.0 | 31.3 | 43.6 | 10.7 | 8.6 | 12.8 | | | | 0.3 | 0.3 | | 0.3 | 0.7 | 0.1 | 0.4 | 7.1 | 1.0 | 7.0 | 5.3 | 2.1 | 2.4 | | 2.1 |
| 2011 | 10.5 | | | | 3.6 | 3.6 | 15.3 | 28.9 | 9.4 | 19.6 | 3.6 | 5.0 | 21.7 | 14.3 | 17.3 | 25.4 | 16.0 | 5.0 | 1.0 | 2.7 | 0.4 | 1.1 | 0.1 | | 0.4 | 2.7 | 5.7 | 44.1 | 15.0 | 14.1 | 1.0 | 1.3 | 2.4 | | 6.8 |
| 2012 | 1.8 | | 1.7 | | 6.8 | 2.3 | 12.9 | 19.9 | 11.1 | 13.4 | 11.9 | 14.6 | 43.4 | 8.9 | 8.9 | 3.7 | 14.9 | 1.8 | 0.5 | 1.1 | 1.9 | 0.4 | 0.1 | 1.3 | 10.4 | 0.9 | 3.1 | 8.3 | 4.9 | 0.1 | 2.3 | 6.4 | 255.0 | | 22.7 |
| 2013 | 0.3 | 3.6 | | | 1.8 | 1.1 | 7.4 | 14.4 | 9.3 | 15.9 | 10.0 | 25.6 | 81.3 | 53.0 | 5.3 | 4.7 | 22.7 | 6.0 | 1.0 | 3.1 | 0.9 | 0.6 | 1.1 | 0.7 | 1.4 | 1.7 | 1.4 | 11.6 | 25.9 | 2.4 | 36.6 | 28.4 | 5.1 | | 9.1 |
| 2014 | 0.8 | | | | | 0.1 | 2.7 | 5.4 | 13.3 | 39.0 | 21.9 | 20.0 | 84.3 | 54.7 | 129.1 | 39.3 | 41.6 | 4.3 | 1.3 | 2.6 | 0.3 | 0.3 | 1.1 | 1.1 | 2.3 | 0.1 | 62.7 | 12.4 | 21.3 | 3.3 | 3.9 | 3.6 | 10.1 | | 9.4 |
| 2015 | 3.4 | 1.0 | | | 0.8 | 2.5 | 3.7 | 4.7 | 6.1 | 22.3 | 28.6 | 28.9 | 16.4 | 32.6 | 24.0 | 3.0 | 17.0 | 20.3 | 5.3 | 11.7 | 1.4 | 4.4 | 1.9 | 1.4 | 2.7 | 1.0 | | 0.3 | 0.6 | 1.7 | 2.1 | 2.0 | 22.4 | 4.7 | 3.3 |
| 2016 | 1.8 | 0.3 | | | 4.5 | 1.4 | 13.6 | 1.4 | 12.6 | 32.4 | 18.4 | 47.3 | 165.4 | 218.9 | 173.0 | 41.9 | 72.5 | 4.3 | | 2.1 | 4.7 | 8.7 | 1.7 | 1.4 | 3.3 | 4.7 | 3.7 | 1.0 | 11.3 | 4.9 | 9.1 | 0.6 | 1.0 | 1.4 | 4.1 |
| 2017 | | | | | 1.0 | 0.2 | 6.0 | 5.7 | 12.9 | 32.6 | 16.7 | 38.4 | 54.7 | 22.3 | 19.7 | 9.7 | 21.9 | 3.0 | 1.5 | 2.1 | | 0.6 | 0.1 | 0.6 | 0.3 | 0.6 | 0.1 | 0.3 | 1.0 | 11.9 | 0.7 | 1.4 | 0.6 | 1.3 | 1.4 |
| 2018 | 0.1 | | | | 0.2 | 0.07 | 4.6 | 6.9 | 5.4 | 16.6 | 10.4 | 12.3 | 13.0 | 39.6 | 76.4 | 15.4 | 20.1 | 2.3 | 1.3 | 1.7 | 0.4 | 3.4 | | 0.9 | | 0.4 | 0.4 | 0.3 | 0.4 | 4.7 | 0.9 | 1.3 | 3.3 | 1.0 | 1.2 |
| 2019 | | 2.8 | | | 2.1 | 1.1 | 2.0 | 6.9 | 9.3 | 28.7 | 18.6 | 19.0 | 15.1 | 26.0 | 38.6 | 38.4 | 20.3 | 2.0 | 0.8 | 1.3 | 0.6 | 0.7 | 0.3 | 0.4 | 0.4 | 0.1 | 0.9 | 0.6 | 0.6 | 0.1 | 0.4 | 1.0 | 8.0 | 9.4 | 1.7 |
| Mean | 3.0 | 0.8 | 0.06 | | 2.6 | 1.5 | 9.8 | 13.8 | 14.2 | 27.2 | 15.6 | 25.0 | 48.6 | 45.8 | 43.2 | 16.2 | 26.1 | 4.6 | 1.2 | 2.8 | 0.9 | 2.1 | 1.7 | 0.9 | 1.7 | 1.4 | 6.1 | 6.6 | 6.6 | 4.5 | 5.1 | 9.1 | 23.2 | 3.6 | 5.3 |

Ring-billed Gull is present at MBO throughout most of the year, entirely absent only in February, though only occasionally present in December and January. By March, spring migrants are already returning. Numbers typically build to a peak around mid-May, although in three years (2007, 2008, and 2011), numbers were highest in early to mid-April. Abundance was particularly high in 2006, 2014, and 2016, but otherwise has been reasonably consistent. Sightings taper off rapidly in early summer, and by July are quite uncommon. Mean daily counts remain low over the first six weeks of fall, with occasional weeks lacking any sightings. At some point between Week 7 and Week 13, there tends to be a sharp spike in abundance, usually only for one week. These peaks have been particularly weak in the past four years, with the mean daily count for the season lower over the past three years than ever before.

HERG: Herring Gull / Goéland argenté (*Larus argentatus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|---------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|------|------|-------|-------|-------|-------|------|-------|-------|-------|
| First | 4-8 | 4-5 | 3-28 | 4-5 | 4-27 | 4-28 | 4-24 | 4-18 | 3-29 | 4-20 | | 4-25 | | 4-22 | 4-8 | 4-14 | 8-8 | 9-13 | 8-9 | 9-6 | 8-27 | 9-23 | 8-23 | 8-13 | 9-14 | 8-4 | 10-3 | 8-24 | 9-15 | 9-17 | 10-5 | 9-3 |
| Peak | 4-18 | 4-24 | 5-10 | 4-18 | 4-27 | 5-18 | 5-21 | 5-5 | 3-29 | 4-20 | | 4-25 | | 4-22 | 5-4 | 4-27 | 10-10 | 9-13 | 10-22 | 9-6 | 10-26 | 10-3 | 8-23 | 8-13 | 9-14 | 10-2 | 10-3 | 10-30 | 9-15 | 10-15 | 10-12 | 9-27 |
| Last | 5-25 | 5-12 | 6-1 | 5-30 | 4-27 | 5-18 | 5-21 | 5-30 | 6-3 | 5-20 | | 5-20 | | 5-27 | 6-1 | 5-22 | 10-27 | 10-29 | 10-30 | 10-27 | 10-26 | 10-24 | 10-4 | 9-24 | 10-19 | 10-27 | 10-18 | 10-30 | 9-15 | 11-5 | 11-4 | 10-20 |
| Span | 48 | 38 | 66 | 56 | 1 | 21 | 28 | 43 | 67 | 31 | | 26 | | 36 | 55 | 40 | 81 | 47 | 83 | 52 | 61 | 32 | 43 | 43 | 36 | 85 | 16 | 68 | 1 | 50 | 31 | 49 |
| # days | 5 | 8 | 15 | 10 | 1 | 2 | 3 | 6 | 6 | 6 | | 4 | | 6 | 13 | 7 | 8 | 6 | 10 | 4 | 4 | 8 | 5 | 2 | 6 | 8 | 2 | 3 | 1 | 5 | 4 | 5 |
| % days | 8 | 12 | 21 | 14 | 1 | 3 | 4 | 9 | 9 | 9 | | 6 | | 9 | 19 | 9 | 9 | 7 | 11 | 4 | 4 | 9 | 5 | 2 | 7 | 9 | 2 | 3 | 1 | 5 | 4 | 5 |
| High | 3 | 7 | 5 | 6 | 1 | 4 | 3 | 3 | 1 | 3 | | 1 | | 6 | 4 | 4 | 4 | 2 | 3 | 1 | 7 | 5 | 2 | 1 | 2 | 2 | 1 | 9 | 1 | 3 | 2 | 3 |
| Total | 10 | 21 | 35 | 18 | 1 | 5 | 6 | 10 | 6 | 10 | | 4 | | 17 | 21 | 11 | 12 | 8 | 18 | 4 | 10 | 16 | 6 | 2 | 7 | 10 | 2 | 11 | 1 | 8 | 6 | 8 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|-------------|------|-----|-----|-----|------|------|------|-----|------|-----|-----|-----|-----|-----|------|------|------|-----|-----|----|------|------|-----|------|------|------|------|------|------|-----|-----|-----|-----|-----|------|------|
| 2005 | | | | | | | | 0.3 | | 0.7 | 0.4 | | | | 0.1 | | 0.2 | | | | | 0.1 | | | | | | 0.1 | | 0.2 | 1.0 | 0.1 | 0.3 | | 0.1 | |
| 2006 | 0.07 | | 1.6 | | | 0.3 | | 0.7 | | 1.7 | | 0.3 | 0.4 | | | | 0.3 | | | | | | | | | | 0.3 | 0.3 | | | 0.3 | 0.1 | 0.1 | | 0.09 | |
| 2007 | | 0.1 | | | 0.2 | 0.07 | 1.0 | 0.3 | | 1.0 | 0.3 | | 1.7 | 0.4 | | 0.3 | 0.5 | | | | | 0.1 | | | | 0.1 | 0.1 | 0.1 | 0.1 | | | 0.4 | 1.4 | | 0.2 | |
| 2008 | 0.1 | 1.5 | | | | 0.3 | | 0.1 | 0.1 | 1.3 | 0.1 | 0.1 | 0.4 | 0.1 | | 0.1 | 0.3 | | | | | | | | | 0.1 | | | | | 0.3 | 0.1 | | 1.1 | 0.04 | |
| 2009 | 0.1 | | | | | 0.03 | | | | | 0.1 | | | | | | 0.01 | | | | | | 0.3 | | | | | | | | | | | 1.1 | 0.1 | |
| 2010 | 0.2 | 0.1 | | | | 0.08 | | | | | 0.1 | | | 0.6 | | 0.07 | | | | | | | | | | | 0.1 | 0.3 | 1.6 | 0.1 | | 0.1 | | 0.2 | | |
| 2011 | | | | | | | | | | 0.1 | 0.3 | | | 0.4 | | 0.09 | | | | | | | | 0.3 | | | 0.1 | | 0.1 | 0.3 | | | | | 0.07 | |
| 2012 | | | | | | | | | | 0.4 | | 0.4 | 0.3 | 0.1 | | 0.1 | 0.1 | | | | | 0.1 | | | | | | 0.1 | | | | | | | 0.02 | |
| 2013 | | | | | | | 0.1 | 0.1 | | | 0.1 | 0.1 | | 0.1 | | 0.1 | 0.09 | | | | | | | | | | 0.3 | 0.1 | 0.3 | 0.1 | | 0.1 | | | 0.08 | |
| 2014 | | | | | | | | | | 0.9 | 0.1 | | | 0.4 | | | 0.1 | | | | 0.1 | | | 0.1 | | | 0.1 | | 0.3 | 0.1 | 0.3 | 0.1 | 0.1 | | 0.1 | |
| 2015 | 0.06 | | | | | 0.04 | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | 0.1 | | | 0.02 | |
| 2016 | | | | | 0.08 | 0.02 | | | | | 0.1 | | 0.3 | 0.1 | | 0.06 | | | | | | | 0.1 | | 0.1 | | | | | | | | 1.3 | | 0.1 | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.01 | |
| 2018 | | | | | | | | | | 0.9 | | 0.1 | 0.4 | 0.6 | 0.4 | | 0.2 | | | | | | | | | | 0.1 | | | | | | 0.4 | 0.1 | 0.4 | 0.08 |
| 2019 | 0.8 | 1.3 | | | | 0.5 | | 0.3 | 0.1 | 0.6 | 0.6 | 1.1 | 0.1 | | | 0.1 | 0.3 | | | | | | | | | | | | 0.1 | 0.3 | | 0.3 | 0.1 | | 0.06 | |
| Mean | 0.1 | 0.3 | 0.2 | | 0.02 | 0.1 | 0.08 | 0.1 | 0.02 | 0.5 | 0.2 | 0.2 | 0.2 | 0.2 | 0.04 | 0.06 | 0.2 | | | | 0.01 | 0.03 | | 0.05 | 0.01 | 0.03 | 0.09 | 0.07 | 0.08 | 0.2 | 0.2 | 0.1 | 0.3 | 0.1 | 0.09 | |

Herring Gull is an uncommon to rare species at MBO for most of the year, but has never yet been observed in summer, or in February. Spring sightings have been scattered throughout the season, though are somewhat more frequent from around mid-April to mid-May; numbers are generally small, with the highest single-day count being only seven individuals on 24 April 2006. In fall, sightings are very scarce over the first six weeks, then slightly more frequent over the rest of the season, though in most weeks still missed in more years than not.

ICGU: Iceland Gull / Goéland arctique (*Larus glaucoides*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | | |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|--|---|
| First | 4-7 | | | | | | | | | | | | | | | 4-7 | | | | | | | | | | | | | | | | | | |
| Peak | 4-7 | | | | | | | | | | | | | | | 4-7 | | | | | | | | | | | | | | | | | | |
| Last | 4-7 | | | | | | | | | | | | | | | 4-7 | | | | | | | | | | | | | | | | | | |
| Span | 1 | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | |
| # days | 1 | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | |
| % days | 2 | | | | | | | | | | | | | | | 2 | | | | | | | | | | | | | | | | | | |
| High | 1 | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | |
| Total | 1 | | | | | | | | | | | | | | | 0 | | | | | | | | | | | | | | | | | | 0 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|------|----|----|----|----|----|----|----|-----|--------|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--|--|
| 2005 | | | | | | | | 0.2 | | | | | | | | | 0.02 | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | 0.01 | | | | | | | | | <0.005 | | | | | | | | | | | | | | | | | | | | |

Iceland Gull has been observed at MBO only once, a single individual flying overhead on 7 April 2005.

GBBG: Great Black-backed Gull / Goéland marin (*Larus marinus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|-------|------|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| First | 4-5 | 4-19 | | 5-30 | | 4-21 | 4-24 | 4-19 | 3-29 | 4-1 | | | 4-9 | | | 4-17 | 9-25 | 9-6 | 9-24 | 10-2 | 10-17 | 10-3 | 9-27 | 9-22 | 8-4 | 10-12 | 10-8 | 8-21 | 9-10 | 10-15 | 9-15 | 9-21 |
| Peak | 4-7 | 4-19 | | 5-30 | | 4-21 | 5-1 | 4-19 | 3-30 | 4-1 | | | 4-9 | | | 4-18 | 10-11 | 9-6 | 10-23 | 10-2 | 10-19 | 10-3 | 10-3 | 9-30 | 8-4 | 10-12 | 10-26 | 8-21 | 9-10 | 10-15 | 9-15 | 9-27 |
| Last | 4-18 | 5-12 | | 5-30 | | 4-21 | 5-10 | 4-29 | 6-5 | 4-24 | | | 4-9 | | | 5-4 | 10-11 | 10-7 | 10-29 | 10-2 | 10-23 | 10-3 | 10-7 | 10-13 | 10-25 | 10-27 | 10-28 | 10-27 | 10-21 | 11-5 | 10-21 | 10-18 |
| Span | 14 | 24 | | 1 | | 1 | 17 | 11 | 69 | 24 | | | 1 | | | 18 | 17 | 32 | 36 | 1 | 7 | 1 | 11 | 22 | 83 | 16 | 21 | 68 | 42 | 22 | 37 | 28 |
| # days | 3 | 3 | | 1 | | 1 | 3 | 2 | 7 | 4 | | | 1 | | | 3 | 3 | 2 | 4 | 1 | 3 | 1 | 7 | 6 | 7 | 3 | 4 | 4 | 5 | 3 | 4 | |
| % days | 5 | 4 | | 1 | | 1 | 4 | 3 | 10 | 6 | | | 1 | | | 4 | 3 | 2 | 4 | 1 | 3 | 1 | 8 | 7 | 8 | 3 | 3 | 4 | 4 | 5 | 3 | 4 |
| High | 2 | 1 | | 2 | | 1 | 4 | 2 | 12 | 4 | | | 1 | | | 3 | 3 | 1 | 2 | 1 | 2 | 2 | 2 | 6 | 2 | 1 | 3 | 1 | 1 | 1 | 2 | 2 |
| Total | 5 | 3 | | 2 | | 1 | 7 | 3 | 24 | 7 | | | 1 | | | 4 | 5 | 2 | 5 | 1 | 5 | 2 | 9 | 14 | 8 | 3 | 5 | 4 | 4 | 5 | 4 | 5 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|------|------|------|------|------|------|-----|------|----|-----|------|----|------|----|------|------|------|-----|-----|----|------|----|------|----|------|------|------|-----|-----|-----|------|-----|------|------|------|------|
| 2005 | | | | | | 0.1 | | 0.5 | | 0.3 | | | | | | | 0.08 | | | | | | | | | | | 0.1 | | 0.2 | 0.5 | | | | 0.06 | |
| 2006 | | | 0.4 | | 0.2 | 0.1 | | | | 0.1 | | | 0.3 | | | | 0.04 | | | | | | | | | 0.1 | | | 0.1 | | | | | | 0.02 | |
| 2007 | | 1.0 | | | | 0.2 | | | | | | | | | | | | | | | | | | | | | 0.3 | | | 0.3 | 0.1 | | | | 0.05 | |
| 2008 | | | | 0.1 | | 0.04 | | | | | | | | | | 0.3 | 0.03 | | | | | | | | | | | 0.1 | | | | | | | 0.01 | |
| 2009 | | | | 0.3 | | 0.08 | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | 0.7 | | | 0.05 |
| 2010 | 0.6 | | | 0.5 | | 0.3 | | | | 0.1 | | | | | | | 0.01 | | | | | | | | | | | | 0.3 | | | | | | 0.02 | |
| 2011 | | | | | | | | | | 0.1 | 0.6 | | 0.3 | | | | 0.1 | | | | | | | | | | | 0.4 | 0.9 | | | | | | 0.1 | |
| 2012 | 0.1 | | | 0.3 | 0.2 | 0.1 | | | | 0.3 | 0.1 | | | | | | 0.04 | | | | | | | | | | | 0.9 | 0.9 | 0.1 | 0.1 | 0.3 | 0.1 | | | 0.2 |
| 2013 | | | | 0.07 | 0.02 | 1.9 | 0.3 | | | 0.1 | 0.1 | | | | 0.1 | 0.9 | 0.3 | | | | 0.3 | | | | | 0.1 | | 0.1 | | | | | | | 0.09 | |
| 2014 | | | | 0.2 | 0.03 | 0.7 | | | | 0.4 | | | | | | | 0.1 | | | | | | | | | | | | | 0.1 | 0.1 | 0.1 | | | 0.03 | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | 0.6 | | | 0.05 | |
| 2016 | | | | 1.0 | 0.2 | | | | | | | | | | | | | | | | | | 0.1 | | 0.1 | | | 0.1 | | | | 0.1 | | | 0.04 | |
| 2017 | | | | | | | | 0.1 | | | | | | | | | 0.01 | | | | | | | | | 0.1 | | 0.1 | | | | 0.3 | | | 0.04 | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | 0.3 | | 0.3 | | 0.3 | | 0.05 |
| 2019 | 0.2 | | | | | 0.04 | | | | | | | | | | | | | | | | | | | | | 0.3 | 0.1 | | | 0.1 | | 0.1 | | | 0.04 |
| Mean | 0.09 | 0.09 | 0.04 | 0.1 | 0.1 | 0.09 | 0.2 | 0.06 | | 0.1 | 0.06 | | 0.04 | | 0.01 | 0.08 | 0.05 | | | | 0.02 | | 0.01 | | 0.01 | 0.03 | 0.02 | 0.1 | 0.1 | 0.1 | 0.07 | 0.1 | 0.08 | 0.06 | 0.05 | |

Great Black-backed Gull has been observed at MBO in all seasons except summer, but its occurrence is rare and irregular. Mean daily abundance at a seasonal scale is marginally higher in winter than in spring or fall; overall, observations tend to be somewhat more frequent in late March to early April and in October.

CATE: Caspian Tern / Sterne caspienne (*Hydroprogne caspia*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | | | | | | | | | | | | | | | | | | 8-13 | | | | | | | | | | | | | | 8-13 |
| Peak | | | | | | | | | | | | | | | | | | 8-13 | | | | | | | | | | | | | | 8-13 |
| Last | | | | | | | | | | | | | | | | | | 8-13 | | | | | | | | | | | | | | 8-13 |
| Span | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | 1 |
| # days | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | 1 |
| % days | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | 1 |
| High | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | 1 |
| Total | | | | | | | | | | | | | | | | | 0 | 1 | | | | | | | | | | | | | | 0 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|------|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | | | | | 0.01 |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | | | | | | | 0.01 | | | | | | | | | | | | | | <0.005 |

Caspian Tern has been observed at MBO only once, a lone individual flying over on 13 August 2006.

BLTE: Black Tern / Guifette noire (*Chlidonias niger*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| First | | | | 5-15 | 5-8 | | | | | | | | | | | 5-11 | | | | | | | | | | | | | | | | 8-7 |
| Peak | | | | 5-15 | 5-8 | | | | | | | | | | | 5-11 | | | | | | | | | | | | | | | | 8-7 |
| Last | | | | 5-15 | 5-8 | | | | | | | | | | | 5-11 | | | | | | | | | | | | | | | | 8-7 |
| Span | | | | 1 | 1 | | | | | | | | | | | 1 | | | | | | | | | | | | | | | 1 | |
| # days | | | | 1 | 1 | | | | | | | | | | | 1 | | | | | | | | | | | | | | | 1 | |
| % days | | | | 1 | 1 | | | | | | | | | | | 1 | | | | | | | | | | | | | | | 1 | |
| High | | | | 1 | 2 | | | | | | | | | | | 2 | | | | | | | | | | | | | | | 1 | |
| Total | | | | 1 | 2 | | | | | | | | | | | 0 | | | | | | | | | | | | | | | 1 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|------|------|----|----|-----|--------|------|-----|----|------|-----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|--------|------|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | 0.1 | | | | | 0.01 | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | 0.3 | | | | | | 0.03 | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | | | | | 0.01 | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | 0.02 | 0.01 | | | | <0.005 | | | | 0.01 | | | | | | | | | | | | | | <0.005 | | |

Black Tern was observed in spring in consecutive years (in early-mid May of 2008 and 2009), and once in the first week of fall in 2012.

COTE: Common Tern / Sterne pierregarin (*Sterna hirundo*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|
| First | | | | | | | | | 5-11 | 5-31 | 5-10 | 5-20 | 5-17 | | 5-17 | 5-17 | | | | | | | | | | | | | | | | | 8-16 |
| Peak | | | | | | | | | 5-11 | 5-31 | 5-17 | 5-20 | 5-17 | | 5-17 | 5-18 | | | | | | | | | | | | | | | | | 8-22 |
| Last | | | | | | | | | 5-11 | 5-31 | 5-17 | 5-22 | 5-20 | | 5-17 | 5-19 | | | | | | | | | | | | | | | | | 9-4 |
| Span | | | | | | | | | 1 | 1 | 8 | 3 | 4 | | 1 | 3 | | | | | | | | | | | | | | | | | 20 |
| # days | | | | | | | | | 1 | 1 | 2 | 2 | 2 | | 1 | 2 | | | | | | | | | | | | | | | | | 3 |
| % days | | | | | | | | | 1 | 1 | 3 | 3 | 3 | | 1 | 2 | | | | | | | | | | | | | | | | | 3 |
| High | | | | | | | | | 1 | 2 | 2 | 2 | 1 | | 2 | 2 | | | | | | | | | | | | | | | | | 2 |
| Total | | | | | | | | | 1 | 2 | 3 | 4 | 2 | | 2 | 1 | | | | | | | | | | | | | | | | | 2 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|------|-----|----|------|------|------|-----|------|------|------|-----|------|------|------|------|----|----|-----|------|-----|-----|-----|------|------|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.02 | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.02 | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.09 | |
| 2013 | | | | | | | | | | | | | 0.1 | | | | 0.01 | | | | | 0.1 | | 0.4 | 0.1 | | 0.4 | | | | | | | | 0.05 | | |
| 2014 | | | | | | | | | | | | | | | | | 0.03 | | | | | | | 0.6 | | 0.1 | | | | | | | | | | 0.02 | |
| 2015 | | | | | | | | | | | | | 0.1 | 0.3 | | | 0.04 | | | | | | | | | | | | | | 0.1 | | | | | 0.08 | |
| 2016 | | | | | | | | | | | | | | | | | 0.06 | 0.5 | | 0.2 | 0.1 | 0.6 | 0.3 | 0.1 | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | 0.03 | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | 0.03 | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | 0.02 | 0.1 | | 0.02 | 0.01 | 0.03 | | 0.01 | 0.02 | 0.06 | 0.1 | 0.02 | 0.01 | 0.03 | 0.02 | | | | 0.01 | | | | 0.02 | | |

Common Tern was first observed at MBO in August 2010, and detected again in fall in five of the next six years, but not thereafter. In spring, the first sighting was in 2013, and it has been recorded every year since except 2018. Except for a late sighting on 31 May in 2014, all others in spring have been seen during a narrow window between 10 May and 22 May. The lone summer sighting in 2016 may have been a late spring migrant or a summer resident from a Montreal-area colony. In fall, sightings are more scattered, generally across the first half of the fall, but with one late record on 12 October 2015.

COLO: Common Loon / Plongeon huard (*Gavia immer*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|---------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|-------|-------|------|------|------|-------|-------|-------|-------|------|------|-------|------|-------|
| First | 5-7 | 4-18 | 4-30 | 4-20 | 4-18 | 4-14 | 4-19 | 4-16 | 4-18 | 4-18 | 4-24 | 4-17 | 4-17 | 4-23 | 4-21 | 4-20 | 9-7 | | 8-8 | 10-17 | 8-2 | 9-29 | 8-25 | 8-1 | 8-25 | 8-4 | 8-23 | 8-25 | 8-1 | 8-31 | | 8-24 |
| Peak | 5-7 | 5-21 | 4-30 | 5-2 | 4-19 | 5-22 | 5-2 | 5-12 | 4-28 | 5-7 | 5-5 | 5-12 | 5-4 | 5-4 | 4-25 | 5-5 | 10-8 | | 9-28 | 10-17 | 8-2 | 9-29 | 10-1 | 10-1 | 10-30 | 8-4 | 9-14 | 9-27 | 9-9 | 10-27 | | 9-24 |
| Last | 5-29 | 6-2 | 5-30 | 5-27 | 5-22 | 5-22 | 5-25 | 6-1 | 5-28 | 5-29 | 5-29 | 5-31 | 5-30 | 5-27 | 5-30 | 5-28 | 10-23 | | 10-17 | 10-17 | 8-2 | 10-5 | 10-7 | 10-18 | 10-30 | 10-25 | 10-11 | 9-27 | 11-4 | 10-27 | | 10-11 |
| Span | 23 | 46 | 31 | 38 | 35 | 39 | 37 | 47 | 41 | 42 | 36 | 45 | 44 | 35 | 40 | 39 | 47 | | 71 | 1 | 1 | 7 | 44 | 79 | 67 | 83 | 50 | 34 | 96 | 58 | | 49 |
| # days | 5 | 13 | 10 | 15 | 13 | 12 | 15 | 16 | 15 | 20 | 25 | 29 | 13 | 21 | 24 | 16 | 8 | | 4 | 1 | 1 | 4 | 6 | 9 | 2 | 6 | 3 | 3 | 5 | 7 | | 5 |
| % days | 8 | 19 | 14 | 21 | 19 | 17 | 21 | 23 | 21 | 29 | 36 | 41 | 19 | 30 | 34 | 24 | 9 | | 4 | 1 | 1 | 4 | 7 | 10 | 2 | 7 | 3 | 3 | 5 | 7 | | 5 |
| High | 2 | 4 | 1 | 6 | 2 | 4 | 5 | 3 | 5 | 2 | 17 | 4 | 8 | 4 | 7 | 5 | 6 | | 3 | 1 | 1 | 1 | 2 | 6 | 2 | 1 | 2 | 2 | 2 | | 2 | |
| Total | 6 | 19 | 10 | 33 | 17 | 18 | 23 | 22 | 28 | 26 | 75 | 52 | 22 | 37 | 58 | 30 | 17 | | 6 | 1 | 1 | 4 | 8 | 14 | 3 | 6 | 4 | 4 | 7 | 8 | | 6 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | | |
|------|------|-----|-----|-----|-----|--------|----|----|------|-----|-----|-----|-----|-----|-----|------|-----|------|------|------|------|------|------|------|------|------|------|------|-----|-----|------|------|------|------|------|------|------|--|
| 2005 | | | | | | | | | | | | 0.3 | 0.3 | | 0.3 | | 0.1 | | 0.06 | 0.03 | | | | | | 0.1 | | 0.6 | 0.2 | 1.5 | 0.2 | 0.1 | | | | 0.2 | | |
| 2006 | | | | | | | | | | 0.4 | 0.3 | 0.7 | 0.3 | 0.7 | | 0.3 | 0.3 | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | 0.3 | 0.1 | 0.6 | | 0.3 | 0.1 | 0.1 | | | | | 0.1 | | 0.1 | | | | | 0.4 | | | | 0.1 | | | 0.07 | | |
| 2008 | | | | | | | | | | 0.7 | 0.9 | 1.1 | 0.4 | 0.3 | 1.3 | | 0.5 | | | | | | | | | | | | | | | 0.1 | | | | 0.01 | | |
| 2009 | | | | | | | | | | 0.6 | | 0.7 | 0.7 | 0.4 | | | 0.2 | | | | | 0.1 | | | | | | | | | | | | | | | 0.01 | |
| 2010 | | | | | | | | | 0.1 | 0.3 | 0.4 | 0.1 | 0.7 | 0.9 | | | 0.3 | | | | | | | | | | | 0.1 | 0.4 | | | | | | | | 0.04 | |
| 2011 | | | | | | | | | | 0.7 | 0.6 | 1.3 | 0.4 | 0.1 | 0.1 | | 0.3 | | | | | | | 0.1 | | | 0.1 | 0.4 | 0.4 | | | | | | | | 0.09 | |
| 2012 | | | | | | | | | 0.1 | 0.3 | 0.4 | 0.1 | 1.3 | 0.4 | 0.3 | 0.1 | 0.3 | | | | | 0.1 | 0.1 | 0.1 | | 0.1 | | 0.1 | 0.9 | 0.1 | 0.1 | 0.1 | | | | 0.2 | | |
| 2013 | | | | | | | | | | 0.3 | 1.3 | 1.4 | 0.6 | | 0.4 | | 0.4 | | | | | | | 0.1 | | | | | | | | | | 0.3 | | | 0.03 | |
| 2014 | | | | | | | | | | 0.6 | 0.1 | 0.7 | 0.9 | 0.7 | 0.7 | | 0.4 | | | | | 0.1 | | | 0.1 | | 0.4 | | | | | | 0.1 | | | | 0.07 | |
| 2015 | 0.06 | | | | | 0.04 | | | | 0.3 | 1.4 | 5.9 | 1.7 | 0.7 | 0.7 | | 1.1 | | | | | | | 0.1 | | | 0.3 | | | | 0.1 | | | | | | 0.04 | |
| 2016 | | | | | | | | | 0.1 | 1.0 | 0.7 | 0.6 | 2.3 | 2.1 | 0.3 | 0.3 | 0.7 | 0.3 | | 0.1 | | | 0.1 | 0.1 | | | | 0.3 | | | | | | | | | 0.04 | |
| 2017 | | | | | | | | | 0.1 | 0.4 | 0.3 | 1.1 | 0.6 | 0.3 | 0.1 | 0.1 | 0.3 | | | | | 0.1 | | | 0.1 | 0.3 | | | | | 0.3 | | 0.3 | 0.1 | | | 0.07 | |
| 2018 | | | | | | | | | | 0.3 | 1.1 | 1.3 | 1.0 | 0.7 | 0.9 | | 0.5 | | | | | | | 0.1 | 0.1 | 0.1 | 0.1 | | | 0.3 | | | 0.3 | | | | 0.08 | |
| 2019 | | | | | | | | | | 0.3 | 1.7 | 3.0 | 1.3 | 1.1 | 0.7 | 0.1 | 0.8 | | | | | | | | | | | | | | | | | | | | | |
| Mean | 0.01 | | | | | <0.005 | | | 0.04 | 0.4 | 0.6 | 1.2 | 0.9 | 0.6 | 0.4 | 0.08 | 0.4 | 0.01 | 0.01 | 0.01 | 0.04 | 0.02 | 0.01 | 0.05 | 0.04 | 0.05 | 0.06 | 0.07 | 0.2 | 0.2 | 0.05 | 0.06 | 0.05 | 0.03 | 0.06 | | | |

Common Loon is primarily an uncommon spring and rare fall migrant at MBO, with observations only twice in summer, and once in early winter. In spring, the earliest Common Loons are almost always observed in mid-late April, and have extended into early June only twice; peak numbers have been observed in Week 6 or 7 in every year except 2008 and 2010. Seasonal totals have fluctuated somewhat over time, but on average have tended to be slightly higher in recent years. In fall, sightings have spanned almost the entire season, but show an overall slight peak only around late September to early October. Aside from an exceptional count of 17 individuals on 5 May 2015, the single-day maximum count for the species in any season is 7.

NOGA: Northern Gannet / Fou de Bassan (*Morus bassanus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| First | | | | | | | | | | | | | | | | | | | | 9-7 | | | | | | | | | | | 9-7 | |
| Peak | | | | | | | | | | | | | | | | | | | | 9-7 | | | | | | | | | | | | 9-7 |
| Last | | | | | | | | | | | | | | | | | | | | 9-7 | | | | | | | | | | | | 9-7 |
| Span | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | 1 |
| # days | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | 1 |
| % days | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | 1 |
| High | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | 1 |
| Total | | | | | | | | | | | | | | | | | 0 | | | 1 | | | | | | | | | | | | 0 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--|--------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | <0.005 |

Only one Northern Gannet has been observed at MBO, an exceptional sighting on 7 September 2008 as it flew overhead following passage of a tropical storm.

AMBI: American Bittern / Butor d'Amérique (*Botaurus lentiginosus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | 4-25 | 4-13 | 5-3 | 5-4 | 4-20 | 4-20 | 5-17 | 4-1 | 4-30 | 5-15 | 5-7 | | 4-18 | 4-23 | 4-20 | 4-26 | 8-3 | 8-9 | 8-10 | | | 9-18 | 8-20 | | | | 8-5 | 8-4 | | | | 8-14 |
| Peak | 4-25 | 4-13 | 5-3 | 5-4 | 4-21 | 4-20 | 5-21 | 4-10 | 4-30 | 5-15 | 5-7 | | 4-18 | 4-23 | 4-20 | 4-27 | 8-3 | 8-9 | 8-10 | | | 9-18 | 8-20 | | | | 8-5 | 8-4 | | | | 8-14 |
| Last | 5-31 | 5-27 | 5-30 | 5-18 | 5-8 | 4-20 | 6-5 | 6-2 | 6-4 | 5-15 | 5-7 | | 5-30 | 5-26 | 5-6 | 5-20 | 9-17 | 8-9 | 8-10 | | | 9-18 | 8-20 | | | | 8-5 | 8-14 | | | | 8-22 |
| Span | 37 | 45 | 28 | 15 | 19 | 1 | 20 | 63 | 36 | 1 | 1 | | 43 | 34 | 17 | 26 | 46 | 1 | 1 | | | 1 | 1 | | | 1 | 11 | | | | 9 | |
| # days | 6 | 4 | 3 | 3 | 6 | 1 | 14 | 8 | 5 | 1 | 1 | | 5 | 3 | 4 | 5 | 3 | 1 | 1 | | | 1 | 1 | | | 1 | 2 | | | | 1 | |
| % days | 10 | 6 | 4 | 4 | 9 | 1 | 20 | 11 | 7 | 1 | 1 | | 7 | 4 | 6 | 7 | 3 | 1 | 1 | | | 1 | 1 | | | 1 | 2 | | | | 2 | |
| High | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 2 | 1 | 1 | 2 | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 | | | 1 | 1 | | | | 1 | |
| Total | 6 | 4 | 3 | 3 | 7 | 1 | 15 | 10 | 5 | 1 | 2 | | 5 | 3 | 4 | 5 | 3 | 1 | 1 | | | 1 | 1 | | | 1 | 2 | | | | 1 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|------|------|------|-----|------|-----|------|------|-----|------|------|-----|-----|----|------|------|------|----|----|----|------|-----|----|-----|-----|-----|-----|-----|----|--------|------|
| 2005 | | | | | | | | | | | 0.3 | 0.1 | 0.3 | | | 0.2 | 0.1 | | | | 0.3 | | | | | | | 0.1 | | | | | | | | 0.03 | |
| 2006 | | | | | | | | | 0.1 | 0.1 | | | | 0.1 | 0.1 | | 0.06 | | | | | 0.1 | | | | | | | | | | | | | | 0.01 | |
| 2007 | | | | | | | | | | | 0.1 | | | | 0.1 | 0.1 | 0.04 | | | | | 0.1 | | | | | | | | | | | | | | 0.01 | |
| 2008 | | | | | | | | | | | 0.1 | | | 0.3 | | | 0.04 | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | 0.6 | 0.1 | 0.3 | | | | 0.1 | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | 0.1 | | | | | | 0.01 | | | | | | | | | | 0.1 | | | | | | | | | | 0.01 |
| 2011 | | | | | | | | | | | | | 0.7 | 1.0 | 0.4 | 0.2 | | | | | | | 0.1 | | | | | | | | | | | | | 0.01 | |
| 2012 | | | | | | | 0.1 | 0.6 | | 0.6 | | | | | | 0.1 | 0.1 | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | 0.3 | 0.1 | | 0.1 | | 0.1 | 0.07 | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | 0.1 | | | | 0.01 | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | 0.3 | | | | | 0.03 | | | | 0.1 | | | | | | | | | | | | | | | | 0.01 |
| 2016 | | | | | | | | | | | | | | | | | | | | | 0.1 | 0.1 | | | | | | | | | | | | | | | 0.02 |
| 2017 | | | | | | | | | | | 0.4 | | | | 0.1 | 0.1 | 0.07 | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | 0.1 | | 0.1 | | | | 0.04 | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | 0.1 | | 0.4 | | | | 0.06 | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | 0.01 | 0.04 | 0.01 | 0.1 | 0.05 | 0.1 | 0.03 | 0.09 | 0.1 | 0.08 | 0.07 | | | | 0.04 | 0.03 | 0.01 | | | | 0.02 | | | | | | | | | <0.005 | |

American Bittern is a rare but regular spring bird at MBO, missed only in 2016, but with a total count of seven or fewer in all years except 2011 and 2012. The majority of records are between mid-April and early May, although in 2011 there were regular sightings from the middle of May to early June. There have not been any summer sightings yet, but 40% of all fall sightings have been in the first week of August, and there have been only two observations past the end of August, both around mid-September.

LEBI: Least Bittern / Petit Blongios (*Ixobrychus exilis*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| First | | | | | | | | | | | | | | | | 9-4 | | | | | | | | | | | | | | | 9-4 | |
| Peak | | | | | | | | | | | | | | | | 9-4 | | | | | | | | | | | | | | | 9-4 | |
| Last | | | | | | | | | | | | | | | | 9-4 | | | | | | | | | | | | | | | 9-4 | |
| Span | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | 1 | | |
| # days | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | 1 | | |
| % days | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | 1 | | |
| High | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | 1 | | |
| Total | | | | | | | | | | | | | | | | 0 | | | | | | | | | | | | | | | 0 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|----|----|----|------|----|----|----|----|-----|-----|-----|-----|-----|------|--------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | 0.01 | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | | | | | | | | | | 0.01 | | | | | | | | | | | <0.005 |

Only one Least Bittern has been recorded at MBO, a lone individual calling from across the farm field on 4 September 2005.

GBHE: Great Blue Heron / Grand Héron (*Ardea herodias*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|---------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-------|-------|-------|------|------|-------|-------|-------|-------|-------|-------|------|-------|-------|------|-------|
| First | 4-5 | 4-7 | 4-8 | 3-31 | 3-28 | 4-2 | 3-31 | 4-2 | 4-5 | 4-2 | 4-2 | 4-8 | 4-2 | 4-19 | 4-12 | 4-4 | 8-1 | 8-1 | 8-8 | 8-1 | 8-5 | 8-6 | 8-1 | 8-4 | 8-1 | 8-1 | 8-1 | 8-1 | 8-2 | 8-2 | 8-1 | 8-2 |
| Peak | 5-17 | 4-21 | 5-27 | 5-14 | 5-24 | 5-23 | 4-24 | 5-9 | 5-5 | 4-18 | 5-1 | 4-19 | 5-17 | 5-8 | 4-19 | 5-6 | 8-2 | 8-1 | 8-8 | 8-12 | 8-26 | 8-6 | 8-12 | 8-8 | 8-1 | 8-1 | 8-4 | 8-1 | 8-2 | 8-2 | 8-1 | 8-5 |
| Last | 6-3 | 6-4 | 6-5 | 6-5 | 6-1 | 6-3 | 6-5 | 6-3 | 5-31 | 6-1 | 6-1 | 5-31 | 6-2 | 5-30 | 6-1 | 6-2 | 10-18 | 10-17 | 10-18 | 10-5 | 10-6 | 10-18 | 10-29 | 10-25 | 10-11 | 10-25 | 10-11 | 10-6 | 10-17 | 10-14 | 11-3 | 10-16 |
| Span | 60 | 59 | 59 | 67 | 66 | 63 | 67 | 63 | 57 | 61 | 61 | 54 | 62 | 42 | 51 | 59 | 79 | 78 | 72 | 66 | 63 | 74 | 90 | 83 | 72 | 86 | 72 | 67 | 77 | 74 | 95 | 77 |
| # days | 30 | 53 | 45 | 47 | 30 | 29 | 17 | 26 | 26 | 23 | 15 | 21 | 24 | 20 | 16 | 28 | 22 | 22 | 27 | 21 | 21 | 18 | 21 | 36 | 15 | 40 | 20 | 19 | 25 | 22 | 21 | 23 |
| % days | 51 | 77 | 64 | 67 | 43 | 41 | 24 | 37 | 37 | 34 | 21 | 30 | 34 | 29 | 23 | 41 | 25 | 24 | 30 | 23 | 23 | 20 | 23 | 40 | 16 | 44 | 20 | 19 | 26 | 22 | 21 | 25 |
| High | 3 | 7 | 10 | 14 | 4 | 4 | 7 | 4 | 3 | 2 | 2 | 2 | 4 | 3 | 4 | 5 | 2 | 4 | 2 | 3 | 2 | 5 | 6 | 4 | 6 | 5 | 2 | 4 | 3 | 4 | 4 | 4 |
| Total | 39 | 171 | 139 | 119 | 49 | 40 | 34 | 44 | 36 | 31 | 18 | 24 | 40 | 26 | 22 | 55 | 27 | 27 | 34 | 24 | 22 | 25 | 36 | 60 | 22 | 62 | 22 | 29 | 34 | 34 | 32 | 33 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|------|------|-----|-----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|-----|
| 2005 | | | | | | 0.02 | 0.5 | 0.1 | 0.2 | 0.3 | 0.7 | 0.6 | 1.3 | 1.1 | 1.2 | 0.7 | 0.9 | 1.6 | 1.3 | 0.7 | 0.3 | 0.4 | 0.6 | 0.4 | 0.1 | 0.3 | | 0.5 | 0.2 | | 0.4 | | | 0.3 | |
| 2006 | | 0.07 | | | | 0.02 | | 0.3 | 1.7 | 2.6 | 2.0 | 4.9 | 2.4 | 3.4 | 4.4 | 2.7 | 2.5 | 1.2 | 1.2 | 1.2 | 1.3 | 0.1 | 0.1 | 0.1 | | 0.3 | 0.7 | 0.3 | 0.1 | 0.3 | 0.3 | 0.1 | | | 0.3 |
| 2007 | 0.06 | 0.1 | | | | 0.04 | | 0.4 | | 1.4 | 0.9 | 4.1 | 3.3 | 2.3 | 4.9 | 2.6 | 2.0 | 1.3 | 0.3 | 0.8 | | 0.6 | 0.6 | 0.9 | 0.4 | 0.6 | 1.1 | | 0.6 | | 0.1 | | | 0.4 | |
| 2008 | | | | | | 0.04 | 0.3 | 0.7 | 0.6 | 1.7 | 1.6 | 1.9 | 3.7 | 1.6 | 3.4 | 1.6 | 1.7 | 0.4 | | 0.2 | 0.4 | 1.1 | 0.3 | 0.1 | 0.1 | 0.1 | 0.1 | 0.4 | 0.4 | 0.1 | | | | 0.3 | |
| 2009 | | | | | | 0.04 | 0.3 | | 0.1 | 0.7 | 0.4 | 0.6 | 1.1 | 1.6 | 1.7 | 0.4 | 0.7 | | | 0.3 | 0.2 | 0.1 | 0.4 | 0.6 | 0.7 | | 0.3 | 0.4 | 0.4 | 0.1 | | | | 0.2 | |
| 2010 | | | | | 0.08 | 0.02 | 0.1 | | 0.1 | 1.0 | 0.3 | 0.9 | 1.0 | 0.7 | 1.3 | 0.3 | 0.6 | | | | 0.9 | 0.3 | 0.1 | 0.4 | 0.1 | 0.4 | 0.7 | 0.3 | | 0.1 | | 0.1 | | 0.3 | |
| 2011 | | | | | | 0.02 | 0.1 | 0.3 | 0.1 | 1.1 | 0.4 | 0.4 | 0.3 | 0.6 | 0.4 | 1.0 | 0.5 | | | | 0.7 | 1.3 | 0.7 | 0.4 | 0.3 | 0.3 | 0.7 | 0.1 | 0.1 | 0.1 | | 0.1 | 0.1 | | 0.4 |
| 2012 | | | | | 0.2 | 0.04 | 0.1 | 0.1 | 0.1 | 0.4 | 0.3 | 1.1 | 1.1 | 1.0 | 1.1 | 0.7 | 0.6 | | | 0.3 | 0.1 | 0.1 | 1.3 | 1.4 | 0.1 | 0.3 | 2.1 | 1.3 | 0.7 | 0.7 | 0.1 | 0.1 | | 0.7 | |
| 2013 | | | | | | 0.04 | | 0.3 | | 0.7 | 0.6 | 1.1 | 0.7 | 0.7 | 0.7 | 0.3 | 0.5 | | | 0.3 | 0.1 | 1.0 | 0.4 | 0.1 | 0.1 | 0.1 | | 0.3 | 0.1 | 0.7 | 0.1 | | | 0.2 | |
| 2014 | | | | | | 0.04 | 0.2 | 0.1 | 0.3 | 0.9 | 0.4 | 0.3 | 0.1 | 0.9 | 0.9 | 0.5 | 0.5 | | | 0.5 | 0.3 | 1.4 | 0.6 | 1.1 | 1.3 | 1.0 | 1.3 | 1.0 | 0.3 | 0.1 | 0.4 | 0.1 | | 0.1 | 0.7 |
| 2015 | | | | | | 0.04 | 0.1 | | 0.1 | 0.3 | 0.6 | 0.7 | | 0.3 | 0.3 | 0.1 | 0.3 | | | | 0.4 | 0.1 | 0.1 | 0.9 | 0.3 | 0.3 | 0.1 | 0.3 | 0.4 | | 0.1 | | | 0.2 | |
| 2016 | | | | | | 0.04 | | 0.1 | | 0.9 | | 0.1 | 0.7 | 0.7 | 0.6 | 0.3 | 0.3 | | | 0.3 | 0.1 | 1.1 | 0.7 | 1.0 | 0.4 | 0.3 | | 0.1 | 0.3 | | 0.1 | | | 0.3 | |
| 2017 | | | | | | 0.04 | 0.1 | | | 0.4 | 0.6 | 0.3 | 0.1 | 2.0 | 1.6 | 0.6 | 0.6 | | | | 0.6 | 0.9 | 0.3 | 1.0 | 0.3 | 0.7 | 0.3 | | 0.4 | 0.3 | | 0.1 | | 0.3 | |
| 2018 | | | | | | 0.04 | | | | 0.7 | 0.4 | 0.9 | 1.0 | 0.3 | 0.3 | 0.1 | 0.4 | | | 0.3 | 0.1 | 1.3 | 0.7 | 0.6 | 0.1 | 0.3 | | 0.3 | 0.9 | 0.6 | 0.1 | | | 0.3 | |
| 2019 | | | | | | 0.04 | | | | 0.1 | 0.7 | 0.1 | 0.4 | 0.6 | 0.6 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 1.0 | 1.3 | 0.7 | 0.3 | 0.3 | 0.3 | | 0.1 | | 0.1 | | | 0.1 | 0.3 |
| Mean | 0.01 | 0.02 | | | 0.02 | 0.01 | 0.1 | 0.2 | 0.2 | 0.9 | 0.6 | 1.2 | 1.1 | 1.2 | 1.5 | 0.8 | 0.8 | 0.5 | 0.6 | 0.6 | 0.7 | 0.7 | 0.6 | 0.5 | 0.3 | 0.5 | 0.5 | 0.2 | 0.3 | 0.3 | 0.08 | 0.08 | 0.03 | 0.03 | 0.4 |

From 2008 through 2012, the earliest Great Blue Heron arrivals tended to be in late March, but otherwise early April has been the norm until the past two years, when they were not observed until mid-April. There is often not a particularly defined peak to migration, with the highest counts ranging between Week 4 and Week 9 depending on the year. Most years it has been uncommon in spring, with notably higher numbers only from 2006 through 2008. Summer sightings are irregular, and as in spring and fall involved birds visiting from breeding colonies elsewhere in the region. Sightings are regular throughout the first two-thirds of fall, and more sporadic over the final month; there has been less variation among years than in spring.

GREG: Great Egret / Grande Aigrette (*Ardea alba*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|------|------|------|------|------|------|------|
| First | | | | | | 4-22 | 5-22 | | | 5-23 | 5-1 | | 5-16 | | 5-13 | 5-11 | | | | | | | 10-12 | 8-21 | 8-16 | | 8-2 | 9-16 | 8-6 | | | 8-27 |
| Peak | | | | | | 4-22 | 5-22 | | | 5-23 | 5-1 | | 5-16 | | 5-13 | 5-11 | | | | | | | 10-12 | 8-21 | 8-16 | | 8-2 | 9-16 | 9-20 | | | 9-4 |
| Last | | | | | | 4-22 | 6-1 | | | 5-23 | 5-1 | | 5-16 | | 5-18 | 5-13 | | | | | | | 10-12 | 8-21 | 9-26 | | 8-25 | 9-16 | 9-20 | | | 9-14 |
| Span | | | | | | 1 | 11 | | | 1 | 1 | | 1 | | 6 | 4 | | | | | | | 1 | 1 | 42 | | 24 | 1 | 46 | | | 19 |
| # days | | | | | | 1 | 3 | | | 1 | 1 | | 1 | | 2 | 2 | | | | | | | 1 | 1 | 2 | | 2 | 1 | 2 | | | 2 |
| % days | | | | | | 1 | 4 | | | 1 | 1 | | 1 | | 3 | 2 | | | | | | | 1 | 1 | 2 | | 2 | 1 | 2 | | | 2 |
| High | | | | | | 1 | 1 | | | 1 | 1 | | 1 | | 3 | 1 | | | | | | | 1 | 2 | 2 | | 1 | 1 | 2 | | | 2 |
| Total | | | | | | 1 | 3 | | | 1 | 1 | | 1 | | 4 | 1 | | | | | | | 1 | 2 | 3 | | 2 | 1 | 3 | | | 1 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|------|------|----|------|------|------|------|------|------|-----|------|--------|------|-----|------|------|----|------|------|------|-----|------|-----|-----|-----|--------|------|------|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | 0.1 | | | | | | | 0.01 | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | 0.1 | | 0.3 | 0.04 | | | | | | | | | | | | | | | | | | | 0.01 | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | 0.3 | | | | | | | | | | | | | 0.02 | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | 0.3 | | | | | | 0.1 | | | | | | | 0.03 | |
| 2014 | | | | | | | | | | | | | | | 0.1 | | 0.01 | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | 0.1 | | | | | | | 0.01 | | | | | 0.1 | | 0.1 | | | | | | | | | | | | 0.02 | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | 0.01 | |
| 2017 | | | | | | | | | | | | | | 0.1 | | | 0.01 | | 0.3 | 0.1 | 0.1 | | | | | | | 0.3 | | | | | | | 0.03 | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | 0.4 | 0.1 | | | 0.06 | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 0.01 | 0.01 | | 0.03 | 0.03 | 0.01 | 0.02 | 0.01 | 0.01 | | 0.01 | <0.005 | 0.02 | | 0.04 | 0.01 | | 0.01 | 0.02 | 0.01 | | 0.01 | | | | <0.005 | | | |

Great Egret has become increasingly established in the Montreal region over the past two decades. The first sighting at MBO was in April 2010; since then there have been spring observations in five additional years. In fall, there were sightings in six of seven years between 2011 and 2017, ranging widely across the season.

GRHE: Green Heron / Héron vert (*Butorides virescens*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|------|-------|------|------|------|
| First | 5-16 | 5-6 | 5-16 | 5-11 | 4-24 | 5-4 | 5-7 | 5-5 | 5-8 | 5-10 | 5-7 | 5-10 | 4-22 | 4-26 | 5-12 | 5-6 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-12 | 8-3 | 8-4 | 8-1 | 8-5 | 8-1 | 8-2 | 8-6 | 8-1 | 8-2 |
| Peak | 5-25 | 5-28 | 5-22 | 5-28 | 5-12 | 5-28 | 5-11 | 5-19 | 5-8 | 5-14 | 5-7 | 5-29 | 5-2 | 5-29 | 6-3 | 5-19 | 9-6 | 8-17 | 8-8 | 8-3 | 8-16 | 8-1 | 9-2 | 8-4 | 8-4 | 8-3 | 8-25 | 8-18 | 8-2 | 8-6 | 8-7 | 8-12 |
| Last | 6-1 | 6-4 | 6-5 | 6-3 | 6-3 | 5-29 | 6-5 | 5-27 | 5-29 | 5-31 | 5-28 | 6-3 | 5-30 | 5-29 | 6-3 | 5-31 | 9-27 | 9-24 | 10-6 | 9-10 | 9-25 | 9-23 | 9-4 | 8-19 | 10-10 | 9-24 | 9-22 | 9-4 | 10-16 | 9-2 | 8-19 | 9-17 |
| Span | 17 | 30 | 21 | 24 | 41 | 26 | 30 | 23 | 22 | 22 | 22 | 25 | 39 | 34 | 23 | 27 | 58 | 55 | 67 | 41 | 56 | 54 | 24 | 17 | 68 | 55 | 49 | 35 | 76 | 28 | 19 | 47 |
| # days | 7 | 19 | 7 | 21 | 22 | 7 | 13 | 8 | 8 | 21 | 8 | 16 | 12 | 10 | 9 | 13 | 13 | 29 | 23 | 14 | 21 | 8 | 4 | 9 | 3 | 16 | 8 | 13 | 9 | 3 | 12 | 12 |
| % days | 12 | 28 | 10 | 30 | 32 | 10 | 19 | 11 | 11 | 31 | 11 | 23 | 17 | 14 | 13 | 18 | 15 | 32 | 25 | 15 | 23 | 9 | 4 | 10 | 3 | 18 | 8 | 13 | 9 | 3 | 12 | 13 |
| High | 4 | 3 | 2 | 3 | 2 | 4 | 2 | 3 | 1 | 3 | 1 | 3 | 2 | 2 | 2 | 2 | 3 | 6 | 4 | 5 | 5 | 1 | 3 | 3 | 1 | 5 | 3 | 3 | 1 | 1 | 3 | 3 |
| Total | 11 | 28 | 8 | 34 | 23 | 11 | 17 | 13 | 8 | 38 | 8 | 21 | 15 | 11 | 10 | 17 | 18 | 50 | 45 | 23 | 34 | 8 | 6 | 16 | 3 | 26 | 10 | 17 | 9 | 3 | 15 | 19 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|-----|-----|------|------|
| 2005 | | | | | | | | | | | | | | 0.1 | 0.9 | 0.8 | 0.2 | 0.7 | 0.7 | 0.7 | 0.3 | 0.7 | 0.1 | 0.7 | 0.1 | 0.4 | | | | | | | | 0.2 | |
| 2006 | | | | | | | | | | | | 0.6 | 0.6 | 0.3 | 1.6 | 1.0 | 0.4 | 0.4 | 0.8 | 0.6 | 1.4 | 1.1 | 2.0 | 0.7 | 0.4 | 0.7 | 0.3 | 0.4 | | | | | | | 0.5 |
| 2007 | | | | | | | | | | | | | | 0.7 | 0.3 | 0.1 | 0.1 | 0.1 | 0.3 | 0.2 | 1.1 | 3.0 | 1.1 | 0.4 | 0.3 | 0.3 | | | | | | | | 0.1 | 0.5 |
| 2008 | | | | | | | | | | | | | 0.4 | 1.4 | 1.7 | 1.3 | 0.5 | 1.2 | 1.0 | 1.1 | 2.1 | 0.4 | | 0.3 | 0.3 | 0.1 | | | | | | | | | 0.3 |
| 2009 | | | | | | | | | | 0.1 | | 0.4 | 0.7 | 0.7 | 0.7 | 0.6 | 0.3 | 1.0 | | 0.4 | 0.7 | 1.9 | 1.7 | 0.3 | | | 0.1 | 0.1 | | | | | | | 0.4 |
| 2010 | | | | | | | | | | | | 0.4 | 0.1 | 0.1 | 0.9 | | 0.2 | | | | 0.3 | 0.1 | | | | 0.1 | 0.4 | 0.1 | | | | | | | 0.09 |
| 2011 | | | | | | | | | | | | 0.1 | 0.7 | 0.9 | 0.3 | 0.4 | 0.2 | 0.3 | 0.5 | 0.4 | | 0.1 | | 0.1 | 0.6 | | | | | | | | | 0.07 | |
| 2012 | | | | | | | | | | | | 0.3 | 0.1 | 1.1 | 0.3 | | 0.2 | 0.3 | | 0.1 | 1.0 | 0.6 | 0.7 | | | | | | | | | | | 0.2 | |
| 2013 | | | | | | | | | | | | 0.1 | 0.6 | 0.3 | 0.1 | | 0.1 | | 0.5 | 0.3 | 0.1 | 0.1 | | 0.1 | | | | | | 0.1 | | | | 0.03 | |
| 2014 | | | | | | | | | | | | | 1.3 | 2.0 | 1.9 | 0.3 | 0.6 | 0.3 | 0.3 | 0.3 | 2.0 | 1.0 | 0.1 | 0.1 | 0.1 | 0.1 | | 0.1 | | | | | | 0.3 | |
| 2015 | | | | | | | | | | | | 0.1 | 0.3 | 0.3 | 0.4 | | 0.1 | | 0.3 | 0.1 | 0.1 | | 0.1 | 0.4 | 0.3 | 0.1 | | 0.3 | | | | | | 0.1 | |
| 2016 | | | | | | | | | | | | | 0.9 | 0.6 | 0.7 | 0.9 | 0.3 | 0.5 | 0.3 | 0.4 | 0.6 | 0.6 | 0.6 | 0.4 | 0.3 | | | | | | | | | 0.2 | |
| 2017 | | | | | | | | | | 0.1 | 0.3 | 0.4 | 0.1 | 0.3 | 0.7 | 0.1 | 0.2 | | 0.3 | 0.1 | 0.1 | 0.1 | | 0.1 | 0.3 | 0.3 | 0.1 | | | | | | | 0.09 | |
| 2018 | | | | | | | | | | | 0.3 | 0.1 | 0.1 | 0.3 | 0.7 | | 0.2 | | | | 0.1 | | 0.1 | | 0.1 | | | | | | | | | 0.03 | |
| 2019 | | | | | | | | | | | | | 0.3 | 0.4 | 0.4 | 0.3 | 0.1 | | 0.3 | 0.1 | 1.3 | 0.4 | 0.4 | | | | | | | | | | | 0.2 | |
| Mean | | | | | | | | | | 0.02 | 0.04 | 0.2 | 0.4 | 0.6 | 0.8 | 0.4 | 0.2 | 0.4 | 0.4 | 0.4 | 0.8 | 0.7 | 0.5 | 0.3 | 0.2 | 0.2 | 0.07 | 0.08 | 0.01 | 0.01 | 0.02 | | | 0.2 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|------|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|------|---|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | 1 | |
| Mean | | | | | | | | | | | | | | | | | | | | | 0.07 | | | | | | | | | | | | | | 0.07 | | |

Green Heron is typically present at MBO from around early May to early September, although infrequently observed. In spring, Green Herons have arrived in late April in just three years, but mostly peak in mid-late May. Summer sightings have been somewhat scarcer in recent years, suggesting that breeding may be less regular than in the past. Fall numbers are highest in the first half of August, taper off until mid-September, and are rare thereafter, with only three records extending into October. Only one has been banded, in August 2019.

BCNH: Black-crowned Night-Heron / Bihoreau gris (*Nycticorax nycticorax*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| First | 4-28 | 4-30 | | | 4-21 | | 5-13 | | | | | | | | | 4-30 | | | | | | | | | | | | | | | | 8-5 |
| Peak | 4-28 | 4-30 | | | 4-21 | | 5-13 | | | | | | | | | 4-30 | | | | | | | | | | | | | | | | 8-5 |
| Last | 4-28 | 4-30 | | | 4-21 | | 5-13 | | | | | | | | | 4-30 | | | | | | | | | | | | | | | | 8-5 |
| Span | 1 | 1 | | | 1 | | 1 | | | | | | | | | 1 | | | | | | | | | | | | | | | | 1 |
| # days | 1 | 1 | | | 1 | | 1 | | | | | | | | | 1 | | | | | | | | | | | | | | | | 1 |
| % days | 2 | 1 | | | 1 | | 1 | | | | | | | | | 1 | | | | | | | | | | | | | | | | 1 |
| High | 1 | 1 | | | 2 | | 1 | | | | | | | | | 1 | | | | | | | | | | | | | | | | 1 |
| Total | 1 | 1 | | | 2 | | 1 | | | | | | | | | 0 | | | | | | | | | | | | | | | | 0 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|------|------|----|------|----|----|-----|--------|-----|-----|----|------|------|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|--------|------|
| 2005 | | | | | | | | | | | 0.1 | | | | | | 0.02 | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | 0.1 | | | | | | 0.01 | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | 0.3 | | | | | | 0.03 | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | 0.1 | | | | 0.01 | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.01 |
| 2013 | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | | | | | 0.01 |
| 2014 | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | | | | | 0.01 |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | 0.02 | 0.02 | | 0.01 | | | | <0.005 | | | | 0.02 | 0.01 | | | | | | | | | | | | | <0.005 | |

Black-crowned Night Heron is an irregular visitor to MBO, which has not been observed over the past 5 years. In spring, it was observed once per year in 2005, 2006, 2009, and 2011, most often in late April. Fall observations were all within the first two weeks of August, and only between 2012 and 2014.

TUVU: Turkey Vulture / Urubu à tête rouge (*Cathartes aura*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|------|-------|
| First | 4-18 | 3-31 | 4-10 | 4-18 | 4-11 | 4-8 | 4-4 | 3-31 | 3-31 | 4-18 | 4-18 | 3-28 | 4-9 | 4-7 | 4-2 | 4-8 | 8-22 | 8-5 | 9-25 | 8-10 | 8-20 | 8-1 | 8-1 | 8-7 | 8-7 | 8-4 | 8-4 | 8-7 | 8-11 | 8-2 | 8-1 | 8-10 |
| Peak | 4-18 | 5-29 | 5-6 | 4-27 | 4-29 | 4-21 | 5-9 | 5-12 | 5-18 | 4-20 | 4-19 | 5-10 | 4-9 | 4-27 | 5-1 | 5-1 | 10-20 | 10-29 | 9-25 | 10-17 | 9-25 | 10-3 | 9-18 | 9-27 | 9-25 | 9-18 | 10-8 | 9-23 | 11-4 | 10-6 | 10-5 | 10-4 |
| Last | 5-31 | 5-31 | 5-30 | 5-30 | 6-1 | 5-31 | 6-1 | 6-1 | 6-4 | 6-1 | 5-30 | 5-31 | 6-1 | 6-1 | 5-30 | 5-31 | 10-20 | 10-30 | 9-25 | 10-17 | 10-23 | 10-24 | 10-27 | 10-24 | 10-24 | 10-22 | 10-23 | 11-6 | 11-4 | 10-26 | 11-6 | 10-24 |
| Span | 44 | 62 | 51 | 43 | 52 | 54 | 59 | 63 | 66 | 45 | 43 | 65 | 54 | 56 | 59 | 54 | 60 | 87 | 1 | 69 | 65 | 85 | 88 | 79 | 79 | 80 | 81 | 92 | 86 | 86 | 98 | 76 |
| # days | 7 | 20 | 18 | 19 | 24 | 31 | 34 | 31 | 40 | 36 | 33 | 32 | 27 | 32 | 31 | 28 | 7 | 11 | 1 | 6 | 12 | 15 | 25 | 22 | 9 | 18 | 47 | 33 | 31 | 32 | 42 | 21 |
| % days | 12 | 29 | 26 | 27 | 35 | 44 | 49 | 44 | 57 | 53 | 47 | 46 | 39 | 46 | 44 | 40 | 8 | 12 | 1 | 7 | 13 | 16 | 27 | 24 | 10 | 20 | 48 | 34 | 32 | 33 | 43 | 22 |
| High | 5 | 6 | 5 | 5 | 6 | 10 | 7 | 6 | 10 | 6 | 10 | 6 | 10 | 13 | 10 | 8 | 3 | 5 | 1 | 3 | 16 | 30 | 8 | 69 | 8 | 7 | 71 | 14 | 31 | 40 | 9 | 21 |
| Total | 13 | 35 | 27 | 36 | 57 | 79 | 92 | 69 | 116 | 85 | 93 | 82 | 95 | 115 | 103 | 73 | 9 | 20 | 1 | 10 | 38 | 57 | 67 | 108 | 19 | 36 | 245 | 75 | 128 | 195 | 127 | 76 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|------|-----|-----|-----|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|-----|-----|-----|------|-----|
| 2005 | | | | | | | | | | 0.8 | 0.1 | 0.1 | | 0.6 | 0.1 | 0.2 | 0.2 | 0.3 | | 0.2 | | | | 0.1 | 0.1 | | 0.1 | 0.1 | | 0.3 | | 0.4 | | | 0.1 | |
| 2006 | | | | | | | 0.3 | 0.2 | 0.1 | 0.6 | 0.3 | 1.1 | 0.6 | 0.6 | 1.1 | 0.1 | 0.5 | | | 0.1 | 0.1 | 0.1 | 0.3 | | 0.1 | 0.7 | | | | 0.4 | 0.9 | | | 0.2 | | |
| 2007 | | | | | | | | 0.1 | | 0.3 | 0.3 | 1.7 | 0.6 | 0.1 | 0.6 | 0.1 | 0.4 | 0.4 | 0.2 | 0.3 | | | | | | | 0.1 | | | | | | | | 0.01 | |
| 2008 | | | | | | | | | | 1.4 | 1.0 | 0.3 | 0.9 | 0.6 | 0.9 | 0.1 | 0.5 | | | | | 0.1 | | | | 0.3 | 0.3 | 0.1 | | 0.1 | | 0.4 | | | 0.1 | |
| 2009 | | | | | | | | | 0.6 | 1.3 | 2.3 | 1.9 | 0.4 | 0.4 | 1.0 | 0.3 | 0.8 | | | | | | 0.1 | 0.1 | 0.1 | | | 2.4 | 0.9 | 1.1 | 0.4 | 0.1 | | | 0.4 | |
| 2010 | | | | | 0.5 | 0.1 | | 0.9 | 0.9 | 3.3 | 1.1 | 1.1 | 0.7 | 1.9 | 1.1 | 0.3 | 1.1 | | | | 0.3 | | 0.6 | 0.1 | 0.1 | 0.3 | 0.1 | 0.1 | | 4.9 | 1.0 | 0.4 | 0.1 | | 0.6 | |
| 2011 | | | | | 0.3 | 0.05 | | 0.9 | 1.0 | 1.7 | 1.4 | 3.1 | 3.0 | 1.0 | 0.1 | 0.9 | 1.3 | 0.3 | | 0.1 | 0.6 | 0.3 | 0.1 | 0.3 | 0.3 | 0.4 | 1.3 | 0.3 | 2.6 | 2.3 | 0.1 | | 1.0 | | 0.7 | |
| 2012 | | | | | 0.6 | 0.1 | 0.3 | 0.1 | 0.7 | 0.9 | 1.7 | 1.4 | 1.6 | 0.9 | 2.0 | 0.3 | 1.0 | 0.3 | 0.3 | 0.2 | 0.1 | 0.6 | | 0.1 | 1.3 | 0.4 | 0.1 | 0.7 | 10.1 | 0.6 | | 0.7 | 0.6 | | 1.2 | |
| 2013 | | | | | | | 0.1 | 0.3 | 0.6 | 3.3 | 1.6 | 2.9 | 3.0 | 3.3 | 0.4 | 1.1 | 1.7 | | 0.3 | 0.1 | 0.3 | 0.1 | 0.1 | 0.1 | 0.4 | 0.1 | 0.1 | 1.1 | | | 0.3 | | 0.3 | | 0.2 | |
| 2014 | | | | | | | | | | 2.6 | 2.4 | 1.6 | 3.1 | 1.1 | 1.1 | 0.2 | 1.2 | 0.7 | | 0.3 | 0.1 | 0.3 | 0.9 | 0.3 | 0.3 | 0.1 | 1.0 | 0.1 | 0.4 | 0.3 | 1.0 | 0.3 | | | 0.4 | |
| 2015 | 0.06 | | | | | 0.04 | | | | 2.7 | 2.7 | 3.3 | 0.7 | 1.7 | 2.0 | 0.1 | 1.3 | 0.7 | 0.3 | 0.4 | 0.6 | 0.3 | 0.3 | 1.3 | 2.3 | 1.9 | 1.4 | 1.4 | 2.6 | 11.9 | 10.1 | 1.0 | | 2.5 | | |
| 2016 | | | | | | | 0.1 | | 0.1 | 2.7 | 1.6 | 0.9 | 2.4 | 1.1 | 2.1 | 0.6 | 1.2 | | | | 0.3 | 0.7 | 1.4 | 0.4 | 0.3 | 0.6 | 0.4 | 2.1 | 1.3 | 1.9 | 0.7 | 0.4 | | 0.1 | 0.8 | |
| 2017 | | | | | | | | 1.4 | | 2.1 | 2.7 | 0.9 | 1.3 | 2.7 | 1.9 | 0.6 | 1.4 | | | 1.8 | 1.0 | | 0.1 | 1.1 | 0.3 | 0.3 | 0.6 | 3.7 | 1.9 | 1.9 | 0.1 | 1.9 | 0.3 | 1.7 | 4.4 | 1.3 |
| 2018 | | | | | | | | 0.1 | 0.1 | 4.0 | 2.0 | 4.7 | 2.3 | 1.7 | 0.7 | 0.7 | 1.6 | 1.7 | 0.5 | 1.0 | 0.4 | 1.1 | 1.3 | 0.9 | 1.9 | 2.6 | 0.9 | 0.3 | 0.7 | 12.1 | 4.6 | 1.0 | 0.1 | | 2.0 | |
| 2019 | | | | | | | 0.1 | 0.4 | 0.3 | 1.4 | 3.3 | 2.3 | 2.3 | 2.1 | 2.1 | 0.3 | 1.5 | 0.3 | 0.5 | 0.4 | 0.9 | 0.7 | 1.4 | 2.1 | 0.7 | 2.9 | 1.7 | 1.3 | 0.9 | 3.3 | 1.4 | 0.4 | | 0.4 | 1.3 | |
| Mean | 0.01 | | | | 0.08 | 0.02 | 0.07 | 0.3 | 0.3 | 2.0 | 1.6 | 1.8 | 1.5 | 1.3 | 1.2 | 0.4 | 1.1 | 0.3 | 0.2 | 0.2 | 0.2 | 0.3 | 0.5 | 0.4 | 0.5 | 0.7 | 0.8 | 0.8 | 1.4 | 2.6 | 1.4 | 0.4 | 0.3 | 1.0 | 0.8 | |

Turkey Vulture has been recorded at MBO in all seasons, although the few winter records are either early spring or late fall migrants. More typically, Turkey Vultures arrive in early to mid-April, peaking from late April to mid-May, and remaining fairly regular until dropping off in Week 10. Summer observations are uncommon to rare, but have been more frequent since 2011. In fall, numbers have generally increased over time, aside from a temporary setback in 2013 and 2014. Numbers are generally low in the first half of the season, until flocks of migrants move through, mostly between Weeks 8 and 11. The season's latest migrants typically pass through in the second half of October, but have extended into November in four of the past five years. There was a resident pair at MBO from 2010 to 2015, with single eggs laid in 2011 and 2014, though both were lost to predation.

OSPR: Osprey / Balbuzard pêcheur (*Pandion haliaetus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|-------|------|------|-------|------|------|------|------|------|------|------|
| First | | 4-24 | 4-23 | 4-24 | 4-25 | 4-23 | 4-18 | 4-19 | 4-28 | 4-27 | 4-24 | 4-19 | 5-2 | 4-27 | 4-28 | 4-24 | 10-8 | 9-17 | 9-24 | 8-20 | 8-14 | 10-3 | 9-8 | 9-9 | 9-25 | 9-7 | 8-22 | 8-17 | 9-1 | 8-9 | 8-27 | 9-5 |
| Peak | | 5-4 | 4-23 | 5-6 | 4-25 | 5-15 | 4-25 | 5-5 | 5-4 | 4-27 | 4-24 | 4-19 | 5-2 | 4-27 | 5-8 | 4-30 | 10-8 | 10-7 | 9-24 | 8-20 | 8-14 | 10-3 | 9-8 | 9-9 | 9-25 | 9-18 | 9-16 | 8-17 | 9-1 | 10-8 | 8-27 | 9-13 |
| Last | | 5-8 | 5-10 | 5-6 | 5-11 | 5-31 | 4-30 | 5-14 | 5-30 | 5-22 | 5-21 | 6-1 | 5-23 | 5-17 | 5-17 | 5-17 | 10-8 | 10-7 | 10-21 | 8-20 | 8-14 | 10-30 | 10-1 | 10-1 | 10-12 | 9-24 | 10-4 | 9-30 | 9-30 | 10-8 | 9-25 | 9-29 |
| Span | | 15 | 18 | 13 | 17 | 39 | 13 | 26 | 33 | 26 | 28 | 44 | 22 | 21 | 20 | 24 | 1 | 21 | 28 | 1 | 1 | 28 | 24 | 23 | 18 | 18 | 44 | 45 | 30 | 61 | 30 | 25 |
| # days | | 5 | 5 | 4 | 2 | 4 | 5 | 4 | 7 | 7 | 4 | 5 | 4 | 4 | 6 | 5 | 1 | 4 | 4 | 1 | 1 | 2 | 6 | 3 | 2 | 5 | 4 | 7 | 4 | 9 | 2 | 4 |
| % days | | 7 | 7 | 6 | 3 | 6 | 7 | 6 | 10 | 10 | 6 | 7 | 6 | 6 | 9 | 7 | 1 | 4 | 4 | 1 | 1 | 2 | 7 | 3 | 2 | 5 | 4 | 7 | 4 | 9 | 2 | 4 |
| High | | 9 | 3 | 3 | 1 | 2 | 4 | 4 | 2 | 3 | 1 | 1 | 2 | 1 | 2 | 3 | 1 | 4 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 5 | 2 | 1 | 1 | 2 | 1 | 2 |
| Total | | 16 | 9 | 7 | 2 | 5 | 9 | 7 | 8 | 10 | 4 | 5 | 5 | 4 | 7 | 7 | 1 | 10 | 4 | 1 | 1 | 2 | 9 | 3 | 2 | 11 | 5 | 7 | 4 | 10 | 2 | 5 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|-----|-----|-----|-----|------|------|------|------|-----|-----|----|----|-----|------|------|------|------|------|-----|-----|-----|------|------|------|------|------|------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.01 |
| 2006 | | | | | | | | | | 0.1 | 0.7 | 1.4 | | | | | 0.2 | | | | | | | | | | 0.4 | 0.1 | | 0.9 | | | | | | 0.1 |
| 2007 | | | | | | | | | | 0.4 | 0.4 | 0.3 | 0.1 | | | | 0.1 | | | | | | | | | | | 0.1 | 0.1 | 0.1 | | 0.1 | | | | 0.04 |
| 2008 | | | | | | | | | | 0.1 | 0.1 | 0.7 | | | | | 0.1 | | | | | | | | | | | | | | | | | | | 0.01 |
| 2009 | | | | | | | | | | | 0.1 | | 0.1 | | | | 0.03 | | | | | 0.1 | 0.1 | | | | | | | | | | | | | 0.01 |
| 2010 | | | | | | | | | | 0.1 | | 0.1 | 0.3 | | | 0.1 | 0.07 | | | | | | | | | | | | | 0.1 | | | 0.1 | | | 0.02 |
| 2011 | | | | | | | | | | 0.6 | 0.7 | | | | | | 0.1 | | | | | | | | | 0.3 | 0.3 | 0.1 | 0.6 | | | | | | | 0.1 |
| 2012 | | | | | | | | | | 0.1 | | 0.6 | 0.3 | | | | 0.1 | | | | | | | | | 0.1 | | | 0.1 | | | | | | | 0.03 |
| 2013 | | | | | | | | | | | 0.1 | 0.6 | 0.3 | | | 0.1 | 0.1 | | | | | | | | | | | 0.1 | | | 0.1 | | | | | 0.02 |
| 2014 | | | | | | | | | | 0.4 | 0.1 | 0.6 | 0.3 | | | | 0.1 | | | | | | | | | 0.3 | 0.9 | 0.4 | | | | | | | | 0.1 |
| 2015 | | | | | | | | | | 0.1 | | 0.3 | | 0.1 | | | 0.06 | | | | | | | 0.1 | | | 0.3 | 0.1 | | 0.1 | | | | | | 0.05 |
| 2016 | | | | | | | | | | 0.3 | | 0.1 | | 0.1 | | 0.1 | 0.07 | | | | | 0.1 | | 0.1 | 0.1 | 0.1 | 0.1 | 0.3 | 0.1 | | | | | | | 0.07 |
| 2017 | | | | | | | | | | | | 0.4 | 0.1 | | 0.1 | | 0.07 | | | | | | | 0.1 | | 0.1 | 0.1 | | 0.1 | | | | | | | 0.04 |
| 2018 | | | | | | | | | | | 0.1 | 0.1 | 0.1 | 0.1 | | | 0.06 | | | | | 0.1 | 0.3 | | | | | 0.1 | 0.3 | 0.6 | | | | | | 0.1 |
| 2019 | | | | | | | | | | | 0.1 | 0.6 | 0.1 | 0.1 | | | 0.1 | | | | | | | 0.1 | | | | 0.1 | | | | | | | | 0.02 |
| Mean | | | | | | | | | | 0.1 | 0.2 | 0.4 | 0.1 | 0.06 | 0.01 | 0.03 | 0.09 | | | | | | 0.02 | 0.04 | 0.02 | 0.02 | 0.07 | 0.1 | 0.1 | 0.1 | 0.01 | 0.01 | 0.01 | 0.01 | 0.05 | |

Osprey is a rare spring and fall migrant at MBO. Spring observations range from 18 April to 1 June, but the majority are in late April and early May. The earliest fall migrants have been spotted in the second week of August; only twice have they extended past mid-October, in 2007 and 2010. Observations have been made in six or more years only from Week 7 through Week 10.

GOEA: Golden Eagle / Aigle royal (*Aquila chrysaetos*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|-------|------|-------|-------|------|-------|------|------|-------|------|------|-------|
| First | | 5-9 | 5-10 | | 4-25 | | | | | | | | | | | 5-4 | | | | | 10-26 | | 10-10 | 10-23 | | 10-26 | | | 10-26 | | | 10-22 |
| Peak | | 5-9 | 5-10 | | 4-25 | | | | | | | | | | | 5-4 | | | | | 10-26 | | 10-10 | 10-23 | | 10-26 | | | 10-26 | | | 10-22 |
| Last | | 5-9 | 5-10 | | 4-25 | | | | | | | | | | | 5-4 | | | | | 10-29 | | 10-10 | 10-28 | | 10-26 | | | 10-26 | | | 10-23 |
| Span | | 1 | 1 | | 1 | | | | | | | | | | | 1 | | | | | 4 | | 1 | 6 | | 1 | | | 1 | | | 3 |
| # days | | 1 | 1 | | 1 | | | | | | | | | | | 1 | | | | | 2 | | 1 | 3 | | 1 | | | 1 | | | 2 |
| % days | | 1 | 1 | | 1 | | | | | | | | | | | 1 | | | | | 2 | | 1 | 3 | | 1 | | | 1 | | | 2 |
| High | | 1 | 1 | | 1 | | | | | | | | | | | 1 | | | | | 1 | | 1 | 1 | | 1 | | | 1 | | | 1 |
| Total | | 1 | 1 | | 1 | | | | | | | | | | | 0 | | | | | 2 | | 1 | 3 | | 1 | | | 1 | | | 1 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|------|-----|-----|-----|-----|--------|----|----|----|----|------|----|------|----|----|-----|--------|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|------|------|------|------|--------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | 0.07 | | | | | 0.02 | | | | | | | 0.1 | | | | 0.01 | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | 0.1 | | | | 0.01 | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | 0.1 | | | | | | 0.01 | | | | | | | | | | | | | | | | | 0.3 | | 0.02 |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | 0.01 | |
| 2012 | 0.1 | | | | | 0.04 | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | 0.3 | | 0.03 | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | 0.01 | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | 0.01 | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | 0.01 | | | | | <0.005 | | | | | 0.01 | | 0.02 | | | | <0.005 | | | | | | | | | | | | | | | 0.01 | 0.01 | 0.06 | | <0.005 |

Golden Eagle is a rare migrant at MBO. Three individuals have been observed in spring, in late April or early May of 2006, 2007, and 2009. Fall records across five years have all been between 10 October and 29 October, although the two winter records in November 2006 and 2012 were no doubt late fall migrants.

NOHA: Northern Harrier / Busard des marais (*Circus hudsonius*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|------|-------|------|-------|------|-------|----|
| First | 5-1 | 4-11 | 4-16 | 4-23 | 4-3 | 4-21 | 4-24 | 4-18 | 4-23 | 4-18 | 4-11 | 4-19 | 5-11 | 4-24 | 4-5 | 4-19 | 8-19 | 8-22 | 8-7 | 8-7 | 8-18 | 8-31 | 8-31 | 8-24 | 8-1 | 9-6 | 9-1 | 8-16 | 8-11 | 8-17 | 8-4 | 8-18 | |
| Peak | 5-1 | 5-4 | 4-16 | 4-27 | 5-9 | 5-4 | 4-24 | 4-18 | 4-23 | 4-18 | 4-23 | 5-9 | 5-11 | 4-24 | 5-9 | 4-28 | 10-13 | 8-26 | 8-18 | 9-7 | 8-18 | 10-3 | 10-1 | 9-27 | 9-28 | 9-23 | 9-18 | 8-22 | 9-15 | 10-23 | 9-17 | 9-17 | |
| Last | 5-1 | 5-24 | 5-24 | 6-1 | 5-14 | 5-12 | 5-20 | 4-28 | 5-16 | 5-18 | 5-20 | 5-26 | 5-20 | 5-24 | 5-27 | 5-18 | 10-27 | 10-29 | 10-29 | 9-10 | 10-27 | 10-24 | 10-11 | 10-29 | 10-25 | 10-30 | 11-6 | 10-25 | 11-4 | 10-23 | 11-6 | 10-24 | |
| Span | 1 | 44 | 39 | 40 | 42 | 22 | 27 | 11 | 24 | 31 | 40 | 38 | 10 | 31 | 53 | 30 | 70 | 69 | 84 | 35 | 71 | 55 | 42 | 67 | 86 | 55 | 67 | 71 | 86 | 68 | 95 | 68 | |
| # days | 1 | 9 | 8 | 10 | 12 | 4 | 7 | 4 | 3 | 9 | 7 | 13 | 3 | 10 | 11 | 7 | 10 | 18 | 21 | 5 | 11 | 16 | 6 | 17 | 7 | 15 | 22 | 16 | 24 | 12 | 18 | 15 | |
| % days | 2 | 13 | 11 | 14 | 17 | 6 | 10 | 6 | 4 | 13 | 10 | 19 | 4 | 14 | 16 | 11 | 11 | 11 | 20 | 23 | 5 | 12 | 18 | 7 | 19 | 8 | 16 | 22 | 16 | 24 | 12 | 18 | 16 |
| High | 1 | 2 | 1 | 2 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 1 | 6 | 4 | 2 | 2 | 4 | 3 | 2 | 1 | 5 | 3 | 3 | 3 | 2 | 5 | 2 | 5 | 3 | 2 | 3 | |
| Total | 1 | 10 | 8 | 12 | 13 | 5 | 7 | 4 | 3 | 13 | 8 | 14 | 3 | 16 | 15 | 9 | 13 | 24 | 29 | 6 | 11 | 28 | 12 | 23 | 12 | 20 | 36 | 21 | 37 | 16 | 20 | 21 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|------|------|-----|-----|------|------|------|------|------|-----|-----|-----|-----|-----|------|------|------|------|-----|--------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|
| 2005 | | | | | | | | | | 0.1 | | | | | | | 0.02 | | | | | | 0.1 | | | 0.3 | | | 0.7 | 0.3 | 0.6 | | | 0.1 | | |
| 2006 | | | | | | | | | 0.4 | 0.1 | 0.1 | 0.4 | | 0.1 | 0.1 | | 0.1 | | | | | | | 0.9 | 0.3 | 0.3 | | 0.3 | 0.4 | 0.3 | 0.1 | 0.6 | 0.3 | | 0.3 | |
| 2007 | 0.1 | 0.1 | | | 0.1 | 0.09 | | | 0.1 | 0.3 | 0.3 | | 0.1 | 0.1 | 0.1 | | 0.1 | 0.1 | | 0.08 | 0.1 | | 0.4 | | 0.3 | 0.3 | 0.7 | 0.4 | 0.7 | 0.3 | 0.1 | 0.4 | 0.3 | | 0.3 | |
| 2008 | | | | | | | | | | 0.1 | 0.7 | 0.3 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | | | | 0.1 | | | | 0.1 | 0.6 | | | | | | | | | 0.07 | |
| 2009 | | | | | 0.07 | 0.03 | 0.1 | | | 0.6 | 0.6 | 0.1 | 0.4 | | | | 0.2 | | | | | | 0.3 | 0.1 | 0.1 | 0.3 | 0.1 | 0.1 | | 0.1 | | 0.1 | | 0.1 | | |
| 2010 | | | | | | | | | | 0.1 | | 0.4 | 0.1 | | | | 0.07 | | | | | | | | 1.0 | | 0.4 | 0.1 | 0.3 | 1.4 | 0.3 | 0.1 | 0.3 | | 0.3 | |
| 2011 | | | | | | | | | | 0.1 | | 0.4 | 0.3 | 0.1 | | | 0.1 | | | | | | | | 0.1 | | 0.3 | 0.3 | 0.4 | | 0.6 | | | | 0.1 | |
| 2012 | | | | | | | | | | 0.4 | 0.1 | | | | | | 0.06 | | | | | | | 0.1 | 0.3 | | | | 1.0 | 0.6 | | 0.6 | 0.7 | | 0.3 | |
| 2013 | | | | | | | | | | 0.3 | | | | 0.1 | | | 0.04 | | | | 0.3 | | | | 0.1 | | 0.1 | 0.3 | 0.4 | 0.1 | | 0.3 | | 0.3 | | 0.1 |
| 2014 | 0.2 | | | | | 0.03 | | | | 0.9 | | 0.7 | 0.1 | 0.1 | | | 0.2 | | | | | | | | | 0.1 | 0.1 | 0.3 | 1.0 | | 0.6 | 0.1 | 0.6 | | 0.2 | |
| 2015 | | | | | | | | | 0.1 | 0.6 | 0.1 | 0.1 | | 0.1 | | | 0.1 | | | | | | | | 0.7 | 0.7 | 0.7 | 0.1 | 0.3 | 0.9 | 0.6 | 0.3 | 0.1 | 0.7 | 0.4 | |
| 2016 | | | | | | | | | | 0.4 | 0.1 | 0.4 | 0.4 | 0.1 | 0.4 | | 0.2 | | | | | | 0.3 | 0.3 | 0.4 | 0.1 | 0.1 | 0.3 | 0.6 | 0.6 | 0.1 | | 0.1 | | 0.2 | |
| 2017 | | | | | | | | | | | | | 0.1 | 0.3 | | | 0.04 | | | | | 0.3 | 0.1 | | 0.1 | 0.6 | 0.7 | 0.7 | 0.1 | 0.1 | 0.1 | 0.1 | 0.6 | 0.6 | 0.1 | 0.4 |
| 2018 | | | | | | | | | | 0.9 | 0.1 | 0.4 | 0.4 | 0.1 | 0.3 | | 0.2 | | | | | | 0.1 | | | 0.1 | 0.1 | 0.1 | 0.1 | 0.6 | 0.4 | 0.6 | | 0.2 | | 0.2 |
| 2019 | | | | | | | | 0.1 | 0.1 | 0.3 | | 0.6 | 0.7 | 0.1 | 0.1 | | 0.2 | | | | | | | | 0.1 | | 0.6 | 0.3 | 0.3 | 0.1 | 0.4 | 0.3 | 0.1 | 0.4 | | 0.2 |
| Mean | 0.02 | 0.01 | | | 0.02 | 0.01 | 0.01 | 0.01 | 0.06 | 0.3 | 0.2 | 0.3 | 0.2 | 0.1 | 0.09 | 0.01 | 0.1 | 0.01 | | <0.005 | 0.05 | 0.02 | 0.1 | 0.1 | 0.3 | 0.2 | 0.3 | 0.2 | 0.4 | 0.3 | 0.3 | 0.3 | 0.2 | 0.3 | 0.2 | |

Northern Harrier has been observed at MBO in all seasons, but is regular only in spring and fall. Early northbound migrants have been observed in late March twice, in 2007 and 2009, but usually they are not spotted until mid-April. Peak numbers have occurred eight times in Week 4; overall the majority of migrants pass through from mid-April to early May, and there have only been two sightings in June, one of them beyond the end of the spring season, in 2007. Fall sightings have spanned the entire season, but tend to be scarce throughout August. Numbers are somewhat higher over the remainder of fall, though quite variable from year to year, with only a modest overall peak around late September to early October. There has been no clear trend in abundance over the years in either spring or fall.

SSHA: Sharp-shinned Hawk / Épervier brun (*Accipiter striatus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|-------|
| First | 5-12 | 4-18 | 4-18 | 4-25 | 4-18 | 4-12 | 4-19 | 4-7 | 4-21 | 4-6 | 5-1 | 4-19 | 4-22 | 4-19 | 4-21 | 4-19 | 8-13 | 8-6 | 8-18 | 8-5 | 8-2 | 8-6 | 8-27 | 8-7 | 8-10 | 8-14 | 8-4 | 8-1 | 8-6 | 8-10 | 8-11 | 8-9 |
| Peak | 5-14 | 4-18 | 5-5 | 4-28 | 4-24 | 4-12 | 4-19 | 5-5 | 4-28 | 4-20 | 5-5 | 4-27 | 5-10 | 4-24 | 4-21 | 4-27 | 9-11 | 8-11 | 8-31 | 9-30 | 10-16 | 10-3 | 9-25 | 9-27 | 9-14 | 9-18 | 9-10 | 9-23 | 9-15 | 10-5 | 9-5 | 9-18 |
| Last | 5-14 | 5-28 | 5-31 | 5-30 | 5-24 | 5-31 | 5-12 | 5-28 | 6-5 | 6-2 | 5-10 | 5-25 | 5-16 | 5-27 | 5-3 | 5-23 | 10-24 | 10-30 | 10-29 | 10-24 | 10-29 | 10-30 | 10-29 | 10-28 | 10-29 | 10-26 | 11-5 | 11-6 | 11-3 | 11-5 | 11-5 | 10-30 |
| Span | 3 | 41 | 44 | 36 | 37 | 50 | 24 | 52 | 46 | 58 | 10 | 37 | 25 | 39 | 13 | 34 | 73 | 86 | 73 | 81 | 89 | 86 | 64 | 83 | 81 | 74 | 94 | 98 | 90 | 88 | 87 | 83 |
| # days | 2 | 8 | 9 | 15 | 12 | 9 | 5 | 10 | 9 | 9 | 4 | 12 | 11 | 9 | 4 | 9 | 42 | 37 | 41 | 35 | 44 | 50 | 32 | 63 | 49 | 55 | 56 | 53 | 48 | 49 | 47 | 47 |
| % days | 3 | 12 | 13 | 21 | 17 | 13 | 7 | 14 | 13 | 13 | 6 | 17 | 16 | 13 | 6 | 12 | 48 | 41 | 45 | 38 | 48 | 55 | 35 | 69 | 54 | 60 | 57 | 54 | 49 | 50 | 48 | 50 |
| High | 2 | 1 | 3 | 2 | 2 | 1 | 1 | 4 | 2 | 2 | 2 | 2 | 2 | 8 | 1 | 2 | 5 | 2 | 6 | 4 | 9 | 21 | 6 | 50 | 9 | 31 | 5 | 8 | 17 | 7 | 26 | 14 |
| Total | 3 | 8 | 12 | 17 | 13 | 9 | 5 | 14 | 10 | 11 | 5 | 14 | 12 | 17 | 4 | 10 | 73 | 48 | 61 | 52 | 73 | 137 | 65 | 182 | 108 | 181 | 98 | 103 | 99 | 99 | 109 | 99 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|------|------|------|------|------|------|----|------|------|-----|-----|-----|-----|------|-----|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|
| 2005 | | | | | | | | | | | | | 0.4 | | | | 0.05 | | | | | 0.1 | 0.4 | 0.3 | 0.4 | 1.4 | 0.7 | 1.6 | 1.7 | 1.5 | 1.5 | 1.3 | 0.1 | | 0.8 |
| 2006 | 0.2 | | | 0.09 | | 0.06 | | | | 0.3 | 0.1 | 0.1 | 0.3 | | 0.3 | | 0.1 | | | | 0.1 | 0.3 | 0.4 | 0.1 | 0.4 | 1.0 | 1.0 | 0.9 | 0.6 | 1.0 | 0.1 | 0.6 | 0.3 | | 0.5 |
| 2007 | | 0.1 | 0.2 | | | 0.04 | | | | 0.4 | | 1.0 | | | 0.1 | 0.1 | 0.2 | 0.1 | 0.3 | 0.2 | | | 0.1 | 0.7 | 1.6 | 1.4 | 0.7 | 1.3 | 0.7 | 0.1 | 0.7 | 0.3 | 1.0 | | 0.7 |
| 2008 | | | | | | | | | | 0.7 | 0.7 | 0.4 | | | 0.4 | 0.1 | 0.2 | | | | 0.1 | 0.1 | 0.1 | 1.0 | 0.3 | 0.7 | 0.7 | 1.9 | 1.3 | 0.3 | 0.1 | 0.6 | 0.1 | | 0.6 |
| 2009 | | | | 0.1 | | 0.03 | | | | 0.6 | 0.3 | 0.4 | 0.4 | | 0.1 | | 0.2 | | | | 0.1 | | | 0.4 | 0.7 | 0.9 | 1.1 | 1.4 | 1.3 | 1.4 | 1.7 | 0.6 | 0.7 | | 0.8 |
| 2010 | 0.2 | | | | 0.08 | 0.06 | | | 0.3 | 0.3 | 0.1 | 0.1 | 0.1 | | | 0.3 | 0.1 | | | | 0.1 | 0.1 | 0.4 | 0.4 | 1.4 | 1.6 | 3.3 | 2.1 | 1.9 | 5.3 | 0.9 | 0.9 | 1.1 | | 1.5 |
| 2011 | | | 0.08 | | 0.1 | 0.05 | | | | 0.3 | 0.3 | | 0.1 | | | | 0.07 | | | | | | | 0.3 | 0.4 | 1.1 | 0.7 | 1.3 | 1.9 | 1.1 | 0.9 | 0.9 | 0.7 | | 0.7 |
| 2012 | 0.2 | | | | | 0.08 | | 0.1 | | 0.1 | 0.1 | 1.1 | | 0.1 | 0.3 | | 0.2 | | | | 0.3 | 0.3 | 1.1 | 1.3 | 1.0 | 1.9 | 2.0 | 2.4 | 10.1 | 2.3 | 1.7 | 0.7 | 0.9 | | 2.0 |
| 2013 | | | | | | | | | | 0.3 | 0.6 | 0.1 | 0.1 | | 0.1 | 0.1 | 0.1 | | | | | 0.4 | 0.1 | 0.7 | 1.6 | 2.3 | 2.6 | 2.1 | 1.3 | 1.9 | 1.3 | 0.7 | 0.4 | | 1.2 |
| 2014 | 0.2 | | | 0.3 | | 0.1 | | 0.1 | | 0.7 | 0.1 | 0.3 | | | 0.1 | 0.2 | 0.2 | | | | | 0.1 | 0.7 | 0.6 | 1.1 | 1.0 | 6.7 | 2.6 | 5.0 | 2.0 | 3.9 | 1.9 | 0.3 | | 2.0 |
| 2015 | 0.2 | | | | | 0.1 | | | | | 0.1 | 0.4 | 0.1 | | | | 0.07 | | | | 0.1 | 0.1 | 0.4 | 1.0 | 1.0 | 2.6 | 1.6 | 1.7 | 1.6 | 1.3 | 0.9 | 0.4 | 0.4 | 0.9 | 1.0 |
| 2016 | 0.5 | 0.1 | 0.08 | 0.2 | 0.08 | 0.2 | | | | 0.1 | 0.3 | 0.3 | 0.7 | 0.4 | 0.1 | | 0.2 | | | | 0.1 | | 1.0 | 0.6 | 1.6 | 0.9 | 1.4 | 3.0 | 2.4 | 1.6 | 1.1 | | 0.4 | 0.6 | 1.1 |
| 2017 | 0.1 | 0.5 | | | | 0.06 | | | | 0.3 | 0.4 | 0.4 | 0.4 | 0.1 | | | 0.2 | | | | 0.3 | 0.3 | 0.3 | 0.4 | 0.9 | 3.0 | 4.0 | 1.1 | 1.1 | 0.6 | 0.7 | 1.0 | 0.3 | 0.1 | 1.0 |
| 2018 | | | | | | | | | | 1.4 | 0.4 | 0.1 | 0.3 | 0.1 | | | 0.2 | | | | | 0.1 | 0.6 | 0.4 | 1.3 | 1.7 | 0.7 | 1.9 | 1.9 | 3.0 | 0.7 | 1.1 | 0.6 | 0.1 | 1.0 |
| 2019 | 0.09 | | | | | 0.02 | | | | 0.1 | 0.1 | 0.3 | | | | | 0.06 | | | | | 0.4 | | 0.4 | 0.6 | 4.9 | 2.9 | 2.0 | 0.9 | 1.4 | 0.9 | 0.6 | 0.1 | 0.6 | 1.1 |
| Mean | 0.1 | 0.04 | 0.03 | 0.06 | 0.02 | 0.06 | | 0.02 | 0.02 | 0.3 | 0.2 | 0.4 | 0.2 | 0.08 | 0.1 | 0.06 | 0.1 | 0.01 | 0.02 | 0.02 | 0.1 | 0.2 | 0.4 | 0.6 | 1.0 | 1.8 | 2.0 | 1.8 | 2.2 | 1.7 | 1.1 | 0.8 | 0.5 | 0.5 | 1.1 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|-----|-----|----|----|----|------|-----|-----|-----|----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | 2 | | 1 | | | | | 4 | |
| 2006 | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | 1 | | | | | | | | 2 | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | 2 | 1 | | | 1 | | | | | 5 | |
| 2008 | | | | | | | | | | | | 1 | | | | | 1 | | | | 1 | | | | | 1 | 1 | 1 | | | | | | | | 4 | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2 | | 1 | 1 | 2 | | | | | | | 7 | |
| 2010 | | | | | | | | | | | | | | | | 1 | 1 | | | | 1 | | 2 | 1 | | | 4 | 1 | 3 | | 1 | | | | | 13 | |
| 2011 | | | | | | | | | | | 1 | | | | | | 1 | | | | | | | 1 | | 1 | 1 | 1 | | 1 | 1 | | | | | 6 | |
| 2012 | | | | | | | | | | | | 1 | | | | | 1 | | | | | 1 | 1 | 1 | 1 | 3 | | 2 | | | | | | | | 9 | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | 2 | | 1 | | | | | | | | 4 |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | 5 | 2 | 7 | 1 | 1 | 1 | | | | | 18 |
| 2015 | | | | | | | | | | | 1 | | | | | | 1 | | | | | | | | 1 | 1 | 2 | 1 | | 1 | 1 | | | | | | 7 |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | 2 | 1 | | | 1 | 1 | 1 | 1 | | | | 1 | | 8 |
| 2017 | | | | | | | | | | | | 1 | | | | | | | | | | | | | 1 | | 1 | | 1 | 1 | | | | | | | 4 |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | 1 | 1 | 4 | | 1 | | | | | 8 |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | 1 | | 1 | 1 | | | | | | | | 4 |
| Mean | | | | | | | | | | | 0.1 | 0.2 | | | | 0.07 | 0.4 | | | | 0.2 | 0.07 | 0.2 | 0.5 | 0.6 | 0.5 | 1.3 | 0.7 | 1.3 | 0.8 | 0.5 | 0.2 | | 0.2 | 6.9 | | |

Sharp-shinned Hawk is rare in early spring, with only a few records prior to mid-April. Migration almost always peaks between Weeks 4 and 7, and there are relatively few sightings in later spring. 2007 was the only year with any summer records. Sharp-shinned Hawk is much more numerous in fall, with sightings every week in six years, and in at least 10 weeks in every other fall. Counts generally peak between mid-August and early October, but remain regular into November, and in some years there are scattered winter sightings. Spring numbers have fluctuated over the years; fall counts were highest from 2012 to 2014, and have stabilized at a slightly lower level ever since. Only six individuals have been banded in spring across all years, whereas in fall, the average number banded annually is nearly 7.

COHA: Cooper's Hawk / Épervier de Cooper (*Accipiter cooperii*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|-------|------|-------|
| First | 4-5 | 4-5 | 4-6 | 4-23 | 4-11 | 4-3 | 4-24 | 4-6 | 4-6 | 4-18 | 4-5 | 4-18 | 4-19 | 4-9 | 4-17 | 4-11 | 8-1 | 8-4 | 8-4 | 8-2 | 8-5 | 8-11 | 8-3 | 8-1 | 8-5 | 8-7 | 8-13 | 8-5 | 8-2 | 8-1 | 8-4 | 8-4 |
| Peak | 4-5 | 4-5 | 5-10 | 4-27 | 4-25 | 5-7 | 4-24 | 5-5 | 4-6 | 5-24 | 4-30 | 4-29 | 4-24 | 4-24 | 4-25 | 4-26 | 9-5 | 10-21 | 8-18 | 9-16 | 10-16 | 10-3 | 9-27 | 9-11 | 9-18 | 8-29 | 8-26 | 9-15 | 9-9 | 10-1 | 9-12 | 9-16 |
| Last | 5-17 | 5-18 | 5-27 | 5-27 | 6-5 | 5-7 | 5-25 | 6-1 | 5-14 | 5-26 | 5-30 | 6-1 | 5-25 | 5-31 | 5-21 | 5-24 | 10-28 | 10-28 | 10-29 | 10-26 | 10-21 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 11-6 | 11-6 | 11-6 | 10-25 | 11-6 | 10-30 |
| Span | 43 | 44 | 52 | 35 | 56 | 35 | 32 | 57 | 39 | 39 | 56 | 45 | 37 | 53 | 35 | 44 | 89 | 86 | 87 | 86 | 78 | 81 | 89 | 91 | 87 | 85 | 86 | 94 | 97 | 86 | 95 | 88 |
| # days | 13 | 9 | 10 | 9 | 17 | 10 | 5 | 12 | 13 | 13 | 17 | 23 | 10 | 26 | 12 | 13 | 31 | 32 | 43 | 35 | 48 | 32 | 34 | 62 | 39 | 54 | 57 | 61 | 44 | 55 | 51 | 45 |
| % days | 22 | 13 | 14 | 13 | 25 | 14 | 7 | 17 | 19 | 19 | 24 | 33 | 14 | 37 | 17 | 19 | 35 | 35 | 47 | 38 | 53 | 35 | 37 | 68 | 43 | 59 | 58 | 62 | 45 | 56 | 52 | 49 |
| High | 2 | 1 | 2 | 2 | 3 | 4 | 4 | 3 | 2 | 3 | 2 | 3 | 2 | 9 | 2 | 3 | 3 | 4 | 4 | 4 | 5 | 8 | 3 | 7 | 3 | 5 | 3 | 4 | 5 | 7 | 7 | 5 |
| Total | 17 | 9 | 11 | 11 | 23 | 15 | 8 | 14 | 16 | 18 | 21 | 33 | 13 | 43 | 15 | 18 | 41 | 48 | 54 | 48 | 69 | 51 | 48 | 97 | 53 | 103 | 81 | 92 | 72 | 102 | 93 | 70 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|------|------|------|------|------|------|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2005 | | | | | | | | 0.8 | 0.1 | 0.7 | | 0.6 | 0.3 | 0.1 | | | 0.3 | 0.06 | 0.06 | 0.06 | 0.1 | | 0.1 | 0.1 | 0.3 | 1.4 | 0.3 | 0.7 | 1.0 | 0.8 | 0.3 | 0.4 | 0.4 | | 0.5 | |
| 2006 | 0.4 | 0.07 | 0.08 | | 0.2 | 0.1 | | 0.5 | 0.1 | 0.1 | 0.3 | | 0.1 | 0.1 | | | 0.1 | | | | 0.3 | 0.1 | 0.3 | 0.1 | 0.6 | 0.4 | 0.9 | 0.4 | 0.9 | 0.6 | 0.6 | 1.6 | 0.1 | | 0.5 | |
| 2007 | 0.1 | 0.3 | 0.5 | | | 0.2 | | 0.1 | | 0.3 | 0.1 | 0.4 | 0.3 | 0.1 | 0.1 | | 0.2 | | | | 0.3 | 0.1 | 1.3 | 0.1 | 0.9 | 0.7 | 0.9 | 0.6 | 0.7 | 0.7 | 0.9 | 0.3 | 0.3 | | 0.6 | |
| 2008 | 0.3 | | | | | 0.08 | | | | 0.1 | 0.7 | 0.1 | 0.3 | | 0.3 | | 0.2 | | | | 0.3 | | 0.1 | 0.3 | 1.0 | 0.9 | 1.0 | 1.1 | 0.1 | 0.9 | 0.4 | 0.4 | 0.3 | | 0.5 | |
| 2009 | | | | | 0.07 | 0.03 | | | 0.3 | 0.4 | 1.0 | 0.4 | 0.1 | 0.1 | 0.6 | 0.3 | 0.3 | 0.3 | 0.3 | | 0.1 | 0.4 | 0.3 | 0.6 | 1.3 | 0.4 | 1.0 | 1.1 | 1.4 | 0.9 | 0.3 | 1.7 | 0.4 | | 0.8 | |
| 2010 | 0.2 | | 0.09 | | 0.2 | 0.1 | 0.1 | 0.1 | | 0.6 | 0.4 | 0.9 | | | | | 0.2 | | | | | 0.3 | | 0.1 | 1.3 | 0.7 | 0.7 | 0.1 | 0.7 | 2.3 | 0.4 | 0.3 | 0.3 | | 0.6 | |
| 2011 | 0.1 | | 0.08 | 0.2 | | 0.08 | | | | 0.6 | 0.3 | | | | 0.3 | | 0.1 | | | | 0.1 | 0.3 | 0.7 | | 0.1 | 0.7 | 1.0 | 0.9 | 1.3 | 0.7 | 0.4 | 0.3 | 0.3 | | 0.5 | |
| 2012 | 0.1 | | | | | 0.04 | | 0.1 | 0.1 | | 0.1 | 0.4 | 0.1 | 0.4 | 0.4 | 0.1 | 0.2 | | | | 0.1 | 0.3 | 0.7 | 0.3 | 0.7 | 1.7 | 1.3 | 1.0 | 1.9 | 1.7 | 1.7 | 1.1 | 1.3 | | 1.1 | |
| 2013 | 0.3 | 0.3 | 0.07 | | | 0.1 | | 0.6 | 0.1 | 0.4 | 0.1 | 0.7 | 0.3 | | | | 0.2 | | | | 0.1 | 0.3 | 0.1 | 0.3 | 1.1 | 0.9 | 0.9 | 0.7 | 0.6 | 0.7 | 0.7 | 0.3 | | 0.6 | | |
| 2014 | | | | | | | | | | 1.1 | 0.3 | 0.1 | | 0.4 | 0.6 | | 0.3 | | | | 0.1 | | 0.7 | 0.9 | 1.6 | 1.3 | 1.7 | 2.0 | 2.0 | 1.1 | 1.3 | 0.7 | 1.3 | | 1.1 | |
| 2015 | 0.7 | | | | | 0.5 | | 0.3 | 0.1 | 0.3 | 0.7 | 0.4 | 0.6 | 0.3 | 0.1 | 0.1 | 0.3 | | | | | 0.3 | 0.3 | 1.1 | 1.1 | 0.7 | 1.3 | 1.3 | 0.7 | 1.3 | 0.9 | 0.7 | 0.9 | 1.0 | 0.8 | |
| 2016 | 0.5 | | 0.08 | | | 0.09 | | | | 0.3 | 0.9 | 1.1 | 0.7 | 0.1 | 1.0 | 0.6 | 0.5 | | | 0.3 | 0.1 | 0.4 | 0.9 | 1.0 | 0.6 | 0.9 | 0.9 | 1.7 | 1.9 | 1.6 | 1.3 | 0.6 | 0.3 | 0.4 | 0.9 | 0.9 |
| 2017 | 0.3 | | | | | 0.09 | | | | 0.6 | 0.3 | 0.4 | 0.3 | 0.1 | 0.1 | | 0.2 | | | | 0.1 | | 0.1 | 0.9 | 0.9 | 1.4 | 2.0 | 0.7 | 1.3 | 0.6 | 0.4 | 0.9 | 0.3 | 0.7 | 0.7 | |
| 2018 | 0.1 | | | | 0.1 | 0.05 | | 0.1 | 0.1 | 2.1 | 0.4 | 0.9 | 0.9 | 0.9 | 0.3 | 0.4 | 0.6 | 0.3 | 0.3 | | 0.1 | 0.3 | 0.3 | 1.7 | 1.4 | 1.1 | 2.0 | 0.3 | 1.1 | 1.7 | 1.7 | 1.1 | 1.3 | 0.4 | 1.0 | |
| 2019 | | 0.09 | 0.09 | | | 0.04 | | | 0.1 | 0.4 | 0.4 | 0.6 | 0.4 | 0.1 | | | 0.2 | | | | 0.1 | 0.1 | | 0.3 | 1.0 | 1.6 | 3.0 | 1.6 | 1.1 | 1.6 | 0.6 | 0.7 | 0.4 | 1.1 | 0.9 | |
| Mean | 0.2 | 0.07 | 0.08 | 0.01 | 0.05 | 0.1 | 0.01 | 0.2 | 0.09 | 0.5 | 0.4 | 0.5 | 0.3 | 0.2 | 0.3 | 0.1 | 0.3 | 0.04 | 0.02 | 0.03 | 0.2 | 0.2 | 0.5 | 0.5 | 0.9 | 1.1 | 1.2 | 1.0 | 1.1 | 1.1 | 0.8 | 0.7 | 0.5 | 0.7 | 0.8 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|---|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | 1 | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | 1 |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.2 | 0.3 | |

Cooper's Hawk has been observed at MBO in all seasons, but is most abundant in fall, followed by spring. Cooper's Hawk is generally rare over the first three weeks of spring, peaks over the next three weeks, and then tapers off toward the end of the season, with only occasional records in summer. In most years there are sightings nearly weekly throughout fall, but they tend to be considerably higher from early September to early October, reflecting the peak of migration. Late fall migrants are typically still observed in November; sightings over the remainder of winter tend to be scarcer. Only 5 Cooper's Hawks have been banded, all in fall, and never more than one per year.

NOGO: Northern Goshawk / Autour des palombes (*Accipiter gentilis*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|-------|-------|-------|-------|-------|------|-------|------|------|-------|------|-------|
| First | | | | | | 5-6 | 4-9 | 4-8 | | | | 5-17 | 4-2 | | | 4-20 | 10-9 | 9-14 | 8-10 | 10-8 | 8-14 | 8-4 | 9-8 | 8-5 | 9-26 | 8-30 | 8-10 | 9-16 | 9-10 | 8-22 | | 9-2 |
| Peak | | | | | | 5-6 | 4-9 | 4-8 | | | | 5-17 | 4-2 | | | 4-20 | 10-9 | 9-14 | 8-10 | 10-8 | 10-16 | 9-15 | 9-8 | 8-5 | 9-26 | 8-30 | 10-16 | 9-16 | 9-10 | 10-25 | | 9-18 |
| Last | | | | | | 5-6 | 5-22 | 4-29 | | | | 5-17 | 4-2 | | | 5-3 | 10-9 | 9-14 | 10-25 | 10-8 | 10-20 | 10-11 | 10-30 | 10-23 | 10-23 | 9-13 | 10-16 | 10-6 | 9-11 | 10-25 | | 10-10 |
| Span | | | | | | 1 | 44 | 22 | | | | 1 | 1 | | | 14 | 1 | 1 | 77 | 1 | 68 | 69 | 53 | 80 | 28 | 15 | 68 | 21 | 2 | 65 | | 39 |
| # days | | | | | | 1 | 2 | 3 | | | | 1 | 1 | | | 2 | 1 | 1 | 6 | 1 | 14 | 17 | 10 | 8 | 5 | 2 | 4 | 3 | 2 | 5 | | 6 |
| % days | | | | | | 1 | 3 | 4 | | | | 1 | 1 | | | 2 | 1 | 1 | 7 | 1 | 15 | 19 | 11 | 9 | 5 | 2 | 4 | 3 | 2 | 5 | | 6 |
| High | | | | | | 1 | 1 | 1 | | | | 2 | 1 | | | 1 | 1 | 1 | 1 | 1 | 4 | 4 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | | 2 |
| Total | | | | | | 1 | 2 | 3 | | | | 2 | 1 | | | 1 | 1 | 1 | 6 | 1 | 18 | 25 | 10 | 8 | 5 | 2 | 5 | 3 | 2 | 6 | | 6 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | | | |
|------|------|------|-----|-----|------|------|------|------|------|-----|------|------|-----|------|----|-----|----|-----|-----|----|------|------|-----|------|-----|------|-----|------|-----|-----|-----|------|------|-----|----|------|------|------|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.01 | | | |
| 2006 | 0.2 | | | | | 0.05 | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | 0.01 | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | 0.1 | | 0.1 | 0.1 | | | | | | | | | 0.07 | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | 0.01 | |
| 2009 | | | | | | | | | | | | | | | | | | | | | 0.1 | | 0.1 | | | | | 0.3 | 0.7 | 0.3 | 0.7 | 0.3 | | | | | 0.2 | | |
| 2010 | | 0.1 | | | | 0.02 | | | | | | 0.1 | | | | | | | | | 0.1 | | | 0.3 | 0.9 | 0.3 | 1.1 | 0.3 | 0.4 | 0.1 | | | | | | 0.3 | | | |
| 2011 | | | | | | | | 0.1 | | | | | 0.1 | | | | | | | | | | | | | 0.1 | 0.1 | 0.3 | 0.4 | 0.1 | | 0.1 | 0.1 | | | | 0.1 | | |
| 2012 | | | | | 0.2 | 0.04 | | 0.1 | | 0.1 | | | | | | | | | | | 0.3 | | | 0.1 | 0.3 | | | | 0.1 | | 0.3 | | | | | | 0.09 | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.3 | | 0.1 | 0.3 | | | | | | | 0.05 | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | 0.1 | | | | | | | | | | | 0.02 | |
| 2015 | 0.3 | | | | | 0.2 | | | | | | | | | | | | | | | 0.1 | | | | | | | | | 0.6 | | | | | | | | 0.05 | |
| 2016 | 0.1 | | | | | 0.02 | | | | | | | | 0.3 | | | | | | | | | | | | | 0.1 | | 0.1 | 0.1 | | | | | | | | 0.03 | |
| 2017 | | | | | | | 0.1 | | | | | | | | | | | | | | | | | | | 0.3 | | | | | | | | | | | | 0.02 | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | 0.1 | | | 0.1 | | | 0.1 | 0.3 | | | | | 0.06 | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | 0.05 | 0.01 | | | 0.01 | 0.02 | 0.01 | 0.02 | 0.01 | | 0.01 | 0.01 | | 0.03 | | | | | | | 0.03 | 0.03 | | 0.05 | 0.1 | 0.06 | 0.1 | 0.07 | 0.1 | 0.1 | 0.1 | 0.08 | 0.04 | | | | 0.07 | | |

Northern Goshawk is a very rare spring migrant and rare fall migrant at MBO, and there have also been a few scattered winter records. There have been spring sightings on just seven days spread across five years; these have been scattered over much of the season. Northern Goshawk is more regular in fall, having been missed only in 2019, although in three of the first four years only a single individual was observed. Fall totals were highest from 2009 through 2011, corresponding with annual spring records from 2010 through 2012. Fall sightings have also been scattered throughout almost the entire season, with only slightly higher frequency of occurrence in September and early October.

BAEA: Bald Eagle / Pygargue à tête blanche (*Haliaeetus leucocephalus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|------|------|-------|-------|-------|-------|
| First | | 3-31 | | 5-1 | | | | 5-12 | 4-21 | 4-18 | 5-2 | 5-10 | 5-16 | 5-22 | 4-25 | 4-30 | 9-14 | | | | | 10-3 | 9-17 | 8-19 | 8-29 | 8-19 | 8-22 | 9-1 | 8-13 | 8-24 | 8-18 | 8-30 |
| Peak | | 3-31 | | 5-1 | | | | 5-12 | 4-21 | 5-15 | 5-2 | 5-10 | 5-16 | 5-27 | 4-25 | 5-3 | 9-14 | | | | | 10-3 | 10-1 | 8-19 | 10-29 | 9-7 | 9-1 | 9-1 | 9-9 | 10-5 | 9-17 | 9-17 |
| Last | | 5-21 | | 5-1 | | | | 5-15 | 4-21 | 5-15 | 5-17 | 5-28 | 5-31 | 5-31 | 5-18 | 5-16 | 9-14 | | | | | 10-3 | 10-1 | 10-23 | 10-29 | 10-15 | 11-2 | 11-6 | 10-17 | 10-21 | 10-19 | 10-16 |
| Span | | 52 | | 1 | | | | 4 | 1 | 28 | 16 | 19 | 16 | 10 | 24 | 17 | 1 | | | | | 1 | 15 | 66 | 62 | 58 | 73 | 67 | 66 | 59 | 63 | 48 |
| # days | | 4 | | 1 | | | | 2 | 1 | 2 | 2 | 3 | 2 | 5 | 2 | 2 | 1 | | | | | 1 | 3 | 6 | 4 | 6 | 8 | 6 | 8 | 10 | 13 | 6 |
| % days | | 6 | | 1 | | | | 3 | 1 | 3 | 3 | 4 | 3 | 7 | 3 | 3 | 1 | | | | | 1 | 3 | 7 | 4 | 7 | 8 | 6 | 8 | 10 | 13 | 6 |
| High | | 1 | | 1 | | | | 1 | 1 | 2 | 2 | 2 | 1 | 3 | 2 | 2 | 1 | | | | | 3 | 2 | 1 | 2 | 3 | 2 | 5 | 6 | 3 | 4 | 3 |
| Total | | 4 | | 1 | | | | 2 | 1 | 3 | 3 | 4 | 2 | 7 | 3 | 2 | 1 | | | | | 3 | 4 | 6 | 5 | 11 | 9 | 12 | 14 | 14 | 23 | 7 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|------|-----|-----|-----|------|--------|------|----|-----|------|------|------|------|------|------|------|------|-----|-----|----|----|-----|------|------|------|-----|-----|-----|-----|-----|------|------|------|------|------|------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | 0.01 | |
| 2006 | | | | | | | 0.1 | | | | | 0.1 | 0.1 | 0.1 | | | 0.06 | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | 0.1 | | | | | | | 0.01 | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | 0.08 | 0.02 | | | | | | | | | | | | | | | | | | | | | | | 0.4 | | | | | | | 0.03 |
| 2011 | 0.1 | | | | | 0.03 | | | | | | | | | | | | | | | | | | | | | 0.1 | | 0.4 | | | | | | | 0.04 |
| 2012 | | | | | | | | | | | | 0.3 | | | | | 0.03 | | | | | | 0.1 | | | | | 0.4 | 0.1 | | 0.1 | | | | 0.07 | |
| 2013 | | | | | | | | | | 0.1 | | | 0.3 | | | | 0.01 | | | | | | | 0.1 | 0.1 | | 0.1 | 0.4 | 0.1 | | 0.3 | | | | 0.05 | |
| 2014 | | | | | | | | | 0.1 | | | 0.3 | | | | | 0.04 | | | | | | 0.1 | | 0.4 | 0.3 | | 0.4 | | 0.3 | | | | | 0.1 | |
| 2015 | | | | | | | | | | | 0.3 | | 0.1 | | | | 0.04 | | | | | | | 0.1 | 0.4 | 0.1 | | 0.3 | | | 0.1 | 0.1 | | 0.09 | | |
| 2016 | | | | | | | | | | | | 0.3 | 0.1 | 0.1 | | | 0.06 | | | | | | | | 0.7 | | 0.3 | 0.1 | | | 0.1 | 0.4 | | 0.1 | | |
| 2017 | 0.1 | | | | | 0.03 | | | | | | | | 0.1 | | 0.1 | 0.03 | | | | | 0.1 | | | | 0.9 | 0.3 | 0.3 | 0.1 | 0.1 | 0.1 | | | | 0.1 | |
| 2018 | | | | | | | | | | | | | | 0.1 | 0.7 | 0.1 | 0.1 | | | | | | 0.1 | 0.1 | 0.1 | 0.4 | 0.1 | 0.4 | 0.1 | 0.4 | | 0.1 | | 0.1 | | |
| 2019 | | | | | | | | | | 0.3 | | | 0.1 | | | | 0.04 | | | | | | 0.3 | 0.6 | 0.4 | 1.0 | 0.4 | 0.4 | | | 0.1 | | | | 0.2 | |
| Mean | 0.01 | | | | 0.01 | <0.005 | 0.01 | | | 0.02 | 0.03 | 0.03 | 0.07 | 0.06 | 0.06 | 0.02 | 0.03 | | | | | | 0.01 | 0.04 | 0.02 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.07 | 0.03 | 0.04 | 0.04 | 0.1 | 0.07 |

Bald Eagle is a rare spring and fall migrant at MBO, with occasional winter records likely associated with early spring or late fall movements. The majority of spring observations have been in May, but in 2006, 2013, and 2014 began earlier. Fall sightings are scattered through most of the season, although overall are most frequent in September. Numbers tend to be larger in fall, with an average annual total of seven individuals, compared to two in spring. Both in spring and fall, sightings were irregular in the early years, but have become annual since 2012 in spring, and since 2010 in fall. Fall abundance in particular has increased notably over time.

RSHA: Red-shouldered Hawk / Buse à épaulettes (*Buteo lineatus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|-------|------|-------|
| First | 4-7 | 3-28 | 3-30 | 4-11 | 4-1 | 4-5 | 4-14 | 3-31 | 3-28 | 4-2 | 4-18 | 4-2 | 4-18 | 4-12 | 4-21 | 4-6 | 8-2 | 8-2 | 8-9 | 8-3 | 8-8 | 8-2 | 8-5 | 8-14 | 8-9 | 8-10 | 8-7 | 8-2 | 8-10 | 8-9 | 8-6 | |
| Peak | 5-31 | 5-4 | 4-13 | 5-7 | 4-25 | 4-21 | 4-24 | 5-15 | 4-21 | 4-20 | 4-29 | 4-19 | 4-18 | 5-6 | 4-22 | 4-28 | 10-5 | 9-10 | 8-20 | 9-8 | 10-16 | 10-9 | 9-9 | 9-27 | 9-8 | 8-18 | 8-28 | 8-8 | 8-26 | 9-8 | 9-27 | 9-10 |
| Last | 6-2 | 6-5 | 5-30 | 6-3 | 6-5 | 5-31 | 5-31 | 6-1 | 5-31 | 5-31 | 5-29 | 6-1 | 5-30 | 6-1 | 5-27 | 5-31 | 10-27 | 10-26 | 10-29 | 10-27 | 10-26 | 10-15 | 10-19 | 10-26 | 10-29 | 10-30 | 11-5 | 10-9 | 11-4 | 10-23 | 11-6 | 10-26 |
| Span | 57 | 70 | 62 | 54 | 66 | 57 | 48 | 63 | 65 | 60 | 42 | 61 | 43 | 51 | 37 | 56 | 87 | 86 | 82 | 86 | 80 | 75 | 79 | 83 | 77 | 83 | 88 | 64 | 95 | 75 | 90 | 82 |
| # days | 17 | 54 | 29 | 36 | 20 | 16 | 21 | 23 | 14 | 12 | 11 | 18 | 20 | 24 | 13 | 22 | 26 | 67 | 31 | 32 | 27 | 32 | 23 | 29 | 21 | 33 | 28 | 25 | 28 | 14 | 23 | 29 |
| % days | 29 | 78 | 41 | 51 | 29 | 23 | 30 | 33 | 20 | 18 | 16 | 26 | 29 | 34 | 19 | 32 | 30 | 74 | 34 | 35 | 30 | 35 | 25 | 32 | 21 | 36 | 29 | 26 | 29 | 14 | 23 | 31 |
| High | 2 | 9 | 2 | 6 | 3 | 2 | 7 | 4 | 4 | 5 | 3 | 3 | 3 | 4 | 2 | 4 | 3 | 4 | 2 | 3 | 4 | 4 | 3 | 5 | 6 | 7 | 6 | 3 | 5 | 3 | 4 | 4 |
| Total | 18 | 82 | 33 | 61 | 25 | 19 | 34 | 40 | 21 | 20 | 14 | 26 | 30 | 37 | 16 | 32 | 33 | 84 | 33 | 43 | 37 | 44 | 29 | 38 | 38 | 60 | 45 | 37 | 51 | 22 | 27 | 41 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|------|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2005 | | | | | 0.3 | 0.07 | | 0.3 | | 0.3 | 0.3 | 0.4 | | 0.3 | 0.4 | 0.8 | 0.3 | 0.1 | 0.3 | 0.2 | 0.1 | | 0.1 | 0.3 | | 0.3 | 0.3 | 0.6 | 0.7 | 1.5 | 0.5 | 0.6 | 0.1 | | 0.4 | |
| 2006 | | | | | | | 1.4 | 1.0 | 1.0 | 1.0 | 1.4 | 2.6 | 0.9 | 0.7 | 1.3 | 0.6 | 1.2 | 0.2 | 0.3 | 0.3 | 0.7 | 1.1 | 0.7 | 0.9 | 0.7 | 1.6 | 1.1 | 1.3 | 1.1 | 1.4 | 0.6 | 0.4 | 0.3 | | 0.9 | |
| 2007 | 0.06 | | | | 0.4 | 0.1 | 0.7 | 0.7 | 0.6 | 0.4 | 0.4 | 0.7 | 0.1 | 0.7 | 0.1 | 0.1 | 0.5 | 0.1 | 0.3 | 0.2 | | 0.9 | 1.0 | 0.3 | 0.4 | 0.9 | 0.6 | 0.3 | 0.1 | 0.1 | | | 0.1 | | 0.4 | |
| 2008 | | | | | | | | | 0.3 | 1.7 | 1.3 | 2.0 | 1.3 | 0.9 | 0.6 | 0.7 | 0.9 | | | | 0.3 | 0.4 | 0.3 | 0.1 | | 0.6 | 1.1 | 1.6 | 0.9 | 0.6 | 0.1 | | 0.1 | | 0.5 | |
| 2009 | | | | | 0.1 | 0.05 | 0.3 | | 0.1 | 0.1 | 1.0 | 0.6 | 0.4 | 0.3 | 0.4 | 0.3 | 0.4 | 0.7 | 0.3 | 0.4 | | 0.6 | 0.1 | 0.1 | 0.3 | 0.9 | 0.3 | 0.7 | 0.3 | 0.4 | 1.0 | | 0.6 | | 0.4 | |
| 2010 | 0.1 | | | | 0.2 | 0.08 | | 0.1 | | 0.6 | 0.1 | 0.6 | 0.4 | 0.4 | 0.3 | 0.1 | 0.3 | 0.7 | 0.2 | 0.3 | 0.4 | 0.6 | 0.4 | 0.6 | 0.7 | 0.4 | 1.0 | 0.1 | | 1.6 | 0.4 | | | | 0.5 | |
| 2011 | 0.1 | | | | | 0.03 | | | 0.4 | 1.3 | 1.1 | 0.7 | 0.4 | 0.1 | 0.4 | 0.3 | 0.5 | 1.3 | 0.8 | 1.0 | 0.3 | 0.4 | 0.1 | 0.1 | 0.4 | 0.7 | 0.4 | 0.4 | 0.4 | 0.1 | 0.3 | 0.3 | | | 0.3 | |
| 2012 | | | | | 0.8 | 0.2 | 0.1 | 0.1 | | 0.7 | 0.3 | 0.6 | 1.0 | 1.9 | 0.4 | 0.6 | 0.6 | 0.3 | 0.5 | 0.4 | 0.3 | 0.6 | 0.4 | 0.6 | 0.6 | 0.3 | 0.9 | 0.1 | 1.1 | | | 0.3 | 0.3 | | 0.4 | |
| 2013 | | | | | | | 0.3 | | | 0.9 | 0.1 | 0.9 | 0.1 | 0.3 | 0.3 | 0.1 | 0.3 | | | | | 0.1 | 0.3 | 0.4 | 0.3 | 1.3 | 1.0 | 0.4 | 1.1 | | | 0.3 | 0.1 | | 0.4 | |
| 2014 | | | | | | | 0.2 | | | 1.7 | | 0.1 | 0.1 | 0.1 | 0.1 | 0.5 | 0.3 | | | 0.3 | 0.1 | | 0.6 | 1.7 | 1.6 | 0.4 | 0.3 | 0.9 | 0.4 | 0.7 | 0.4 | 0.3 | 0.7 | 0.6 | | 0.7 |
| 2015 | 0.2 | | | | | 0.1 | | | | 0.1 | 0.7 | 0.7 | 0.3 | | 0.1 | | 0.2 | | | 0.3 | 0.1 | | 0.1 | 0.1 | 1.7 | 0.9 | 1.0 | 0.6 | 0.4 | | 0.6 | 0.6 | 0.1 | 0.1 | 0.1 | 0.5 |
| 2016 | 0.1 | | | | | 0.02 | 0.1 | | | 0.4 | 0.1 | 0.4 | 1.0 | 0.6 | 0.4 | 0.6 | 0.4 | | | | 0.1 | 0.7 | 0.7 | 0.9 | 0.9 | 0.4 | 0.3 | 0.4 | 0.4 | 0.4 | | | | | 0.4 | |
| 2017 | | | | | | | | | | 1.6 | 0.3 | 0.1 | 0.7 | 0.6 | 0.9 | 0.1 | 0.4 | 0.3 | | 0.3 | 0.1 | 0.1 | 0.7 | 1.7 | 0.7 | 0.9 | 1.0 | 0.9 | 0.4 | | 0.1 | 0.1 | | 0.4 | 0.5 | |
| 2018 | | | | | | | | | 0.1 | 0.7 | | 1.1 | 0.7 | 0.9 | 0.7 | 1.0 | 0.5 | | | 0.8 | 0.4 | | 0.3 | 0.1 | | 0.3 | 0.7 | 0.3 | | 0.7 | 0.4 | | 0.3 | | 0.2 | |
| 2019 | | | | | | | | | | 0.7 | 0.6 | 0.4 | 0.1 | | 0.4 | | 0.2 | | | | | 0.4 | 0.1 | | | 0.6 | 0.7 | 0.7 | 0.6 | | 0.1 | 0.1 | 0.1 | 0.3 | 0.3 | |
| Mean | 0.05 | | | | 0.1 | 0.04 | 0.2 | 0.1 | 0.2 | 0.8 | 0.5 | 0.8 | 0.5 | 0.5 | 0.5 | 0.4 | 0.5 | 0.2 | 0.3 | 0.2 | 0.2 | 0.5 | 0.5 | 0.6 | 0.4 | 0.7 | 0.7 | 0.6 | 0.6 | 0.5 | 0.3 | 0.2 | 0.2 | 0.2 | 0.4 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|------|--|------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | 1 |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.07 | | 0.07 |

Red-shouldered hawk is an uncommon but regular species at MBO in spring and fall, and is also observed fairly often in summer and winter. From 2005 to 2014, the earliest spring migrants usually arrived in late March or the beginning of April, but in four of the five most recent years, there have been no sightings until mid-April. Most sightings at MBO are thought to be of a local pair that breeds in or near the neighbouring Morgan Arboretum in most years. There tends to be a slight peak in sightings around mid-spring, which appears to reflect the passage of migrants, given that the peak counts of 5+ individuals have all been in late April or early May. In fall, numbers are slightly higher around mid-September, but do not taper off notably until around mid-October. Only one individual has been banded, late in fall 2005.

BWHA: Broad-winged Hawk / Petite Buse (*Buteo platypterus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|-------|------|------|
| First | 4-19 | 5-4 | 4-23 | 4-23 | 4-25 | 4-20 | 4-24 | 4-28 | 4-19 | 4-21 | 4-23 | 4-28 | 4-18 | 4-24 | 4-25 | 4-23 | 9-6 | 8-15 | 9-12 | 8-20 | 8-24 | 8-9 | 9-8 | 8-28 | 8-28 | 8-17 | 8-18 | 8-8 | 8-8 | 8-10 | 8-23 | 8-21 |
| Peak | 4-19 | 5-4 | 4-24 | 4-23 | 4-25 | 4-21 | 4-24 | 5-5 | 4-19 | 4-21 | 4-23 | 6-1 | 5-4 | 4-24 | 5-6 | 4-28 | 9-11 | 8-16 | 9-16 | 9-16 | 9-15 | 9-14 | 9-10 | 9-1 | 9-14 | 9-18 | 9-11 | 9-13 | 9-15 | 9-8 | 9-9 | 9-10 |
| Last | 5-17 | 5-4 | 5-11 | 5-14 | 5-24 | 5-29 | 5-21 | 5-5 | 5-28 | 4-21 | 4-23 | 6-1 | 5-9 | 5-21 | 5-18 | 5-14 | 9-19 | 9-20 | 9-29 | 9-24 | 9-26 | 10-4 | 9-19 | 9-28 | 10-5 | 10-9 | 10-11 | 10-1 | 11-4 | 10-10 | 9-30 | 10-2 |
| Span | 29 | 1 | 19 | 22 | 30 | 40 | 28 | 8 | 40 | 1 | 1 | 35 | 22 | 28 | 24 | 22 | 14 | 37 | 18 | 36 | 34 | 57 | 12 | 32 | 39 | 54 | 55 | 55 | 89 | 62 | 39 | 43 |
| # days | 2 | 1 | 7 | 7 | 3 | 7 | 5 | 3 | 3 | 1 | 1 | 9 | 7 | 8 | 7 | 5 | 3 | 11 | 7 | 9 | 5 | 10 | 5 | 8 | 13 | 25 | 32 | 20 | 25 | 25 | 17 | 15 |
| % days | 3 | 1 | 10 | 10 | 4 | 10 | 7 | 4 | 4 | 1 | 1 | 13 | 10 | 11 | 10 | 7 | 3 | 12 | 8 | 10 | 5 | 11 | 5 | 9 | 14 | 26 | 33 | 20 | 26 | 26 | 17 | 16 |
| High | 1 | 2 | 3 | 10 | 1 | 11 | 16 | 23 | 1 | 1 | 3 | 2 | 3 | 60 | 10 | 10 | 36 | 3 | 25 | 29 | 10 | 6 | 300 | 5 | 74 | 327 | 86 | 87 | 63 | 37 | 242 | 89 |
| Total | 2 | 2 | 10 | 17 | 3 | 23 | 27 | 25 | 3 | 1 | 3 | 10 | 11 | 72 | 23 | 15 | 39 | 17 | 58 | 61 | 20 | 26 | 310 | 18 | 133 | 482 | 281 | 167 | 203 | 113 | 478 | 161 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|-----|-----|-----|------|------|------|------|------|------|------|------|----|-----|-----|------|------|------|------|------|-----|------|-----|-----|-----|------|------|------|------|-----|
| 2005 | | | | | | | | | | 0.2 | | | | 0.1 | | | 0.03 | | | | | | | | | 5.3 | | 0.3 | | | | | | | 0.4 | | | |
| 2006 | | | | | | | | | | | | 0.3 | | | | | 0.03 | | | | | | 0.9 | 0.6 | 0.1 | 0.7 | | 0.1 | | | | | | | 0.2 | | | |
| 2007 | | | | | | | | | | 0.7 | 0.3 | 0.3 | 0.1 | | | | 0.1 | | | | | | | | | | 7.3 | 0.7 | 0.3 | | | | | | | 0.6 | | |
| 2008 | | | | | | | | | | 1.6 | 0.4 | 0.3 | 0.1 | | | | 0.2 | | | | | | 0.1 | 0.4 | 0.9 | 2.4 | 4.7 | 0.1 | | | | | | | 0.7 | | | |
| 2009 | | | | | | | | | | | 0.1 | | | 0.1 | 0.1 | | 0.04 | | | | | | | 0.1 | | 1.0 | 1.4 | | 0.3 | | | | | | 0.2 | | | |
| 2010 | | | | | | | | | | 2.6 | 0.1 | 0.4 | | | 0.1 | | 0.3 | | | | | 0.3 | | | | 1.1 | 1.6 | | | 0.7 | | | | | 0.3 | | | |
| 2011 | | | | | | | | | | 2.3 | 1.4 | | | 0.1 | | | 0.4 | | | | | | | | | 44.0 | 0.1 | 0.1 | | | | | | | 3.4 | | | |
| 2012 | | | | | | | | | | | 0.3 | 3.3 | | | | | 0.4 | | | | | | | 0.1 | 0.9 | 0.9 | | 0.1 | 0.6 | | | | | | 0.2 | | | |
| 2013 | | | | | | | | | | 0.3 | | | | | 0.1 | | 0.04 | | | | | | | | 1.0 | 1.6 | 0.3 | 14.9 | 0.9 | 1.0 | 0.3 | | | | 1.5 | | | |
| 2014 | | | | | | | | | | 0.1 | | | | | | | 0.01 | | | | | | | 11.1 | 1.1 | 2.7 | 2.1 | 50.1 | 0.3 | 1.0 | 0.3 | | | | 5.3 | | | |
| 2015 | | | | | | | | | | 0.4 | | | | | | | 0.04 | | | | | | 0.1 | 3.7 | 3.0 | 13.9 | 14.3 | 3.4 | 1.1 | 0.4 | 0.1 | | | | 2.9 | | | |
| 2016 | | | | | | | | | | | 0.1 | 0.3 | 0.4 | 0.1 | 0.1 | 0.3 | 0.1 | | | | | 0.1 | 0.7 | 0.3 | 6.0 | 0.1 | 15.6 | 0.6 | 0.4 | | | | | 1.7 | | | | |
| 2017 | | | | | | | | | | 0.6 | 0.3 | 0.6 | 0.1 | | | | 0.2 | | 0.3 | 0.1 | | 0.6 | 1.9 | 1.3 | 0.1 | 6.3 | 15.9 | 2.6 | 0.3 | | | 0.1 | | 2.1 | | | | |
| 2018 | | | | | | | | | | 8.6 | | 1.3 | 0.1 | 0.3 | | | 1.0 | | | | | 0.3 | 0.1 | 0.4 | 3.0 | 7.9 | 2.1 | 1.1 | 0.4 | 0.6 | 0.1 | | | 1.2 | | | | |
| 2019 | | | | | | | | | | | 1.3 | 1.6 | 0.3 | 0.1 | | | 0.3 | 0.3 | | 0.1 | | | | 0.6 | 0.7 | 35.6 | 30.6 | 0.7 | 0.1 | | | | | 4.9 | | | | |
| Mean | | | | | | | | | | 1.2 | 0.3 | 0.6 | 0.09 | 0.07 | 0.04 | 0.02 | 0.2 | 0.01 | 0.01 | 0.01 | | | | | 0.09 | 1.0 | 0.6 | 1.3 | 8.1 | 10.6 | 0.7 | 0.3 | 0.2 | 0.02 | 0.03 | 0.04 | 0.03 | 1.7 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--|------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.07 |

Broad-winged Hawk occurs at MBO primarily as a migrant, although summer sightings in 2017 and 2019 suggest potential breeding nearby. In spring, numbers have peaked in Week 4 in 10 of 15 years; every 3-4 years (2006, 2009, 2012, 2016, 2019) the largest numbers have instead been observed between Week 5 and Week 7; in fall there tends to be a sharper peak, almost always in Week 6 or 7, with only rare sightings into early October, and one exceptionally late record of an individual in a poplar along the B/N nets on 4 November 2017. Only in six years has the peak daily count in spring been at least 10 individuals, compared to fall, when there have been only three years with a smaller high count. In both seasons, Broad-winged Hawks primarily pass by on days with strong thermals, which often only develop late in the morning or into the afternoon, sometimes not until after MBO's daily observation period is completed. Variability among years may therefore sometimes reflect passage of birds outside program hours. Only one Broad-winged Hawk has been banded at MBO, in fall 2014.

RTHA: Red-tailed Hawk / Buse à queue rousse (*Buteo jamaicensis*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|---------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|-------|-------|
| First | 4-30 | 3-30 | 4-7 | 3-29 | 3-29 | 4-19 | 4-14 | 3-31 | 3-29 | 4-2 | 4-3 | 4-10 | 4-12 | 4-7 | 3-30 | 4-6 | 8-28 | 8-26 | 8-5 | 8-20 | 8-11 | 8-9 | 8-2 | 8-1 | 8-2 | 8-2 | 8-10 | 8-2 | 8-2 | 8-10 | 8-11 | 8-9 |
| Peak | 4-30 | 5-4 | 4-23 | 4-23 | 4-25 | 4-21 | 5-12 | 3-31 | 3-29 | 5-31 | 5-29 | 4-24 | 5-2 | 4-24 | 4-30 | 4-28 | 10-8 | 10-21 | 10-25 | 10-12 | 10-16 | 10-3 | 10-27 | 9-27 | 9-25 | 10-30 | 10-10 | 9-3 | 11-4 | 10-23 | 10-19 | 10-12 |
| Last | 5-4 | 5-23 | 5-18 | 5-30 | 5-23 | 6-4 | 5-30 | 5-31 | 5-31 | 6-4 | 6-1 | 6-3 | 6-2 | 5-30 | 5-29 | 5-27 | 10-27 | 10-30 | 10-30 | 10-30 | 10-29 | 10-30 | 10-29 | 10-30 | 10-29 | 10-30 | 11-6 | 11-6 | 11-6 | 11-2 | 11-6 | 10-31 |
| Span | 5 | 55 | 42 | 63 | 56 | 47 | 47 | 62 | 64 | 64 | 60 | 55 | 52 | 54 | 61 | 52 | 61 | 66 | 87 | 72 | 80 | 83 | 89 | 91 | 89 | 90 | 89 | 97 | 97 | 85 | 88 | 84 |
| # days | 2 | 10 | 9 | 13 | 11 | 11 | 18 | 24 | 22 | 35 | 20 | 36 | 25 | 22 | 22 | 19 | 13 | 25 | 30 | 27 | 32 | 26 | 41 | 57 | 48 | 59 | 54 | 65 | 53 | 55 | 53 | 43 |
| % days | 3 | 14 | 13 | 19 | 16 | 16 | 26 | 34 | 31 | 51 | 29 | 51 | 36 | 31 | 31 | 27 | 15 | 27 | 33 | 30 | 35 | 29 | 45 | 63 | 53 | 65 | 55 | 66 | 54 | 56 | 54 | 46 |
| High | 1 | 13 | 4 | 3 | 6 | 8 | 5 | 2 | 2 | 3 | 3 | 3 | 3 | 28 | 4 | 6 | 5 | 21 | 7 | 6 | 16 | 55 | 56 | 20 | 24 | 19 | 28 | 12 | 51 | 23 | 7 | 23 |
| Total | 2 | 27 | 14 | 18 | 17 | 21 | 28 | 29 | 26 | 53 | 23 | 51 | 40 | 66 | 32 | 30 | 22 | 54 | 59 | 56 | 73 | 120 | 159 | 179 | 137 | 212 | 174 | 126 | 152 | 165 | 134 | 121 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|-------------|-----|------|------|------|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|
| 2005 | | | | | 0.8 | 0.2 | | | | | 0.1 | 0.1 | | | | | 0.03 | | | | | | | 0.1 | | | 0.1 | 0.1 | 0.3 | 1.3 | 0.7 | 0.3 | 0.4 | | 0.2 |
| 2006 | 0.3 | 0.07 | 0.2 | | 0.2 | 0.1 | 0.1 | 0.2 | 1.0 | | 0.4 | 1.9 | 0.1 | | 0.1 | | 0.4 | | 0.08 | 0.05 | | | | 0.1 | 0.3 | 0.3 | 0.1 | 0.1 | 0.4 | 0.6 | 0.7 | 3.7 | 1.3 | | 0.6 |
| 2007 | 0.3 | 0.6 | 0.3 | 0.5 | 0.6 | 0.4 | | 0.4 | 0.1 | 0.9 | 0.1 | 0.1 | 0.1 | | | | 0.2 | 0.1 | | 0.08 | 0.1 | | 0.1 | 0.3 | 0.1 | 0.1 | 1.4 | 0.6 | 0.3 | 1.3 | 0.7 | 1.4 | 1.9 | | 0.6 |
| 2008 | 0.6 | 0.3 | 0.2 | | | 0.3 | 0.3 | 0.1 | 0.3 | 0.4 | 0.3 | 0.3 | 0.4 | | 0.3 | 0.1 | 0.3 | | | | | | 0.1 | 0.3 | 0.1 | 0.1 | 0.1 | 0.6 | 0.3 | 0.7 | 1.9 | 2.0 | 1.7 | | 0.6 |
| 2009 | 0.4 | 0.5 | | 0.4 | 0.3 | 0.3 | 0.1 | | 0.1 | 0.3 | 0.9 | 0.6 | | 0.3 | 0.1 | | 0.2 | | | | | 0.3 | | 0.3 | | 0.7 | 0.7 | 1.1 | 0.9 | 0.6 | 4.1 | 0.9 | 0.9 | | 0.8 |
| 2010 | 0.3 | 0.3 | 0.09 | 0.08 | 0.2 | 0.2 | | | | 1.3 | 0.6 | | 0.1 | 0.6 | 0.1 | 0.3 | 0.3 | | | | | 0.1 | 0.3 | | 1.1 | 0.1 | 0.3 | 0.1 | 0.9 | 11.1 | 0.7 | 1.0 | 1.3 | | 1.3 |
| 2011 | 0.3 | 1.0 | 0.08 | 0.2 | | 0.2 | | | 0.1 | 0.4 | 0.4 | 0.9 | 1.3 | 0.3 | 0.4 | 0.1 | 0.4 | | | | 0.1 | 0.3 | | 0.4 | 0.3 | 0.7 | 1.4 | 1.0 | 2.9 | 3.6 | 1.6 | 1.0 | 9.4 | | 1.7 |
| 2012 | 0.6 | 0.5 | | 1.7 | 0.4 | 0.6 | 0.3 | 0.1 | 0.6 | 0.3 | 0.6 | 0.4 | 0.6 | 0.7 | 0.4 | 0.1 | 0.4 | | | | 0.4 | 0.4 | 0.6 | 1.0 | 1.7 | 0.7 | 0.7 | 0.4 | 4.6 | 2.9 | 1.9 | 3.3 | 7.0 | | 2.0 |
| 2013 | 0.3 | 0.6 | 0.5 | | 0.5 | 0.4 | 1.1 | 0.1 | 0.4 | 0.4 | 0.4 | | 0.4 | 0.4 | 0.1 | 0.1 | 0.4 | | 0.3 | 0.1 | 0.1 | | 0.6 | 1.0 | 1.1 | 1.7 | 1.4 | 4.1 | 0.7 | 1.7 | 2.1 | 3.0 | 1.9 | | 1.5 |
| 2014 | 0.4 | 0.3 | 0.3 | 0.1 | 0.4 | 0.3 | 0.2 | 0.1 | | 1.3 | 0.7 | 0.4 | 1.0 | 1.3 | 1.9 | 0.8 | 0.8 | 1.0 | 0.3 | 0.6 | 0.7 | 0.9 | 2.1 | 1.4 | 1.6 | 0.9 | 3.9 | 1.4 | 5.0 | 2.4 | 1.7 | 3.7 | 4.6 | | 2.3 |
| 2015 | 1.7 | | 1.0 | | | 1.2 | 0.1 | 0.1 | 0.1 | 0.4 | 0.6 | 0.3 | 0.4 | 0.4 | 0.4 | 0.3 | 0.3 | | | | | 0.1 | 0.4 | 1.7 | 1.1 | 1.1 | 1.7 | 1.9 | 1.3 | 4.3 | 5.1 | 1.1 | 2.6 | 2.3 | 1.8 |
| 2016 | 0.9 | 0.6 | | 0.08 | 0.2 | 0.3 | | 0.1 | | 1.3 | 0.7 | 0.9 | 1.4 | 1.0 | 1.0 | 0.9 | 0.7 | 0.3 | 0.3 | 0.2 | 0.7 | 1.0 | 1.3 | 1.4 | 3.0 | 0.3 | 1.6 | 2.0 | 2.3 | 1.3 | 1.1 | 0.4 | 0.7 | 0.9 | 1.3 |
| 2017 | | | 0.3 | | 0.1 | 0.09 | | | 0.4 | 0.3 | 1.0 | 0.6 | 0.7 | 1.1 | 1.3 | 0.3 | 0.6 | 1.0 | | 0.4 | 1.0 | 1.4 | 1.4 | 1.4 | 0.3 | 1.3 | 0.7 | 1.1 | 0.7 | 0.1 | 1.1 | 2.3 | 0.7 | 8.0 | 1.6 |
| 2018 | 0.3 | 0.2 | 0.1 | | 0.1 | 0.1 | | 0.3 | 0.3 | 5.3 | | 0.9 | 0.7 | 1.3 | 0.4 | 0.3 | 0.9 | 0.7 | 0.5 | 0.6 | | 1.1 | 1.3 | 0.4 | 1.6 | 2.9 | 0.7 | 0.3 | 1.6 | 3.7 | 1.7 | 5.0 | 3.1 | 0.1 | 1.7 |
| 2019 | 0.5 | | | | 0.2 | 0.2 | 0.1 | 0.3 | 0.3 | 0.6 | 1.3 | 0.7 | 0.1 | 0.4 | 0.7 | | 0.5 | | | | | 0.3 | 0.4 | 0.9 | 0.9 | 2.1 | 2.4 | 1.1 | 1.4 | 1.7 | 2.1 | 2.1 | 1.6 | 2.0 | 1.4 |
| Mean | 0.5 | 0.3 | 0.2 | 0.1 | 0.3 | 0.3 | 0.2 | 0.1 | 0.3 | 0.9 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.2 | 0.4 | 0.1 | 0.07 | 0.1 | 0.2 | 0.4 | 0.6 | 0.7 | 0.9 | 0.9 | 1.2 | 1.1 | 1.6 | 2.5 | 1.8 | 2.1 | 2.6 | 2.7 | 1.3 |

Red-tailed Hawk is regular but uncommon at MBO throughout the year. In spring, sightings typically span much of the season but in most years there is only a modest peak, generally between mid-April and late May. Only in 2006 and 2018 were there any single-day counts exceeding 10 individuals. Mean daily counts in spring have increased slightly over time, and perhaps correspondingly, summer sightings have been more frequent since 2013, probably reflecting the presence of a breeding pair at the neighbouring McGill farm. Observations remain fairly infrequent in Week 1 of fall, then typically increase steadily over the course of the first two months and remain elevated through the remainder of the season. However, as in spring there is considerable variability among years regarding the timing of the peak movement. Overall, Red-tailed Hawk is far more numerous in fall than spring, and peak counts tend to be much higher, including eight years with a single-day high of at least 20 individuals. Sightings taper off in November, and again in December, then stay around a similar level until early April.

RLHA: Rough-legged Hawk / Buse pattue (*Buteo lagopus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|-------|-------|
| First | | 5-9 | 4-22 | | | | | | | | | | | 4-18 | | 4-26 | | 10-5 | | 10-10 | 10-29 | 10-9 | 10-29 | 10-25 | 10-23 | 10-26 | 10-30 | | 11-4 | 10-25 | 10-19 | 10-22 |
| Peak | | 5-9 | 4-22 | | | | | | | | | | | 4-18 | | 4-26 | | 10-21 | | 10-10 | 10-29 | 10-9 | 10-29 | 10-25 | 10-23 | 10-26 | 10-30 | | 11-4 | 10-25 | 10-19 | 10-23 |
| Last | | 5-9 | 5-2 | | | | | | | | | | | 5-2 | | 5-4 | | 10-21 | | 10-22 | 10-29 | 10-29 | 10-29 | 10-25 | 10-23 | 10-30 | 10-30 | | 11-4 | 10-25 | 10-21 | 10-26 |
| Span | | 1 | 11 | | | | | | | | | | | 15 | | 9 | | 17 | | 13 | 1 | 21 | 1 | 1 | 1 | 5 | 1 | | 1 | 1 | 3 | 6 |
| # days | | 1 | 2 | | | | | | | | | | | 5 | | 3 | | 2 | | 2 | 1 | 4 | 1 | 1 | 1 | 2 | 1 | | 1 | 1 | 2 | 2 |
| % days | | 1 | 3 | | | | | | | | | | | 7 | | 4 | | 2 | | 2 | 1 | 4 | 1 | 1 | 1 | 2 | 1 | | 1 | 1 | 2 | 2 |
| High | | 1 | 1 | | | | | | | | | | | 1 | | 1 | | 2 | | 1 | 1 | 1 | 1 | 4 | 2 | 1 | 1 | | 1 | 1 | 1 | 1 |
| Total | | 1 | 2 | | | | | | | | | | | 5 | | 1 | | 3 | | 2 | 1 | 4 | 1 | 4 | 2 | 2 | 1 | | 1 | 1 | 2 | 2 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|------|------|-----|------|-----|------|----|----|----|------|------|------|------|----|----|-----|--------|-----|-----|----|----|----|----|----|----|----|----|------|------|------|-----|------|-----|------|------|------|------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | 0.07 | | | | | 0.02 | | | | | | | 0.1 | | | | 0.01 | | | | | | | | | | | | 0.1 | | 0.3 | | | | 0.03 | | |
| 2007 | | | | | | | | | | 0.1 | | 0.1 | | | | | 0.03 | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.02 | |
| 2009 | | | | 0.1 | | 0.03 | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | 0.1 | | | | | 0.01 | |
| 2010 | | 0.1 | | | | 0.02 | | | | | | | | | | | | | | | | | | | | | | 0.1 | 0.3 | | 0.1 | | | | | 0.04 | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.01 | |
| 2012 | 0.1 | | | | | 0.04 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.04 | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.02 | |
| 2014 | 0.2 | | | | | 0.03 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.02 | |
| 2015 | 0.3 | | | | | 0.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.01 | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | 0.1 | | | | | 0.03 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | 0.01 |
| 2018 | | | | | | | | | | 0.4 | 0.1 | 0.1 | | | | | 0.07 | | | | | | | | | | | | | | | | | 0.1 | | 0.01 | |
| 2019 | 0.09 | | | | | 0.02 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.3 | | 0.02 |
| Mean | 0.06 | 0.01 | | 0.01 | | 0.02 | | | | 0.04 | 0.01 | 0.02 | 0.01 | | | | <0.005 | | | | | | | | | | | 0.02 | 0.03 | 0.07 | 0.1 | 0.03 | | 0.02 | | | |

Rough-legged Hawk is a very rare spring and rare fall migrant, lingering into winter in some years. There have been spring sightings in just three years, all between 18 April and 9 May. Interestingly, there were more observations in 2018 than both previous years combined. Rough-legged Hawk occurs more regularly in fall, with at least one sighting in each year except 2005, 2007, and 2016. However, the total count has not exceeded four individuals in any year. There were sightings in the first half of October in 2006, 2008, and 2010, but otherwise all observations have been from 19 October onward. Most winter sightings are from November, reflecting that this is a late fall migrant, still on the move beyond the designated end of MBO's fall season. Sightings in February and December 2009 probably involved individuals wintering in the Montreal region, and spotted while passing by MBO.

EASO: Eastern Screech-Owl / Petit-duc maculé (*Megascops asio*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|------|------|
| First | | | | | | | | | | | | | | | | 9-18 | | | | | | | | | | 9-5 | 9-29 | 10-15 | 9-3 | 10-30 | | 9-26 |
| Peak | | | | | | | | | | | | | | | | 9-18 | | | | | | | | | | 9-5 | 9-29 | 10-15 | 9-3 | 10-30 | | 9-26 |
| Last | | | | | | | | | | | | | | | | 9-18 | | | | | | | | | | 9-17 | 9-29 | 10-19 | 10-10 | 10-31 | | 10-5 |
| Span | | | | | | | | | | | | | | | | 1 | | | | | | | | | | 13 | 1 | 5 | 38 | 2 | | 10 |
| # days | | | | | | | | | | | | | | | | 1 | | | | | | | | | | 2 | 1 | 2 | 2 | 2 | | 2 |
| % days | | | | | | | | | | | | | | | | 1 | | | | | | | | | | 2 | 1 | 2 | 2 | 2 | | 2 |
| High | | | | | | | | | | | | | | | | 1 | | | | | | | | | | 1 | 1 | 1 | 1 | 1 | | 1 |
| Total | | | | | | | | | | | | | | | | 0 | | | | | | | | | | 2 | 1 | 2 | 2 | 2 | | 1 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|------|------|-----|--------|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|----|----|----|------|------|------|-----|------|------|------|------|------|------|--------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | 0.01 |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | 0.2 | | 0.03 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | 0.1 | | | | | | | 0.02 |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | 0.01 |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | 0.1 | | | | 0.02 |
| 2016 | | | | 0.08 | | 0.02 | | | | | | | | | | | | | | | | | | | 0.1 | | | | 0.1 | | | | | | 0.02 |
| 2017 | | | 0.1 | | | 0.03 | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | 0.1 | | 0.02 |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | 0.01 | 0.02 | | <0.005 | | | | | | | | | | | | | | | | | | | 0.01 | 0.01 | 0.02 | | 0.01 | 0.02 | 0.01 | 0.01 | 0.01 | 0.03 | <0.005 |

[Note that for this and other banded owl species, the banding summary table has been adjusted to indicate the periods with owl banding effort.]

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | |
| 2011 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Mean | 0.4 | | | | | 0.4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.2 | 1.1 |

An Eastern Screech-Owl was heard in mid-September 2005, but there were no other daytime detections in fall until 2013. From 2013 to 2017, there were one or two detections each fall. There have also been a few winter observations, all in January or February. The species has been more regularly encountered through the fall owl banding program, with at least one banded in each season since 2009, other than 2011. The majority of owls banded have been in late September or early October, but there appears to be a second pulse of activity in early November in some years.

GHOW: Great Horned Owl / Grand-duc d'Amérique (*Bubo virginianus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|---------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|------|-------|-------|-------|-------|------|------|------|------|------|-------|
| First | 4-30 | 4-9 | | | | 5-14 | 5-8 | 5-23 | 5-14 | 4-20 | 4-26 | 4-30 | 4-18 | 4-19 | 4-25 | 4-29 | 9-3 | | 8-10 | | 8-27 | 10-2 | 8-8 | 8-1 | 8-6 | 8-22 | 8-5 | 8-7 | 8-6 | 8-2 | 8-1 | 8-14 |
| Peak | 4-30 | 4-9 | | | | 5-14 | 5-8 | 5-23 | 5-14 | 4-27 | 4-26 | 4-30 | 5-16 | 5-12 | 5-29 | 5-7 | 9-15 | | 8-10 | | 8-27 | 10-2 | 9-6 | 9-9 | 9-22 | 8-31 | 9-10 | 9-18 | 8-25 | 8-19 | 9-22 | 9-7 |
| Last | 4-30 | 5-19 | | | | 5-14 | 5-8 | 5-23 | 5-14 | 5-19 | 5-22 | 5-23 | 5-22 | 5-30 | 5-31 | 5-18 | 9-15 | | 10-28 | | 8-27 | 10-4 | 10-30 | 10-30 | 10-30 | 10-30 | 11-3 | 11-6 | 11-4 | 11-6 | 11-4 | 10-21 |
| Span | 1 | 41 | | | | 1 | 1 | 1 | 1 | 30 | 27 | 24 | 35 | 42 | 37 | 20 | 13 | | 80 | | 1 | 3 | 84 | 91 | 86 | 70 | 91 | 92 | 91 | 97 | 96 | 69 |
| # days | 1 | 4 | | | | 1 | 1 | 1 | 1 | 9 | 2 | 4 | 11 | 31 | 8 | 6 | 4 | | 2 | | 1 | 2 | 14 | 10 | 37 | 41 | 40 | 43 | 54 | 38 | 59 | 27 |
| % days | 2 | 6 | | | | 1 | 1 | 1 | 1 | 13 | 3 | 6 | 16 | 44 | 11 | 9 | 5 | | 2 | | 1 | 2 | 15 | 11 | 41 | 45 | 41 | 44 | 55 | 39 | 60 | 28 |
| High | 1 | 2 | | | | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 2 | 3 | 2 | 2 | 2 | | 1 | | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 2 | 2 | 3 | 3 | 2 |
| Total | 1 | 5 | | | | 1 | 1 | 1 | 2 | 10 | 2 | 4 | 12 | 46 | 9 | 6 | 5 | | 2 | | 1 | 2 | 15 | 12 | 43 | 52 | 47 | 51 | 63 | 43 | 76 | 27 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|------|------|-----|------|------|------|----|------|------|------|-----|-----|-----|-----|-----|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|
| 2005 | | | | | | | | | | | 0.1 | | | | | | 0.02 | | | | | | | | | 0.1 | 0.3 | 0.3 | | | | | | | | 0.06 | |
| 2006 | | | | | | | | 0.3 | 0.1 | | | 0.1 | | 0.1 | | | 0.07 | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | | | 0.1 | | 0.02 | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | | | 0.01 |
| 2010 | | | | | | | | | | | | | 0.1 | | | | 0.01 | | 0.2 | 0.1 | | | | | | | | | 0.1 | 0.1 | | | | | | 0.02 | |
| 2011 | | | | 0.3 | | 0.05 | | | | | | 0.1 | | | | | 0.01 | | | | | 0.1 | 0.1 | | 0.1 | 0.3 | 0.3 | | 0.4 | 0.1 | 0.3 | 0.1 | 0.1 | | 0.2 | | |
| 2012 | | 0.3 | | | | 0.04 | | | | | | | | 0.1 | | | 0.01 | | | | 0.1 | | | | | 0.4 | 0.1 | 0.1 | 0.3 | 0.3 | | | 0.3 | | 0.1 | | |
| 2013 | | | | | 0.07 | 0.02 | | | | | | | 0.3 | | | | 0.03 | | | | 0.1 | 0.1 | 0.1 | | | 0.6 | 0.4 | 0.7 | 0.9 | 0.9 | 0.7 | 0.7 | | 0.5 | | | |
| 2014 | | | | | 0.2 | 0.03 | | | | 0.6 | 0.6 | 0.1 | | 0.1 | | | 0.1 | | | | 0.1 | 0.1 | | 1.0 | 1.4 | 0.7 | 0.6 | 1.0 | 1.0 | 0.6 | 0.1 | 0.3 | 0.7 | | 0.6 | | |
| 2015 | 0.4 | | | | | 0.3 | | | | | 0.1 | | | 0.1 | | | 0.03 | | | | 0.1 | 0.3 | 0.4 | 0.6 | 0.3 | 1.1 | 0.4 | 0.6 | 0.3 | 0.6 | 0.6 | 0.6 | 0.4 | 0.4 | 0.5 | | |
| 2016 | | | | | | | | | | 0.1 | 0.1 | | 0.1 | 0.1 | | | 0.06 | | 0.3 | 0.1 | 0.1 | | 0.4 | 0.1 | 0.1 | | 0.7 | 0.9 | 0.3 | 1.3 | 0.7 | 0.6 | 0.9 | 1.1 | 0.5 | | |
| 2017 | | | | 0.1 | | 0.03 | | | | 0.6 | 0.3 | 0.1 | 0.1 | 0.6 | | | 0.2 | | 0.8 | 0.4 | 0.3 | 0.4 | 0.6 | 1.0 | 0.9 | 0.7 | 0.4 | 0.7 | 1.0 | 1.0 | 0.9 | 0.4 | 0.6 | 0.1 | 0.6 | | |
| 2018 | | | | | | | | | 0.1 | 0.7 | 1.0 | 1.4 | 1.6 | 1.6 | 0.1 | 0.1 | 0.7 | | 0.7 | 0.3 | 0.4 | 0.6 | 0.7 | 1.1 | 0.1 | 0.7 | 0.3 | 0.6 | 0.6 | 0.6 | 0.4 | 0.1 | | 0.3 | 0.4 | | |
| 2019 | 0.09 | | | | | 0.02 | | | | 0.3 | 0.1 | 0.3 | | 0.4 | 0.1 | 0.1 | | | | | 0.3 | 0.9 | 0.6 | 0.9 | 1.0 | 1.1 | 0.7 | 1.0 | 1.0 | 0.9 | 1.0 | 0.7 | 0.4 | 0.4 | 0.8 | | |
| Mean | 0.05 | 0.01 | | 0.03 | 0.02 | 0.02 | | 0.02 | 0.01 | 0.09 | 0.2 | 0.1 | 0.2 | 0.2 | 0.2 | 0.02 | 0.09 | 0.03 | 0.07 | 0.05 | 0.1 | 0.2 | 0.2 | 0.3 | 0.3 | 0.4 | 0.3 | 0.4 | 0.4 | 0.4 | 0.3 | 0.2 | 0.3 | 0.5 | 0.3 | | |

Great Horned Owl was rare at MBO from 2005 to 2010, with only 15 observations in total scattered across spring and fall in those years, and one in July 2010. Winter observations have been almost annual since 2011, although always rare and limited to no more than one month each year. Spring records remained rare in most years through 2016, but have been above average since 2017, most notably in 2018 when a pair nested in the conifer grove adjacent to the winter nets, with observations carrying over through summer. In fall, observations started to become substantially more common in 2011, and have been particularly regular since 2013, occurring throughout the season with relatively little variation in overall frequency.

BDOW: Barred Owl / Chouette rayée (*Strix varia*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|-------|------|------|------|------|------|------|------|------|------|------|-----|
| First | | | | | 5-2 | | | | | | | | 5-1 | | | 5-1 | | | | | 9-25 | | | | | | | 9-4 | | | 9-14 | |
| Peak | | | | | 5-2 | | | | | | | | 5-1 | | | 5-1 | | | | | 9-25 | | | | | | | 9-4 | | | 9-14 | |
| Last | | | | | 5-2 | | | | | | | | 5-1 | | | 5-1 | | | | | 10-19 | | | | | | | 9-10 | | | 9-29 | |
| Span | | | | | 1 | | | | | | | | 1 | | | 1 | | | | | 25 | | | | | | | 7 | | | 16 | |
| # days | | | | | 1 | | | | | | | | 1 | | | 1 | | | | | 2 | | | | | | | 2 | | | 2 | |
| % days | | | | | 1 | | | | | | | | 1 | | | 1 | | | | | 2 | | | | | | | 2 | | | 2 | |
| High | | | | | 1 | | | | | | | | 2 | | | 2 | | | | | 1 | | | | | | | 1 | | | 1 | |
| Total | | | | | 1 | | | | | | | | 2 | | | 0 | | | | | 2 | | | | | | | 2 | | | 0 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|------|------|----|----|----|-----|--------|------|-----|----|----|----|----|----|------|------|----|------|----|-----|-----|------|-----|-----|----|--------|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | 0.1 | | | | | | 0.01 | | | | | | | | | | 0.1 | | | | 0.1 | | | | 0.02 | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | 0.3 | | | | | | 0.03 | | | | | | | 0.1 | 0.1 | | | | | | | | | | 0.02 | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | 0.02 | 0.01 | | | | | <0.005 | | | | | | | | 0.01 | 0.01 | | 0.01 | | | | 0.01 | | | | <0.005 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|--|-----|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | 1 | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.2 | | 0.2 | |

Barred Owl is likely a year-round resident in the Morgan Arboretum adjacent to MBO, but there have been daytime observations at MBO only twice in spring and four times in fall. The spring records were eight years apart, but both within the first two days of May. The fall sightings were all in the same two years as spring, 2009 and 2017. In each case there were two detections of a single bird. However, Barred Owl is heard fairly frequently at night during the fall owl banding program. Only two Barred Owls have been banded at MBO, both in mid-October.

GGOW: Great Gray Owl / Chouette lapone (*Strix nebulosa*)

Great Gray Owl has only been observed at MBO in winter. There was a single sighting in 2005 on 5 March, and another nine observations during the winter of 2012-2013 between 5 January 2013 and 6 February 2013, including two individuals on 26 January 2013. During both of these winters, unusually large numbers of Great Gray Owls were observed throughout the Montreal region.

LEOW: Long-eared Owl / Hibou moyen-duc (*Asio otus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|-------|------|------|------|------|------|------|------|------|------|-------|-----|
| First | | | | | | | | | | | | | | | | | | | | | 10-26 | | | | | | | | | | 10-26 | |
| Peak | | | | | | | | | | | | | | | | | | | | | 10-26 | | | | | | | | | | 10-26 | |
| Last | | | | | | | | | | | | | | | | | | | | | 10-26 | | | | | | | | | | 10-26 | |
| Span | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | 1 | |
| # days | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | 1 | |
| % days | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | 1 | |
| High | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | 1 | |
| Total | | | | | | | | | | | | | | | | | | | | | 0 | | | | | | | | | | 0 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Only one Long-eared Owl has been observed during daytime programs, on 26 October 2009. However, Long-eared Owl has been heard during the owl banding program in most years, and four individuals have been banded, all in October. Despite a separate net array and audiolure targeting Long-eared Owls from 2016 through 2019, only one individual was banded during that period.

BOOW: Boreal Owl / Nyctale de Tengmalm (*Aegolius funereus*)

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|---|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 4 | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Boreal Owl only rarely migrates as far south as the Montreal area. All four individuals observed at MBO were over two consecutive nights in early November 2012, a year when large numbers of Boreal Owls were reported migrating south of their typical range, and MBO operated a second net array with a Boreal Owl audiolure.

NSWO: Northern Saw-whet Owl / Petite Nyctale (*Aegolius acadicus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|
| First | | | | | | | | | | | | | | | | | | | | | | | 10-4 | 9-16 | 9-7 | 8-21 | 10-3 | 9-30 | 10-1 | 10-3 | 10-9 | 9-23 |
| Peak | | | | | | | | | | | | | | | | | | | | | | | 10-4 | 9-16 | 9-7 | 8-21 | 10-20 | 9-30 | 10-26 | 10-13 | 10-9 | 9-29 |
| Last | | | | | | | | | | | | | | | | | | | | | | | 10-23 | 10-23 | 9-7 | 10-22 | 10-20 | 10-31 | 10-27 | 11-6 | 10-25 | 10-20 |
| Span | | | | | | | | | | | | | | | | | | | | | | | 20 | 38 | 1 | 63 | 18 | 32 | 27 | 35 | 17 | 28 |
| # days | | | | | | | | | | | | | | | | | | | | | | | 2 | 6 | 1 | 3 | 3 | 5 | 3 | 9 | 3 | 4 |
| % days | | | | | | | | | | | | | | | | | | | | | | | 2 | 7 | 1 | 3 | 3 | 5 | 3 | 9 | 3 | 4 |
| High | | | | | | | | | | | | | | | | | | | | | | | 1 | 2 | 1 | 1 | 2 | 1 | 2 | 2 | 1 | 1 |
| Total | | | | | | | | | | | | | | | | | | | | | | | 2 | 10 | 1 | 3 | 4 | 5 | 4 | 10 | 3 | 3 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|------|-----|-----|-----|------|--------|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--|
| 2005 | | | | | 0.3 | 0.07 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | 0.06 | | | | | 0.04 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | 0.01 | | | | 0.01 | <0.005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | 2 | | | | | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | 14 | | | | | 14 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | 4 | | | | | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | 14 | | | | | 14 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | 7.0 | | | | | 7.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

One Northern Saw-whet Owl was observed in March 2005, but otherwise none were detected during the first six years of operation outside of the fall owl banding program. Since the standardization of that program in 2011, there have been at least some daytime observations annually, 50% of which were owls banded during the first one or two net checks of morning banding. These banding records comprise only 1% of the overall total, and are included in the banding table. The lower banding totals from 2005 to 2010 are a reflection of experimentation with net placement, and partial effort. Over the nine years of standardized banding since 2011, numbers have fluctuated somewhat, though less so than at some other locations in eastern North America where a pronounced four-year cycle tends to be apparent. The peak of fall migration varies between Weeks 10 and 12, then drops off steadily thereafter.

BEKI: Belted Kingfisher / Martin-pêcheur d'Amérique (*Megasceryle alcyon*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|-------|-------|-------|------|------|------|
| First | 4-10 | 4-11 | 4-12 | 4-17 | 4-18 | 4-20 | 4-22 | 4-6 | 4-10 | 4-17 | 4-18 | 4-20 | 4-20 | 4-21 | 4-14 | 4-15 | 9-2 | 8-2 | 8-28 | 8-1 | 8-7 | 8-9 | 8-17 | 8-3 | 8-6 | 8-7 | 8-19 | 8-15 | 8-1 | 8-8 | 8-5 | 8-10 |
| Peak | 4-10 | 5-10 | 4-12 | 4-17 | 4-27 | 4-20 | 5-22 | 4-6 | 4-10 | 4-27 | 4-21 | 4-20 | 4-25 | 5-21 | 4-21 | 4-23 | 9-2 | 8-2 | 8-28 | 8-1 | 8-7 | 8-27 | 8-18 | 8-3 | 8-6 | 8-7 | 8-19 | 8-15 | 8-1 | 8-8 | 8-5 | 8-12 |
| Last | 5-12 | 6-1 | 5-29 | 5-12 | 5-31 | 5-7 | 6-1 | 5-27 | 4-24 | 5-7 | 5-18 | 5-25 | 5-16 | 5-21 | 5-24 | 5-19 | 9-2 | 9-7 | 9-12 | 9-19 | 9-26 | 10-4 | 10-5 | 10-20 | 9-24 | 9-25 | 10-12 | 10-17 | 10-22 | 10-1 | 11-4 | 10-1 |
| Span | 33 | 52 | 48 | 26 | 44 | 18 | 41 | 52 | 15 | 21 | 31 | 36 | 27 | 31 | 41 | 34 | 1 | 37 | 16 | 50 | 51 | 57 | 50 | 79 | 50 | 55 | 64 | 83 | 55 | 92 | 53 | |
| # days | 9 | 10 | 5 | 9 | 9 | 3 | 14 | 3 | 3 | 9 | 6 | 5 | 16 | 12 | 21 | 9 | 1 | 10 | 3 | 3 | 10 | 7 | 7 | 6 | 18 | 8 | 12 | 15 | 9 | 8 | 8 | |
| % days | 15 | 14 | 7 | 13 | 13 | 4 | 20 | 4 | 4 | 13 | 9 | 7 | 23 | 17 | 30 | 13 | 1 | 11 | 3 | 3 | 11 | 8 | 8 | 8 | 7 | 20 | 8 | 12 | 15 | 9 | 8 | 9 |
| High | 2 | 4 | 1 | 1 | 2 | 2 | 3 | 1 | 1 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Total | 11 | 14 | 5 | 9 | 10 | 4 | 18 | 3 | 3 | 10 | 7 | 5 | 17 | 13 | 24 | 10 | 1 | 10 | 3 | 3 | 10 | 8 | 9 | 7 | 6 | 18 | 8 | 12 | 15 | 9 | 8 | 8 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | | |
|------|-----|-----|-----|-----|-----|----|----|------|------|-----|-----|-----|-----|-----|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|
| 2005 | | | | | | | | 0.3 | | 0.3 | 0.4 | 0.3 | 0.3 | | | | 0.2 | | | | | | | | | | | | | | | | | | | 0.01 | | |
| 2006 | | | | | | | | | 0.3 | 0.1 | | 0.4 | 0.6 | 0.1 | 0.1 | 0.3 | 0.2 | | | | 0.4 | 0.3 | 0.3 | | 0.3 | 0.1 | | | | | | | | | | 0.1 | | |
| 2007 | | | | | | | | | 0.3 | 0.1 | | | 0.1 | | 0.1 | | 0.07 | | | | | | | 0.1 | 0.1 | | 0.1 | | | | | | | | | 0.03 | | |
| 2008 | | | | | | | | | 0.1 | 0.6 | 0.3 | 0.1 | 0.1 | | | | 0.1 | | | | 0.1 | | | | | | 0.1 | | | | | | | | | | 0.03 | |
| 2009 | | | | | | | | | | 0.6 | 0.6 | 0.1 | | | | 0.1 | 0.1 | | | | 0.1 | 0.4 | 0.1 | | | 0.1 | 0.3 | 0.1 | 0.1 | | | | | | | | 0.1 | |
| 2010 | | | | | | | | | | 0.3 | | 0.3 | | | | | 0.06 | | | | | 0.3 | 0.3 | 0.3 | | | | 0.1 | | 0.1 | | | | | | | 0.09 | |
| 2011 | | | | | | | | | | 0.4 | 0.3 | 0.7 | 0.3 | 0.4 | 0.1 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | | | 0.4 | | 0.3 | 0.3 | 0.1 | | 0.1 | | | | | | | | 0.1 | |
| 2012 | | | | | | | | 0.1 | | | | | | 0.1 | 0.1 | | 0.04 | | | | 0.1 | 0.3 | | 0.1 | 0.1 | | 0.1 | | 0.1 | | | 0.1 | | | | | 0.08 | |
| 2013 | | | | | | | | 0.1 | | 0.3 | | | | | | | 0.04 | | | | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | | 0.1 | | | | | | | | | | 0.07 | |
| 2014 | | | | | | | | | 0.1 | 0.6 | 0.4 | 0.3 | | | | | 0.1 | | | | 0.1 | 0.9 | 0.6 | | 0.1 | 0.3 | 0.3 | 0.3 | | | | | | | | | | 0.2 |
| 2015 | | | | | | | | | | 0.4 | 0.3 | | 0.1 | 0.1 | | | 0.1 | | | | | | 0.1 | | 0.3 | 0.3 | 0.1 | | 0.1 | 0.1 | | | | | | | | 0.08 |
| 2016 | | | | | | | | | | 0.4 | | | 0.1 | | 0.1 | | 0.07 | | | | | | 0.9 | 0.1 | | | 0.4 | | | 0.1 | | | | | | | | 0.1 |
| 2017 | | | | | | | | | | 0.7 | 0.9 | 0.6 | 0.1 | 0.1 | | | 0.2 | | | | 0.3 | 0.1 | 0.4 | 0.3 | 0.3 | 0.1 | 0.1 | | 0.1 | 0.1 | | | | | | | | 0.2 |
| 2018 | | | | | | | | | | 0.3 | 0.3 | 0.9 | 0.1 | 0.3 | | | 0.2 | | | | | 0.3 | | 0.3 | 0.1 | 0.3 | 0.1 | | 0.1 | | | | | | | | | 0.09 |
| 2019 | | | | | | | | | 0.1 | 1.3 | 0.4 | 0.6 | 0.7 | 0.1 | 0.1 | | 0.3 | 0.7 | | 0.3 | 0.1 | | 0.3 | | | 0.1 | 0.1 | | 0.1 | | | | | | 0.1 | 0.1 | | 0.08 |
| Mean | | | | | | | | 0.04 | 0.07 | 0.4 | 0.3 | 0.3 | 0.2 | 0.1 | 0.06 | 0.05 | 0.1 | 0.04 | 0.01 | 0.03 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.06 | 0.05 | 0.05 | 0.01 | 0.03 | 0.01 | 0.03 | 0.03 | 0.09 | | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--|--|--|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Belted Kingfisher typically arrives at MBO around the middle of April, and often is in peak abundance right away; Week 4 is the only week of spring with sightings in at least 14 of 15 years, the exception being 2012, one of four years during which the species was exceptionally scarce in spring. The only individual ever banded at MBO was during the Week 4 peak in 2019. Sightings become quite infrequent after mid-May, and are rare in summer. In fall, Belted Kingfisher is marginally more common in August than September, but even at its peak has mean daily counts lower than those in mid-April to early May. Sightings have extended beyond the first week of October in just 5 years, all since 2012.

RBWO: Red-bellied Woodpecker / Pic à ventre roux (*Melanerpes carolinus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | | | | | |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|-------|------|------|------|-------|------|---|
| First | | | | | | | | | 6-4 | | 5-2 | | 4-18 | 4-9 | 3-28 | 4-24 | | | | | | | | | | 8-4 | | 8-26 | 8-24 | 8-30 | 10-19 | 8-4 | 8-20 | 8-1 | 9-27 | 8-27 | |
| Peak | | | | | | | | | 6-4 | | 5-2 | | 4-18 | 4-9 | 4-15 | 4-27 | | | | | | | | | | 8-4 | | 8-26 | 8-24 | 8-30 | 10-19 | 8-4 | 8-20 | 8-1 | 9-27 | 8-27 | |
| Last | | | | | | | | | 6-4 | | 5-2 | | 5-12 | 4-21 | 5-26 | 5-13 | | | | | | | | | | 8-16 | | 10-24 | 8-24 | 8-30 | 10-19 | 11-5 | 10-2 | 11-6 | 10-16 | 10-2 | |
| Span | | | | | | | | | 1 | | 1 | | 25 | 13 | 60 | 20 | | | | | | | | | | 13 | | 60 | 1 | 1 | 1 | 94 | 44 | 98 | 20 | 37 | |
| # days | | | | | | | | | 1 | | 1 | | 4 | 3 | 33 | 8 | | | | | | | | | | 3 | | 4 | 1 | 1 | 1 | 8 | 2 | 5 | 2 | 3 | |
| % days | | | | | | | | | 1 | | 1 | | 6 | 4 | 47 | 12 | | | | | | | | | | 3 | | 4 | 1 | 1 | 1 | 8 | 2 | 5 | 2 | 3 | |
| High | | | | | | | | | 1 | | 1 | | 1 | 1 | 3 | 1 | | | | | | | | | | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Total | | | | | | | | | 1 | | 1 | | 4 | 3 | 42 | 3 | | | | | | | | | | 3 | | 4 | 1 | 1 | 1 | 1 | 8 | 2 | 5 | 2 | 2 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|------|------|-----|------|--------|------|-----|------|------|------|------|----|-----|------|-----|------|------|------|------|------|------|------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | 0.3 | | 0.1 | | | | | | | | | | | 0.03 | | |
| 2011 | | | | | 0.1 | 0.03 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | 0.1 | | | | | 0.1 | | | 0.04 |
| 2013 | | | | | | | | | | | | | | | 0.1 | 0.01 | | | | | | | | 0.1 | | 0.1 | | | | | | | | | | 0.01 | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | | | 0.01 |
| 2015 | | | | | | | | | | | | 0.1 | | | | | 0.01 | | 0.3 | 0.1 | | | | | | | | | | | | | 0.1 | | | 0.01 | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | 0.3 | | 0.1 | | 0.3 | | | | | | | | 0.3 | 0.1 | 0.08 | |
| 2017 | | | 0.3 | 0.5 | | 0.2 | | | | 0.3 | 0.1 | | 0.1 | | | | 0.06 | | | | | | 0.1 | | 0.3 | | | | | | | | | | | 0.02 | |
| 2018 | | | | 0.2 | 0.3 | 0.1 | | 0.1 | 0.1 | 0.1 | | | | | | | 0.04 | | | | 0.1 | | 0.1 | | | | | 0.1 | | | | | 0.3 | 0.3 | | 0.05 | |
| 2019 | | 0.09 | 0.09 | 0.2 | 0.5 | 0.2 | 0.3 | 0.3 | 1.3 | 0.9 | 0.6 | 1.0 | 0.7 | 0.9 | 0.1 | | 0.6 | | | | | | | | | | | 0.1 | | 0.1 | | | | | | 0.02 | |
| Mean | | 0.01 | 0.03 | 0.07 | 0.07 | 0.04 | 0.02 | 0.03 | 0.1 | 0.09 | 0.05 | 0.08 | 0.06 | 0.06 | 0.01 | 0.01 | 0.05 | | 0.01 | <0.005 | 0.05 | | 0.03 | 0.02 | 0.03 | 0.01 | | | 0.03 | | 0.01 | 0.01 | 0.05 | 0.09 | 0.02 | | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | | |
|------|-----|------|-----|-----|-----|------|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|------|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--|-----|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | 1 | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | 1 | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | 0.08 | | | | 0.07 | | | | | | | | | | | | | | | | 0.07 | | | | | | | | | | | | | | | 0.1 | |

Red-bellied Woodpecker has been expanding its range northward into the Montreal region over the past couple of decades. The first observation at MBO was not until August 2010, but there have been sightings annually since 2012. Mostly the sightings have remained quite infrequent and irregular, but in spring 2019 there were observations on nearly half of the season's days, thanks to establishment of a resident pair on site.

BBWO: Black-backed Woodpecker / Pic à dos noir (*Picoides arcticus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| First | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 10-19 | 10-19 |
| Peak | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 10-19 | 10-19 |
| Last | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 10-19 | 10-19 |
| Span | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 |
| # days | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 |
| % days | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 |
| High | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 |
| Total | | | | | | | | | | | | | | | | 0 | | | | | | | | | | | | | | | 1 | 0 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|------|-----|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 |
| Mean | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.01 | |

Black-backed Woodpecker is the most recent addition to the MBO checklist, with the first record only occurring on 19 October 2019, less than three weeks before the end of the period covered in this report.

YBSA: Yellow-bellied Sapsucker / *Pic maculé (Sphyrapicus varius)*

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|------|------|-------|------|------|-------|------|------|------|
| First | 4-11 | 4-6 | 4-7 | 4-18 | 4-14 | 4-7 | 4-14 | 4-15 | 4-17 | 4-19 | 4-15 | 4-9 | 4-11 | 4-12 | 4-2 | 4-11 | 8-15 | 8-2 | 8-2 | 8-2 | 8-1 | 8-2 | 8-17 | 8-8 | 8-7 | 8-1 | 8-1 | 8-2 | 8-1 | 8-1 | 8-4 | |
| Peak | 4-19 | 5-3 | 5-1 | 5-6 | 4-20 | 5-12 | 4-30 | 4-18 | 4-21 | 4-24 | 4-19 | 4-25 | 4-30 | 4-24 | 5-8 | 4-27 | 8-15 | 8-11 | 8-5 | 9-22 | 10-1 | 8-18 | 9-18 | 8-8 | 8-7 | 8-9 | 9-1 | 9-9 | 8-8 | 8-2 | 8-5 | 8-21 |
| Last | 5-31 | 6-2 | 5-30 | 5-30 | 5-31 | 5-31 | 5-30 | 5-24 | 5-15 | 6-4 | 6-3 | 6-4 | 6-5 | 5-31 | 6-1 | 5-30 | 10-6 | 10-2 | 10-8 | 10-6 | 10-11 | 9-11 | 9-25 | 9-20 | 9-30 | 10-26 | 9-21 | 9-25 | 10-16 | 10-3 | 10-1 | 10-2 |
| Span | 51 | 58 | 54 | 43 | 48 | 55 | 47 | 40 | 29 | 47 | 50 | 57 | 56 | 50 | 61 | 50 | 53 | 62 | 68 | 66 | 72 | 41 | 40 | 44 | 55 | 87 | 52 | 55 | 76 | 64 | 62 | 60 |
| # days | 31 | 45 | 28 | 35 | 34 | 27 | 23 | 23 | 18 | 23 | 31 | 34 | 33 | 30 | 38 | 30 | 10 | 20 | 18 | 15 | 9 | 7 | 4 | 5 | 5 | 8 | 10 | 17 | 11 | 19 | 7 | 11 |
| % days | 53 | 65 | 40 | 50 | 49 | 39 | 33 | 33 | 26 | 34 | 44 | 49 | 47 | 43 | 54 | 44 | 11 | 22 | 20 | 16 | 10 | 8 | 4 | 5 | 5 | 9 | 10 | 17 | 11 | 19 | 7 | 12 |
| High | 3 | 5 | 5 | 4 | 4 | 5 | 5 | 3 | 3 | 3 | 5 | 7 | 3 | 2 | 7 | 4 | 1 | 2 | 2 | 2 | 2 | 2 | 3 | 1 | 1 | 2 | 2 | 2 | 4 | 2 | 2 | |
| Total | 43 | 77 | 46 | 53 | 65 | 41 | 44 | 35 | 22 | 36 | 51 | 62 | 47 | 38 | 68 | 49 | 10 | 25 | 25 | 17 | 10 | 10 | 6 | 5 | 5 | 11 | 11 | 21 | 12 | 24 | 8 | 13 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|------|-----|-----|------|
| 2005 | | | | | | | | | 0.3 | 1.5 | 1.0 | 1.3 | 1.0 | 0.7 | 0.3 | 0.4 | 0.7 | 0.3 | 0.5 | 0.4 | | | | 0.1 | | 0.3 | 0.1 | 0.1 | 0.5 | 0.3 | | | | | 0.1 | |
| 2006 | | | | | | | | 0.2 | 0.7 | 1.7 | 2.3 | 2.9 | 0.9 | 0.7 | 1.1 | 0.6 | 1.1 | 0.1 | 0.3 | 0.2 | 0.3 | 0.6 | 0.1 | 0.4 | 0.4 | 0.7 | | 0.3 | 0.7 | | | | | | 0.3 | |
| 2007 | | | | | | | | 0.1 | | 0.6 | 1.3 | 2.0 | 1.3 | 0.9 | 0.3 | 0.1 | 0.7 | 0.1 | 0.3 | 0.2 | 0.3 | | | | | 0.1 | 0.4 | 1.3 | 0.3 | 1.0 | | | | | | 0.3 |
| 2008 | | | | | | | | | 1.6 | 1.3 | 1.7 | 1.1 | 1.1 | 0.6 | 0.1 | 0.8 | 0.4 | | | 0.2 | 0.3 | 0.1 | 0.1 | | 0.1 | 0.3 | 0.1 | 0.4 | 0.3 | 0.6 | | | | | | 0.2 |
| 2009 | | | | | | | | | 0.6 | 1.9 | 1.3 | 1.6 | 1.9 | 0.7 | 1.1 | 0.3 | 0.9 | 0.3 | | 0.1 | 0.3 | 0.1 | 0.1 | | 0.1 | | | | 0.4 | 0.1 | 0.1 | | | | | 0.1 |
| 2010 | | | | | | | | 0.1 | 0.4 | 1.0 | 0.3 | | 1.3 | 1.6 | 1.0 | 0.1 | 0.6 | | | | 0.3 | | | 0.3 | | 0.6 | 0.3 | | | | | | | | | 0.1 |
| 2011 | | | | | | | | | 0.4 | 1.6 | 1.7 | 0.4 | 1.0 | 0.3 | 0.7 | 0.1 | 0.6 | 0.3 | | 0.1 | | | | 0.1 | | | 0.4 | 0.1 | | | | | | | | 0.07 |
| 2012 | | | | | | | | | 0.3 | 0.7 | 1.1 | 1.7 | 0.3 | 0.7 | | 0.1 | 0.5 | | | | | 0.3 | 0.1 | 0.1 | | | | 0.1 | | | | | | | | 0.05 |
| 2013 | | | | | | | | | 0.1 | 1.0 | 0.6 | 0.7 | 0.7 | | | | 0.3 | 0.3 | 0.3 | 0.3 | 0.1 | | | | 0.1 | 0.1 | | | 0.1 | | | | | | | 0.05 |
| 2014 | | | | | | | | | | 1.1 | 0.6 | 1.0 | 1.7 | 0.4 | 0.1 | 0.2 | 0.5 | | | | 0.1 | 0.3 | 0.3 | 0.1 | | 0.1 | 0.3 | | | 0.1 | | | 0.1 | | | 0.1 |
| 2015 | | | | | | | | | 0.3 | 1.4 | 1.7 | 1.4 | 0.9 | 1.0 | 0.4 | 0.1 | 0.7 | | 0.3 | 0.1 | 0.3 | 0.3 | 0.1 | 0.1 | 0.3 | 0.1 | 0.1 | 0.1 | | | | | | | | 0.1 |
| 2016 | | | | | | | | 0.3 | 0.1 | 0.6 | 3.3 | 0.9 | 1.4 | 1.3 | 0.6 | 0.4 | 0.9 | | 0.5 | 0.2 | 0.6 | | | 0.1 | 0.3 | 0.9 | 0.7 | 0.4 | | | | | | | | 0.2 |
| 2017 | | | | | | | | | 0.3 | 0.7 | 0.9 | 1.3 | 1.6 | 1.1 | 0.4 | 0.4 | 0.7 | 0.3 | 0.8 | 0.6 | 0.3 | 0.3 | | 0.3 | | 0.3 | | 0.1 | 0.1 | 0.1 | 0.1 | | | | | 0.1 |
| 2018 | | | | | | | | | 0.1 | 0.9 | 0.4 | 0.9 | 1.6 | 1.0 | 0.4 | 0.1 | 0.5 | | 0.8 | 0.4 | 1.4 | 0.6 | 0.4 | 0.1 | 0.1 | 0.1 | 0.1 | 0.4 | 0.1 | | | | | | | 0.2 |
| 2019 | | | | | | | 0.1 | | 1.1 | 1.0 | 1.1 | 1.9 | 1.3 | 1.9 | 0.9 | 0.4 | 1.0 | 0.7 | 0.3 | 0.4 | 0.4 | | 0.3 | | 0.1 | 0.1 | | 0.1 | | | | | | | | 0.08 |
| Mean | | | | | | | 0.01 | 0.05 | 0.3 | 1.1 | 1.3 | 1.3 | 1.2 | 0.9 | 0.5 | 0.2 | 0.7 | 0.2 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.02 | | 0.01 | | | 0.1 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|------|-----|-----|-----|-----|-----|------|-----|----|-----|-----|-----|-----|-----|------|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|---|
| 2005 | | | | | | | | | | | | | 1 | | 1 | | 2 | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | 1 | | 1 | | | | 1 | | | | | | | | 1 | | | | | | | 2 |
| 2007 | | | | | | | | | | | | | | | | | 3 | | | | | | | | | | | 1 | | | | | | | | 1 |
| 2008 | | | | | | | | | | 2 | 1 | | | | | | 3 | | | | 2 | | 1 | | | | 1 | | 2 | | | | | | | 6 |
| 2009 | | | | | | | | | | | | | 2 | | | 1 | 3 | | | | 1 | | | | | | | 1 | 1 | | | | | | | 3 |
| 2010 | | | | | | | | | | | | | 2 | 1 | | | 3 | | | | 1 | | | | | 1 | | | | | | | | | | 2 |
| 2011 | | | | | | | | | | | | | | | 3 | | 3 | | | | | | | | 1 | | 1 | | | | | | | | | 2 |
| 2012 | | | | | | | | | | | | | 2 | | | | 2 | | | | | | | 1 | | | | | | | | | | | | 1 |
| 2013 | | | | | | | | | | | | | 1 | | | | 1 | | | | 1 | | | | | | | | | | | | | | | 1 |
| 2014 | | | | | | | | | | 1 | | | 1 | | | | 2 | | | | 1 | 1 | | | | | | | | | | | | | | 2 |
| 2015 | | | | | | | | | | | | 2 | | 1 | 1 | | 4 | | | | 1 | | 1 | | 1 | | | | | | | | | | | 3 |
| 2016 | | | | | | | | | | | | | 1 | | | | 1 | | 1 | 1 | 1 | | | | | 1 | | 1 | | | | | | | | 3 |
| 2017 | | | | | | | | | | | | | | | 1 | | 1 | | 1 | 1 | | 1 | | | | | | | | | | | | | | 1 |
| 2018 | | | | | | | | | | | | | | 1 | | | 1 | | 1 | 1 | 4 | | | | | | | | | | | | | | | 4 |
| 2019 | | | | | | | | | | | | | 2 | 2 | | | 4 | | 1 | 1 | 1 | | | | | 1 | | | | | | | | | | 2 |
| Mean | | | | | | | | | 0.07 | 0.1 | 0.4 | 0.6 | 0.3 | 0.5 | 0.07 | 2.1 | | 0.3 | 0.3 | 0.9 | 0.1 | 0.1 | 0.07 | 0.1 | 0.2 | 0.1 | 0.07 | 0.3 | 0.1 | | | | | | 2.2 | |

Yellow-bellied Sapsucker is one of the two migratory woodpeckers that occurs regularly at MBO. The peak of spring migration has consistently fluctuated around the middle of the season, and numbers have varied over the years, without any clear pattern. In most years there have been at least some sightings in summer, though breeding on site has not been confirmed. The species is generally less common in fall than spring, although the total number banded is comparable in both seasons. The peak of migration appears to have shifted earlier over time, from mid-season (Week 5 to Week 10, from 2005 through 2011) to the beginning of fall (Week 1 or Week 2 from 2012 through 2019, except for 2016). Largely this reflects a decrease in mid-season migrants more so than an increase in early August numbers.

DOWO: Downy Woodpecker / Pic mineur (*Dryobates pubescens*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|------|------|------|
| First | 4-5 | 4-2 | 3-29 | 3-28 | 3-30 | 3-30 | 3-28 | 3-29 | 3-28 | 3-29 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 3-29 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 |
| Peak | 5-11 | 4-28 | 5-7 | 5-10 | 4-16 | 4-4 | 4-15 | 5-3 | 4-2 | 4-3 | 4-6 | 4-5 | 3-31 | 5-7 | 5-8 | 4-20 | 10-28 | 10-24 | 8-14 | 9-7 | 8-28 | 8-2 | 8-19 | 9-24 | 8-21 | 10-27 | 8-6 | 8-9 | 10-16 | 8-3 | 8-4 | 9-4 |
| Last | 6-2 | 6-5 | 6-5 | 6-2 | 6-1 | 5-29 | 5-30 | 6-1 | 6-5 | 6-3 | 5-29 | 6-5 | 6-4 | 6-3 | 6-5 | 6-2 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 11-6 | 11-6 | 11-6 | 11-6 | 11-6 | 11-1 |
| Span | 59 | 65 | 69 | 67 | 64 | 61 | 64 | 65 | 70 | 67 | 63 | 70 | 69 | 68 | 70 | 66 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 98 | 98 | 98 | 98 | 98 | 93 |
| # days | 37 | 53 | 50 | 46 | 44 | 32 | 45 | 57 | 61 | 57 | 51 | 65 | 50 | 59 | 56 | 51 | 78 | 87 | 85 | 84 | 88 | 69 | 84 | 88 | 88 | 96 | 96 | 88 | 94 | 89 | 87 | |
| % days | 63 | 77 | 71 | 66 | 64 | 46 | 64 | 81 | 87 | 84 | 73 | 93 | 71 | 84 | 80 | 74 | 89 | 96 | 93 | 92 | 97 | 76 | 92 | 97 | 97 | 95 | 98 | 98 | 90 | 96 | 91 | 93 |
| High | 3 | 7 | 5 | 7 | 4 | 3 | 6 | 8 | 5 | 4 | 4 | 8 | 4 | 8 | 9 | 6 | 7 | 8 | 7 | 6 | 6 | 4 | 7 | 10 | 8 | 6 | 6 | 7 | 6 | 5 | 7 | |
| Total | 47 | 114 | 99 | 98 | 69 | 42 | 92 | 146 | 119 | 124 | 98 | 172 | 89 | 137 | 114 | 104 | 202 | 294 | 272 | 219 | 232 | 146 | 206 | 255 | 211 | 202 | 273 | 277 | 233 | 256 | 228 | 234 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2005 | 0.3 | | | 0.8 | 0.5 | 0.4 | | 0.8 | 1.1 | 1.2 | 0.6 | 1.1 | 1.0 | 0.7 | 0.1 | 0.4 | 0.8 | 0.2 | 0.8 | 0.5 | 2.0 | 1.3 | 2.4 | 2.1 | 2.6 | 2.3 | 2.6 | 3.0 | 2.2 | 3.3 | 1.7 | 2.1 | 2.3 | | 2.3 |
| 2006 | 0.9 | 0.5 | | 0.3 | 0.3 | 0.4 | 0.3 | 0.8 | 1.0 | 2.1 | 3.0 | 3.1 | 1.4 | 1.7 | 2.1 | 0.7 | 1.7 | 0.4 | 1.1 | 0.8 | 4.0 | 3.7 | 2.9 | 3.1 | 2.6 | 3.3 | 3.6 | 3.1 | 3.6 | 3.7 | 2.7 | 3.1 | 2.6 | | 3.2 |
| 2007 | 1.1 | 0.9 | 0.5 | 0.3 | 1.0 | 0.8 | 1.6 | 1.3 | 1.0 | 2.3 | 0.9 | 3.0 | 1.3 | 0.7 | 1.4 | 0.7 | 1.4 | 0.9 | 1.7 | 1.2 | 2.7 | 3.6 | 2.9 | 1.7 | 1.9 | 2.3 | 3.3 | 3.3 | 3.1 | 4.0 | 3.7 | 3.1 | 3.3 | | 3.0 |
| 2008 | 1.0 | 1.3 | 0.2 | 0.4 | | 0.7 | 1.3 | | 0.7 | 2.4 | 1.7 | 3.0 | 1.0 | 0.9 | 0.3 | 1.4 | 0.6 | 1.8 | 1.2 | 2.9 | 2.6 | 2.6 | 1.9 | 1.7 | 2.6 | 1.9 | 3.4 | 2.3 | 2.7 | 3.3 | 1.7 | 1.9 | | 2.4 | |
| 2009 | 0.7 | 1.0 | 0.5 | 0.4 | 1.1 | 0.8 | 0.7 | 0.5 | 1.3 | 2.1 | 1.6 | 1.1 | 1.0 | 0.9 | 0.4 | 0.3 | 1.0 | 0.3 | 1.8 | 1.1 | 2.6 | 1.7 | 2.9 | 3.0 | 3.0 | 2.1 | 2.1 | 3.0 | 2.6 | 2.6 | 2.0 | 2.4 | 3.1 | | 2.5 |
| 2010 | 1.3 | 0.1 | 0.3 | 1.5 | 0.4 | 0.8 | 0.6 | 1.1 | 0.9 | 1.1 | 0.6 | 0.6 | 0.6 | 0.3 | 0.3 | | 0.6 | 0.7 | 1.5 | 1.2 | 1.9 | 2.6 | 1.4 | 1.0 | 1.0 | 0.4 | 1.3 | 2.6 | 1.1 | 2.0 | 2.1 | 1.4 | 2.0 | | 1.6 |
| 2011 | 0.7 | 1.0 | 0.6 | 1.5 | 0.5 | 0.8 | 1.0 | 0.3 | 1.9 | 1.7 | 2.0 | 1.7 | 2.1 | 1.7 | 0.6 | 0.1 | 1.3 | | 5.5 | 3.1 | 4.1 | 2.1 | 3.4 | 1.6 | 1.9 | 1.3 | 2.4 | 3.0 | 2.4 | 2.3 | 1.3 | 1.6 | 2.0 | | 2.3 |
| 2012 | 0.8 | 0.8 | 1.3 | 1.3 | 1.6 | 1.1 | 2.9 | 2.0 | 1.6 | 2.6 | 3.1 | 3.4 | 2.7 | 1.1 | 0.6 | 0.9 | 2.1 | 0.8 | 1.5 | 1.1 | 3.3 | 2.1 | 1.6 | 1.9 | 2.4 | 2.6 | 3.6 | 3.4 | 3.9 | 3.3 | 2.7 | 2.7 | 3.0 | | 2.8 |
| 2013 | 1.5 | 1.4 | 2.4 | 3.4 | 2.4 | 2.2 | 2.6 | 1.6 | 2.1 | 2.9 | 1.7 | 1.7 | 1.0 | 1.7 | 0.9 | 0.9 | 1.7 | 0.3 | 1.3 | 0.9 | 2.7 | 1.3 | 3.0 | 2.4 | 1.7 | 1.4 | 1.9 | 2.6 | 3.4 | 2.4 | 3.6 | 1.9 | 1.9 | | 2.3 |
| 2014 | 2.2 | 2.8 | 2.3 | 2.4 | 1.4 | 2.2 | 1.5 | 1.4 | 2.0 | 2.3 | 2.3 | 2.0 | 2.3 | 2.0 | 1.1 | 1.0 | 1.8 | 1.3 | 2.0 | 1.7 | 2.9 | 1.9 | 1.9 | 2.3 | 2.7 | 2.0 | 1.9 | 1.9 | 2.6 | 1.3 | 2.0 | 2.7 | 3.0 | | 2.2 |
| 2015 | 2.4 | 2.0 | 1.0 | 1.0 | 2.6 | 2.3 | 1.0 | 1.3 | 1.1 | 2.1 | 2.3 | 2.3 | 1.7 | 1.4 | 0.7 | | 1.4 | 1.7 | 5.8 | 4.0 | 3.4 | 3.0 | 2.9 | 3.1 | 3.0 | 2.4 | 2.0 | 3.0 | 2.7 | 2.4 | 2.9 | 2.6 | 3.1 | 2.4 | 2.8 |
| 2016 | 1.9 | 1.9 | 1.8 | 0.8 | 2.7 | 1.8 | 1.1 | 2.6 | 2.0 | 4.0 | 3.3 | 3.7 | 2.6 | 2.3 | 2.0 | 1.0 | 2.5 | 3.5 | 2.8 | 3.1 | 3.6 | 2.7 | 3.1 | 3.4 | 3.0 | 2.1 | 2.6 | 2.9 | 3.3 | 2.6 | 3.1 | 2.0 | 2.9 | 2.3 | 2.8 |
| 2017 | 1.6 | 1.0 | 1.9 | 1.7 | 1.1 | 1.5 | 1.9 | 0.4 | 0.9 | 1.4 | 1.9 | 1.7 | 2.0 | 1.3 | 0.9 | 0.4 | 1.3 | 0.7 | 2.5 | 1.7 | 2.6 | 2.0 | 1.9 | 2.3 | 1.6 | 2.3 | 2.6 | 2.6 | 2.4 | 2.9 | 3.7 | 3.3 | 1.4 | 1.9 | 2.4 |
| 2018 | 1.5 | 0.7 | 0.3 | 0.8 | 0.4 | 0.7 | 1.9 | 1.1 | 1.3 | 3.1 | 2.1 | 3.9 | 2.4 | 1.9 | 1.1 | 0.7 | 2.0 | 2.3 | 4.5 | 3.6 | 3.7 | 3.6 | 2.9 | 3.6 | 3.3 | 2.4 | 2.6 | 1.4 | 2.3 | 2.6 | 1.9 | 2.6 | 1.7 | 2.1 | 2.6 |
| 2019 | 1.3 | 1.1 | 0.7 | 0.8 | 0.9 | 1.0 | 1.1 | 0.4 | 1.0 | 1.6 | 1.6 | 3.3 | 2.6 | 1.9 | 2.3 | 0.6 | 1.6 | | 2.0 | 1.1 | 3.4 | 2.6 | 1.6 | 2.4 | 1.3 | 1.9 | 1.9 | 2.7 | 2.0 | 2.3 | 2.6 | 2.4 | 2.7 | 2.9 | 2.3 |
| Mean | 1.3 | 1.0 | 1.0 | 1.1 | 1.2 | 1.2 | 1.4 | 1.1 | 1.3 | 2.2 | 2.0 | 2.3 | 1.8 | 1.4 | 1.0 | 0.5 | 1.5 | 0.8 | 2.0 | 1.4 | 3.0 | 2.4 | 2.5 | 2.4 | 2.2 | 2.1 | 2.4 | 2.8 | 2.7 | 2.7 | 2.6 | 2.4 | 2.5 | 2.3 | 2.5 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 2005 | | | | 1 | | 1 | | | | 1 | 1 | | | 1 | | | 3 | | | | | | 2 | | 1 | | 1 | 1 | 1 | 1 | | | | | 8 |
| 2006 | 2 | | | | | 2 | | | 1 | 3 | | 1 | | | | | 5 | | | | 5 | 3 | | | | | 1 | | 1 | 2 | 1 | 1 | | | 14 |
| 2007 | | | | | | | | | | 3 | | 2 | 2 | | | | 7 | | | | 5 | 9 | | 1 | | | 1 | | 1 | | | 1 | | | 19 |
| 2008 | | | | | | | | | | 2 | 1 | | 1 | | 1 | | 5 | | | | 1 | 4 | 2 | | 2 | | | 1 | | | | | | | 10 |
| 2009 | | | | | | | | | | | | | | | | | | | 6 | 6 | | 4 | 1 | 1 | 3 | | | 1 | | | | | 2 | | 12 |
| 2010 | | | | | | | | | | | | | | | | 1 | | 2 | 4 | 6 | | 5 | 1 | | 1 | | | 2 | | | 1 | 1 | | | 11 |
| 2011 | 1 | | | | | 1 | | | | 1 | | 1 | 2 | 1 | | | 5 | | 6 | 6 | 6 | 6 | 1 | 1 | 1 | | | 1 | 2 | | 1 | | | 13 | |
| 2012 | | | | 2 | | 2 | | | | 1 | 1 | | | | 1 | | 3 | 1 | 1 | 2 | 4 | 3 | | 3 | | | 3 | | 2 | 1 | 1 | | | | 17 |
| 2013 | 1 | | | | 2 | 3 | | | | 2 | | | | | | | 2 | | 4 | 4 | 6 | 1 | 1 | 1 | | | | 1 | | 3 | | | | | 13 |
| 2014 | 2 | | | | | 2 | | | | 1 | 1 | 2 | 1 | | | | 5 | | 4 | 4 | 3 | 2 | 2 | | | | | | 2 | | | 2 | | | 11 |
| 2015 | 2 | | | | 1 | 3 | | | | 1 | | 1 | | | | | 2 | 1 | 13 | 14 | 4 | 1 | 1 | 1 | | | | 4 | 1 | | | 1 | 1 | 1 | 15 |
| 2016 | | | | | 1 | 1 | | | | 1 | 1 | | | | | | 2 | | 4 | 4 | 3 | 2 | 2 | | 1 | | | 1 | 2 | | 2 | | | | 13 |
| 2017 | 1 | | | | | 1 | | | | | | 1 | 1 | | | | 2 | | 3 | 3 | 2 | | | 2 | 1 | | | 2 | | | 4 | | 1 | | 12 |
| 2018 | | | | | | | | | | | | 2 | | | 1 | | 3 | | 10 | 10 | 6 | 4 | 1 | 1 | 1 | | | | 1 | | 1 | | | | 15 |
| 2019 | 2 | | | | 1 | 3 | | | | 1 | 1 | | | | | | 2 | | 2 | 2 | 5 | 1 | | 1 | | | | | 1 | 1 | 1 | | 3 | 1 | 14 |
| Mean | 0.8 | | | 0.4 | 0.5 | 1.4 | | | 0.5 | 1.0 | 0.4 | 0.7 | 0.5 | 0.3 | 0.2 | | 3.1 | 0.3 | 3.8 | 4.1 | 3.6 | 2.4 | 0.9 | 0.9 | 0.5 | | 0.4 | 0.9 | 0.8 | 0.8 | 0.7 | 0.5 | 0.5 | 0.4 | 13.1 |

Downy Woodpecker is a ubiquitous resident at MBO, with only six periods of observation lacking records over the course of 15 years (December 2004, Week 2 in spring 2008, Week 10 in spring 2010 and 2015, and June in 2011 and 2019). Despite being primarily a resident species, numbers fluctuate somewhat over the course of the year. In spring, counts tend to be highest from Week 4 to Week 7 and then decline considerably, likely corresponding with greater vocalization and activity during courtship and subsequently lower detectability while nesting. In fall, the higher numbers in early August likely reflect the activity of local juveniles. A secondary smaller wave of individuals banded over the second half of fall may include individuals that are dispersing locally.

HAWO: Hairy Woodpecker / Pic chevelu (*Dryobates villosus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|-------|-------|------|
| First | 4-5 | 3-30 | 4-3 | 3-29 | 3-28 | 3-28 | 3-31 | 3-31 | 3-29 | 4-1 | 3-29 | 4-3 | 3-30 | 3-29 | 3-31 | 3-30 | 8-1 | 8-5 | 8-4 | 8-1 | 8-6 | 8-2 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-5 | 8-2 |
| Peak | 4-10 | 4-22 | 4-3 | 4-27 | 4-7 | 4-15 | 5-3 | 4-15 | 4-20 | 4-21 | 5-1 | 4-23 | 4-19 | 5-25 | 4-21 | 4-21 | 9-21 | 9-9 | 10-3 | 9-20 | 9-24 | 10-28 | 9-12 | 10-2 | 10-17 | 8-25 | 8-30 | 9-5 | 8-29 | 10-23 | 10-19 | 9-23 |
| Last | 5-31 | 5-30 | 6-1 | 6-3 | 6-5 | 6-3 | 6-5 | 6-5 | 5-31 | 6-1 | 5-30 | 6-3 | 6-5 | 6-2 | 6-3 | 6-2 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-29 | 10-30 | 11-5 | 11-6 | 11-6 | 11-6 | 11-6 | 11-1 |
| Span | 57 | 62 | 60 | 67 | 70 | 68 | 67 | 67 | 64 | 62 | 63 | 62 | 68 | 66 | 65 | 65 | 91 | 87 | 88 | 91 | 86 | 90 | 91 | 91 | 90 | 91 | 97 | 97 | 98 | 98 | 94 | 92 |
| # days | 20 | 42 | 30 | 41 | 30 | 18 | 30 | 36 | 36 | 39 | 39 | 37 | 30 | 37 | 32 | 33 | 57 | 61 | 66 | 76 | 67 | 54 | 63 | 88 | 71 | 82 | 76 | 73 | 61 | 77 | 64 | 69 |
| % days | 34 | 61 | 43 | 59 | 43 | 26 | 43 | 51 | 51 | 57 | 56 | 53 | 43 | 53 | 46 | 48 | 65 | 67 | 73 | 84 | 74 | 59 | 69 | 97 | 78 | 90 | 78 | 74 | 62 | 79 | 65 | 74 |
| High | 2 | 5 | 4 | 4 | 3 | 2 | 4 | 2 | 4 | 4 | 3 | 3 | 3 | 4 | 3 | 3 | 5 | 3 | 6 | 6 | 5 | 4 | 9 | 6 | 5 | 4 | 3 | 5 | 3 | 6 | 4 | 5 |
| Total | 24 | 68 | 43 | 67 | 40 | 22 | 40 | 43 | 56 | 55 | 53 | 51 | 41 | 48 | 41 | 46 | 93 | 82 | 145 | 163 | 112 | 85 | 122 | 191 | 118 | 150 | 111 | 126 | 93 | 114 | 103 | 121 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2005 | 0.3 | 1.0 | | 0.8 | 0.3 | 0.5 | | 0.7 | | 0.5 | 0.6 | 0.7 | 0.3 | 0.3 | 0.3 | 0.4 | 0.4 | 0.1 | 0.4 | 0.2 | 0.6 | 0.4 | 0.6 | 0.7 | 0.9 | 1.4 | 1.1 | 1.3 | 1.2 | 1.2 | 0.8 | 1.6 | 2.0 | | 1.1 |
| 2006 | 0.1 | 0.2 | | 0.2 | 0.08 | 0.1 | 0.3 | 0.5 | 0.6 | 2.1 | 1.3 | 1.4 | 1.1 | 1.4 | 0.9 | 0.1 | 1.0 | 0.1 | 0.4 | 0.3 | 0.4 | 0.9 | 0.4 | 0.7 | 1.0 | 0.9 | 1.1 | 0.7 | 0.9 | 1.6 | 0.6 | 1.6 | 1.0 | | 0.9 |
| 2007 | 0.6 | 0.1 | | 0.2 | 0.4 | 0.4 | 0.6 | 0.7 | 0.1 | 0.3 | 0.1 | 1.0 | 1.0 | 1.1 | 0.9 | 0.3 | 0.6 | | 0.2 | 0.08 | 1.1 | 0.7 | 1.1 | 0.3 | 0.9 | 1.3 | 1.4 | 2.1 | 2.6 | 2.3 | 2.6 | 1.4 | 2.9 | | 1.6 |
| 2008 | 1.0 | 0.8 | 0.6 | 0.7 | | 0.8 | 0.6 | 0.7 | 0.6 | 1.6 | 1.4 | 1.7 | 1.6 | 0.6 | 0.4 | 0.4 | 1.0 | 0.4 | | 0.2 | 0.9 | 1.3 | 1.1 | 1.7 | 1.6 | 1.1 | 1.0 | 2.9 | 1.7 | 1.9 | 3.3 | 2.3 | 2.6 | | 1.8 |
| 2009 | 1.1 | 1.0 | 0.5 | 0.6 | 0.7 | 0.8 | 0.6 | 1.0 | 0.6 | 0.4 | 0.6 | 0.4 | 0.9 | 0.4 | 0.4 | 0.6 | 0.6 | | | | 0.3 | 1.7 | 0.9 | 1.4 | 0.6 | 0.9 | 1.0 | 2.0 | 1.9 | 1.0 | 1.4 | 1.7 | 1.3 | | 1.2 |
| 2010 | 0.7 | 0.3 | 0.6 | 0.8 | 0.7 | 0.6 | 0.1 | 0.1 | 0.4 | 0.3 | 0.3 | 0.1 | 0.1 | 0.6 | 0.7 | 0.3 | 0.3 | | 0.2 | 0.1 | 0.4 | 0.3 | 0.6 | 0.7 | 0.4 | 0.4 | 1.0 | 1.1 | 0.9 | 1.0 | 1.9 | 1.3 | 2.1 | | 0.9 |
| 2011 | 0.2 | 2.0 | 0.8 | 1.0 | 0.6 | 0.7 | 0.1 | 0.3 | 0.3 | 1.1 | 0.6 | 1.3 | 0.7 | 0.9 | 0.1 | 0.3 | 0.6 | 0.3 | 0.8 | 0.6 | 0.6 | 0.9 | 1.3 | 0.6 | 1.3 | 0.9 | 3.1 | 1.9 | 1.9 | 2.0 | 0.6 | 1.3 | 1.3 | | 1.3 |
| 2012 | 0.7 | 0.3 | 0.7 | 0.3 | | 0.4 | 0.4 | | 0.6 | 1.0 | 0.7 | 0.9 | 0.9 | 0.3 | 0.4 | 0.6 | 0.6 | | | | 1.1 | 1.4 | 1.3 | 1.6 | 1.1 | 1.7 | 2.9 | 2.6 | 3.1 | 2.7 | 2.1 | 2.3 | 3.3 | | 2.1 |
| 2013 | 0.4 | 0.9 | 1.1 | 1.4 | 1.9 | 1.2 | 0.4 | 0.6 | 1.1 | 1.6 | 1.0 | 0.7 | 0.3 | 0.6 | 0.1 | 0.8 | 0.3 | 0.5 | 0.4 | 1.1 | 0.9 | 1.3 | 1.7 | 1.4 | 0.7 | 1.6 | 1.9 | 1.4 | 1.7 | 1.0 | 1.6 | 0.6 | | 1.3 | |
| 2014 | 0.8 | | 0.6 | 0.6 | 0.2 | 0.5 | 0.3 | 0.1 | 0.6 | 2.1 | 1.0 | 1.4 | 1.1 | 0.4 | 0.4 | 0.3 | 0.8 | 0.3 | 0.8 | 0.6 | 1.4 | 1.4 | 1.1 | 2.1 | 1.7 | 1.3 | 1.7 | 1.4 | 1.6 | 2.1 | 1.6 | 2.6 | | 1.6 | |
| 2015 | 1.3 | | 2.0 | | 2.6 | 1.5 | 0.6 | 0.9 | 0.6 | 1.0 | 1.3 | 1.3 | 0.1 | 1.1 | 0.6 | 0.1 | 0.8 | | 0.3 | 0.1 | 1.6 | 1.1 | 1.1 | 1.6 | 1.3 | 1.1 | 1.1 | 1.4 | 1.0 | 1.0 | 0.4 | 0.9 | 1.1 | 1.0 | 1.1 |
| 2016 | | 0.1 | 0.2 | 0.2 | 1.0 | 0.3 | 0.1 | 0.6 | 0.1 | 1.4 | 0.6 | 0.7 | 1.6 | 1.3 | 0.4 | 0.4 | 0.7 | 0.5 | 1.0 | 0.8 | 0.3 | 1.0 | 1.7 | 0.9 | 1.0 | 2.0 | 1.6 | 1.3 | 0.7 | 1.3 | 1.7 | 1.0 | 1.9 | 1.7 | 1.3 |
| 2017 | 0.7 | 1.0 | 0.7 | 1.0 | 0.1 | 0.7 | 0.4 | 0.3 | 0.3 | 1.1 | 0.7 | 1.0 | 0.4 | 0.7 | 0.6 | 0.3 | 0.6 | | | | 0.4 | 0.4 | 1.0 | 1.1 | 1.0 | 1.0 | 1.1 | 1.1 | 1.7 | 1.0 | 0.4 | 1.3 | 0.7 | 0.9 | 0.9 |
| 2018 | 0.3 | 0.5 | 0.6 | 0.8 | 0.1 | 0.5 | 0.7 | 0.6 | | 0.4 | 1.0 | 0.9 | 1.0 | 0.6 | 1.3 | 0.4 | 0.7 | | | | 1.3 | 1.3 | 0.7 | 1.3 | 1.3 | 0.9 | 1.4 | 0.6 | 0.7 | 0.9 | 0.7 | 2.0 | 1.4 | 1.9 | 1.2 |
| 2019 | 0.6 | 0.9 | 0.4 | 0.2 | 0.8 | 0.6 | 0.1 | 0.3 | 0.4 | 1.0 | 0.7 | 1.0 | 0.9 | 0.6 | 0.6 | 0.3 | 0.6 | 0.7 | 0.8 | 0.7 | 0.7 | 0.6 | 0.6 | 0.9 | 0.6 | 0.4 | 1.0 | 1.3 | 1.6 | 1.4 | 1.0 | 2.0 | 1.3 | 1.4 | 1.1 |
| Mean | 0.6 | 0.5 | 0.5 | 0.6 | 0.7 | 0.6 | 0.4 | 0.5 | 0.4 | 1.1 | 0.8 | 1.0 | 0.8 | 0.7 | 0.6 | 0.3 | 0.7 | 0.2 | 0.3 | 0.3 | 0.8 | 1.0 | 1.0 | 1.2 | 1.1 | 1.1 | 1.5 | 1.6 | 1.5 | 1.5 | 1.4 | 1.6 | 1.7 | 1.4 | 1.3 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|-----|----|----|----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|------|-----|----|-----|-----|-----|-----|-----|-----|-----|---|
| 2005 | | | | 1 | | 1 | | | | 1 | | | | 1 | | | 2 | | | | | | 2 | | 1 | | | | | | | | | | 3 | |
| 2006 | | | | | 1 | 1 | | | | 1 | | | | | | | 1 | | | | | | | | | | | | | 1 | | | | | 1 | |
| 2007 | | | | | | | | | | | | 1 | 1 | | 1 | | 3 | | | | | 1 | | | | | 1 | | 1 | 1 | 1 | 2 | | | 8 | |
| 2008 | | | | | | | | | | | | | | 1 | | | 1 | | | | | 1 | | | 1 | | | | | | | | | | 2 | |
| 2009 | | | | | | | | | | | | | | 1 | | | 1 | | | | | | 2 | | | | | | | | | | | | 2 | |
| 2010 | | 1 | | | | 1 | | | | | | | | | | | | | | | | 1 | | | | | | 1 | | | | | | | 2 | |
| 2011 | | | | | | | | | | 1 | | 2 | | 1 | | | 4 | | | | | 2 | 2 | | 1 | | | | | | | | | | 5 | |
| 2012 | | | | 1 | | 1 | | | | | | | | 1 | | | 1 | | | | | | 1 | | | 1 | 1 | | | 1 | 1 | | 1 | | 6 | |
| 2013 | | | | | 2 | 2 | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | | | | 2 | |
| 2014 | | | | | | | | | | 1 | | | | | | | 1 | | | | | 2 | 2 | | | | | | | | | | | | 5 | |
| 2015 | 1 | | | | 4 | 5 | | | | | | | 1 | | | | 1 | | | | | 2 | | | 2 | | | | | | | | | | 4 | |
| 2016 | | | | | 1 | 1 | | | | 1 | | | | | | | 1 | | | | | | | | | | | | | | | | | 1 | | 3 |
| 2017 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | 1 | 2 |
| 2018 | | | | | | | | | | | | | | | 2 | | 2 | | | | | 2 | 1 | | | | | | | | | | | | 3 | |
| 2019 | | 1 | | | 1 | 2 | | | | | | | | | | | | | | 1 | 1 | | | | | | | | | | | | | | | |
| Mean | 0.1 | 0.2 | | 0.3 | 0.8 | 1.1 | | | | 0.3 | 0.07 | 0.2 | 0.1 | 0.3 | 0.2 | | 1.2 | | | | 0.7 | 0.7 | 0.1 | 0.1 | 0.2 | 0.07 | 0.1 | | 0.1 | 0.3 | 0.3 | 0.1 | 0.3 | | 3.2 | |

Like Downy Woodpecker, Hairy Woodpecker is a permanent resident at MBO, but on average is around half as numerous, and there are a few more gaps over the years lacking any observations, especially in summer. Hairy Woodpecker is also slightly more numerous in mid-spring, but as it appears to be a less common breeder at MBO, numbers remain relatively low at the beginning of fall, and increase gradually over the course of the season, reflecting either an increase in activity after molting, or a slight influx of individuals through local dispersal. There are no apparent trends over the years with respect to abundance in any season.

YSFL: Northern Flicker / Pic flamboyant (*Colaptes auratus auratus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|-------|
| First | 4-6 | 4-8 | 4-7 | 4-10 | 4-1 | 4-2 | 4-10 | 4-9 | 4-16 | 4-14 | 4-14 | 3-29 | 4-10 | 4-10 | 4-7 | 4-8 | 8-3 | 8-1 | 8-1 | 8-1 | 8-1 | 8-2 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 |
| Peak | 4-17 | 4-22 | 5-1 | 4-30 | 4-25 | 4-22 | 4-29 | 4-22 | 4-19 | 5-3 | 4-15 | 4-29 | 4-23 | 4-24 | 5-6 | 4-25 | 9-25 | 10-1 | 8-8 | 9-8 | 9-19 | 9-15 | 9-22 | 9-23 | 9-14 | 9-18 | 9-25 | 9-22 | 9-26 | 9-16 | 9-18 | 9-17 |
| Last | 6-3 | 6-5 | 6-4 | 6-2 | 6-2 | 6-2 | 6-5 | 6-5 | 6-2 | 6-4 | 6-5 | 6-4 | 6-4 | 5-31 | 6-3 | 6-3 | 10-20 | 10-30 | 10-27 | 10-24 | 10-30 | 10-30 | 10-28 | 10-30 | 10-25 | 10-30 | 10-19 | 11-6 | 11-6 | 11-6 | 11-3 | 10-29 |
| Span | 59 | 59 | 59 | 54 | 63 | 62 | 57 | 58 | 48 | 52 | 53 | 68 | 56 | 52 | 58 | 57 | 79 | 91 | 88 | 85 | 91 | 90 | 89 | 91 | 86 | 91 | 80 | 98 | 98 | 98 | 95 | 90 |
| # days | 46 | 54 | 39 | 45 | 41 | 45 | 39 | 42 | 36 | 41 | 41 | 47 | 48 | 33 | 44 | 43 | 64 | 81 | 74 | 67 | 79 | 79 | 75 | 77 | 69 | 81 | 73 | 84 | 77 | 85 | 72 | 76 |
| % days | 78 | 78 | 56 | 64 | 59 | 64 | 56 | 60 | 51 | 60 | 59 | 67 | 69 | 47 | 63 | 62 | 73 | 89 | 81 | 74 | 87 | 87 | 82 | 85 | 76 | 89 | 74 | 86 | 79 | 87 | 73 | 81 |
| High | 4 | 7 | 6 | 6 | 5 | 6 | 7 | 5 | 6 | 7 | 3 | 4 | 7 | 5 | 6 | 6 | 7 | 9 | 5 | 5 | 10 | 16 | 16 | 9 | 12 | 10 | 10 | 8 | 11 | 8 | 8 | 10 |
| Total | 83 | 107 | 79 | 118 | 83 | 85 | 88 | 96 | 104 | 98 | 67 | 97 | 117 | 89 | 90 | 93 | 165 | 245 | 174 | 159 | 248 | 247 | 300 | 246 | 224 | 244 | 246 | 208 | 253 | 194 | 171 | 222 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|------|-----|-----|-----|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2005 | | | | | | | | 0.3 | 1.0 | 2.2 | 2.9 | 2.1 | 1.1 | 0.9 | 0.9 | 1.2 | 1.4 | 0.8 | 0.8 | 0.8 | 1.1 | 1.1 | 0.6 | 0.6 | 2.1 | 3.3 | 2.7 | 4.4 | 3.0 | 2.8 | 2.7 | 0.3 | | | 1.9 |
| 2006 | | | | | | | | 0.7 | 2.4 | 2.3 | 2.9 | 2.1 | 1.9 | 1.0 | 1.0 | 1.1 | 1.6 | 1.1 | 2.4 | 1.8 | 2.7 | 4.4 | 2.6 | 2.1 | 1.3 | 2.4 | 4.0 | 4.7 | 5.0 | 3.1 | 1.1 | 1.0 | 0.4 | | 2.7 |
| 2007 | 0.1 | | | | | 0.04 | | 0.1 | | 1.9 | 2.9 | 2.1 | 1.1 | 0.7 | 1.4 | 1.0 | 1.1 | 0.6 | 1.3 | 0.9 | 2.3 | 3.0 | 2.6 | 1.9 | 3.0 | 2.0 | 3.1 | 2.7 | 1.4 | 1.1 | 0.9 | 0.7 | 0.1 | 1.9 | |
| 2008 | | | | | | | | 0.1 | 0.3 | 3.7 | 3.9 | 3.4 | 2.0 | 1.9 | 0.9 | 0.7 | 1.7 | 1.2 | 4.0 | 2.6 | 2.3 | 2.7 | 2.6 | 1.9 | 2.4 | 2.4 | 2.6 | 1.7 | 1.0 | 0.3 | 0.3 | 0.1 | 1.7 | | |
| 2009 | 0.1 | | | | | 0.03 | 0.4 | | 0.3 | 2.7 | 3.4 | 2.0 | 0.9 | 0.9 | 0.9 | 0.4 | 1.2 | 0.7 | 0.8 | 0.7 | 2.9 | 3.0 | 2.1 | 3.4 | 2.0 | 3.4 | 4.0 | 5.0 | 3.6 | 2.9 | 2.4 | 0.4 | 0.3 | 2.7 | |
| 2010 | | | | | | | 0.1 | 0.9 | 1.7 | 4.0 | 1.7 | 1.7 | 0.4 | 0.6 | 0.4 | 0.6 | 1.2 | | 0.5 | 0.3 | 1.6 | 1.9 | 1.6 | 1.9 | 2.7 | 4.0 | 8.9 | 5.0 | 3.1 | 2.3 | 0.4 | 0.9 | 1.1 | 2.7 | |
| 2011 | | | | | | | | 0.1 | 0.6 | 2.9 | 3.3 | 1.7 | 1.6 | 0.6 | 0.4 | 1.4 | 1.3 | 0.3 | 0.8 | 0.6 | 2.0 | 2.0 | 2.0 | 1.1 | 3.7 | 4.4 | 4.1 | 9.6 | 7.9 | 3.9 | 0.7 | 1.1 | 0.3 | 3.3 | |
| 2012 | | | | | 0.2 | 0.04 | | 0.6 | 0.9 | 2.0 | 3.4 | 2.1 | 1.9 | 1.3 | 0.7 | 0.9 | 1.4 | 0.3 | 1.0 | 0.6 | 1.7 | 2.0 | 2.6 | 2.7 | 1.4 | 3.4 | 3.3 | 5.9 | 6.1 | 3.7 | 1.4 | 0.4 | 0.4 | 2.7 | |
| 2013 | | | | | | | | | 0.1 | 3.6 | 3.3 | 4.3 | 1.4 | 1.4 | 0.3 | 0.4 | 1.5 | 0.3 | 2.0 | 1.3 | 2.6 | 0.4 | 1.4 | 2.3 | 1.9 | 3.4 | 6.9 | 5.9 | 3.9 | 1.4 | 0.6 | 1.1 | 0.3 | 2.5 | |
| 2014 | | | | | | | | | 0.7 | 3.7 | 2.6 | 2.6 | 1.7 | 1.0 | 1.0 | 0.8 | 1.4 | 1.3 | 1.5 | 1.4 | 2.7 | 2.6 | 3.3 | 1.3 | 3.6 | 4.4 | 5.1 | 3.1 | 2.7 | 1.7 | 1.4 | 1.0 | 1.9 | 2.7 | |
| 2015 | 0.1 | | | | | 0.08 | | | 0.7 | 1.4 | 1.6 | 2.4 | 1.0 | 1.0 | 1.0 | 0.4 | 1.0 | | 1.5 | 0.9 | 3.6 | 1.1 | 2.6 | 2.9 | 3.7 | 4.3 | 5.7 | 4.6 | 3.3 | 2.3 | 0.7 | 0.4 | | 2.5 | |
| 2016 | | | | | | | 0.1 | 0.1 | 0.4 | 2.4 | 2.4 | 2.7 | 2.4 | 1.4 | 1.3 | 0.4 | 1.4 | 0.8 | 2.5 | 1.6 | 1.9 | 1.9 | 2.3 | 2.7 | 1.9 | 2.6 | 3.4 | 4.1 | 3.1 | 2.3 | 1.3 | 1.0 | 0.6 | 0.7 | 2.1 |
| 2017 | | | | | | | | 0.1 | 1.1 | 3.6 | 4.3 | 2.1 | 1.4 | 1.3 | 1.4 | 1.3 | 1.7 | 1.7 | 2.5 | 2.1 | 1.4 | 2.6 | 3.0 | 4.6 | 4.0 | 2.9 | 3.6 | 3.9 | 5.1 | 3.0 | 0.6 | 1.0 | 0.3 | 0.3 | 2.6 |
| 2018 | 0.1 | | | | | 0.02 | | 0.1 | 1.0 | 2.9 | 3.9 | 2.7 | 1.0 | 0.9 | 0.3 | 1.3 | 1.3 | 1.0 | 1.8 | 1.4 | 2.0 | 2.7 | 1.4 | 1.1 | 2.6 | 2.6 | 3.4 | 2.7 | 1.9 | 2.3 | 1.7 | 0.9 | 1.6 | 0.9 | 2.0 |
| 2019 | 0.2 | | | | | 0.04 | | 0.1 | 0.9 | 2.6 | 2.4 | 3.4 | 0.7 | 1.3 | 0.6 | 0.9 | 1.3 | 1.0 | 1.0 | 1.0 | 2.7 | 2.9 | 2.4 | 2.1 | 1.9 | 1.4 | 3.0 | 3.1 | 3.0 | 0.4 | 0.4 | 0.6 | 0.3 | 0.1 | 1.7 |
| Mean | 0.05 | | | | 0.01 | 0.02 | 0.05 | 0.2 | 0.7 | 2.7 | 2.9 | 2.6 | 1.5 | 1.1 | 0.9 | 0.8 | 1.4 | 0.8 | 1.6 | 1.2 | 2.2 | 2.3 | 2.2 | 2.2 | 2.5 | 3.1 | 4.2 | 4.5 | 3.7 | 2.3 | 1.1 | 0.7 | 0.5 | 0.4 | 2.4 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|-----|-----|-----|------|------|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|---|---|
| 2005 | | | | | | | | | | | | 1 | | | | | 1 | | | | | | | | | | | 1 | | | | | | | 1 | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | 1 | |
| 2007 | | | | | | | | | | | | | | | | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | 1 | |
| 2008 | | | | | | | | | | 1 | | | | | | | 1 | | | | | 1 | | | | | | | 1 | | | | | | | | 3 |
| 2009 | | | | | | | | | | 1 | | 1 | | | | | 2 | | 1 | 1 | 3 | | | 5 | | | | | 1 | | | | | | | 9 | |
| 2010 | | | | | | | | | | 1 | | | | | | | 1 | | 2 | 2 | | | | | | 2 | | | 1 | | | | | | | 3 | |
| 2011 | | | | | | | | | | 2 | 1 | | | | | | 3 | | | | | 1 | | | 2 | | 1 | | | | | | | | | 4 | |
| 2012 | | | | | | | | | | | | 1 | | | | | 1 | | 1 | 1 | | 1 | 1 | | | | | | | | 1 | | | | | 3 | |
| 2013 | | | | | | | | | | | | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | 3 |
| 2014 | | | | | | | | | | | | | | | | | | | | | 1 | | | | | 2 | | | | | | | | | | | 3 |
| 2015 | | | | | | | | | | | 1 | | | | | | 1 | | 2 | 2 | | | 1 | | | | | | 1 | | | | | | | | 2 |
| 2016 | | | | | | | | | | 1 | 1 | | | | 1 | | 3 | | 1 | 1 | | 1 | 1 | 1 | 1 | | | | | | | | | | | 4 | |
| 2017 | | | | | | | | | | | 1 | | | 1 | 1 | 1 | 4 | 1 | | 1 | | | | | | | | 2 | 1 | | | | | | | 3 | |
| 2018 | | | | | | | | | | | | | 1 | | | | 1 | | | | | 1 | | | 2 | | 1 | | | | | | | | | 4 | |
| 2019 | | | | | | | | | | | | | | | | | | | | | 1 | 1 | | | | | 1 | | | | | | | | | | 3 |
| Mean | | | | | | | | | | 0.4 | 0.3 | 0.3 | 0.07 | 0.07 | 0.1 | 0.1 | 1.3 | 0.07 | 0.5 | 0.5 | 0.3 | 0.5 | 0.2 | 0.5 | 0.3 | 0.3 | 0.2 | 0.3 | 0.2 | 0.07 | | | | | 2.9 | | |

The first Northern Flicker of spring has been observed between April 6 and 10 in 9 of 15 years, but has ranged from as early as March 29 in 2016 to as late as April 16 in 2013. The peak of spring migration in spring has always been in Week 5 or 6, except for 2010 and 2014 when it was in Week 4; the 5 years with a Week 6 peak have all been since 2013. The peak of fall migration is similarly consistent, occurring between Week 7 and Week 9 in all years except 2008, when there were marginally more in Week 2. However, few tend to be banded during period compared to earlier in fall, as many of the mid-season birds are migrants passing through quickly. Although numbers drop off sharply around mid-October, sightings have continued into November annually since 2015, as well as in 2007 and 2009.

PIWO: Pileated Woodpecker / Grand Pic (*Dryocopus pileatus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|-------|
| First | 4-5 | 3-29 | 3-28 | 3-29 | 3-28 | 3-29 | 3-30 | 4-1 | 3-30 | 3-31 | 3-29 | 3-29 | 3-28 | 3-28 | 3-29 | 3-29 | 8-6 | 8-1 | 8-1 | 8-2 | 8-18 | 8-1 | 8-1 | 8-2 | 8-3 | 8-1 | 8-1 | 8-1 | 8-1 | 8-3 | 8-1 | 8-2 |
| Peak | 4-10 | 5-4 | 5-9 | 5-11 | 4-10 | 5-7 | 4-24 | 4-19 | 4-22 | 4-21 | 4-26 | 4-5 | 5-11 | 4-9 | 5-7 | 4-25 | 9-18 | 9-20 | 9-20 | 9-13 | 9-1 | 9-20 | 9-12 | 9-23 | 10-27 | 8-24 | 8-4 | 9-15 | 8-25 | 8-3 | 8-7 | 9-7 |
| Last | 6-1 | 6-5 | 6-3 | 6-4 | 6-4 | 6-5 | 6-5 | 6-5 | 6-5 | 5-31 | 6-5 | 6-3 | 6-4 | 6-1 | 6-5 | 6-3 | 10-29 | 10-30 | 10-30 | 10-27 | 10-30 | 10-30 | 10-30 | 10-29 | 10-29 | 10-30 | 11-6 | 11-6 | 11-6 | 11-6 | 11-6 | 10-31 |
| Span | 58 | 69 | 68 | 68 | 69 | 69 | 68 | 66 | 68 | 62 | 69 | 67 | 69 | 66 | 69 | 67 | 85 | 91 | 91 | 87 | 74 | 91 | 91 | 89 | 88 | 91 | 98 | 98 | 98 | 96 | 98 | 91 |
| # days | 25 | 39 | 39 | 40 | 38 | 46 | 36 | 39 | 40 | 44 | 53 | 54 | 53 | 48 | 55 | 43 | 36 | 70 | 75 | 57 | 33 | 64 | 61 | 81 | 73 | 79 | 82 | 95 | 85 | 69 | 81 | 69 |
| % days | 42 | 57 | 56 | 57 | 55 | 66 | 51 | 56 | 57 | 65 | 76 | 77 | 76 | 69 | 79 | 63 | 41 | 77 | 82 | 63 | 36 | 70 | 67 | 89 | 80 | 87 | 84 | 97 | 87 | 70 | 83 | 75 |
| High | 2 | 4 | 3 | 4 | 3 | 3 | 4 | 3 | 5 | 3 | 4 | 4 | 3 | 4 | 4 | 4 | 4 | 5 | 4 | 4 | 3 | 4 | 3 | 6 | 5 | 3 | 3 | 4 | 4 | 3 | 4 | 4 |
| Total | 27 | 65 | 54 | 59 | 57 | 58 | 50 | 57 | 79 | 61 | 84 | 90 | 69 | 79 | 98 | 66 | 49 | 109 | 121 | 92 | 51 | 102 | 106 | 184 | 142 | 118 | 137 | 192 | 142 | 108 | 152 | 120 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2005 | 0.8 | 0.5 | | 0.5 | 0.3 | 0.5 | | 0.7 | 0.4 | 0.3 | 0.7 | 0.3 | 0.6 | 0.4 | 0.1 | 0.6 | 0.5 | 0.3 | 0.06 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 1.1 | 1.3 | 1.3 | 0.9 | 0.8 | 1.0 | 0.2 | 0.1 | | 0.6 | |
| 2006 | 0.07 | 0.07 | 0.08 | 0.2 | 0.3 | 0.1 | 0.7 | 0.8 | 0.6 | 0.4 | 0.7 | 2.4 | 1.0 | 1.4 | 1.1 | 0.1 | 0.9 | 0.1 | | 0.05 | 1.1 | 0.9 | 0.6 | 0.9 | 0.7 | 2.6 | 1.6 | 2.0 | 1.3 | 1.4 | 1.4 | 1.0 | 0.1 | 1.2 | |
| 2007 | 0.2 | 0.3 | 0.3 | 0.2 | 0.3 | 0.2 | 0.6 | 0.4 | 0.1 | 1.1 | 0.6 | 1.1 | 1.7 | 0.9 | 0.9 | 0.3 | 0.8 | 0.1 | 0.2 | 0.2 | 1.0 | 1.6 | 1.7 | 0.9 | 1.7 | 1.3 | 1.1 | 1.0 | 1.1 | 1.4 | 1.6 | 1.3 | 1.3 | | |
| 2008 | 1.1 | 0.3 | | 0.1 | | 0.5 | 0.4 | 0.4 | 1.1 | 1.0 | 0.7 | 1.3 | 1.3 | 1.4 | 0.4 | 0.3 | 0.8 | 0.2 | 0.2 | 0.2 | 0.6 | 0.9 | 0.6 | 0.6 | 1.4 | 1.7 | 1.4 | 1.7 | 1.0 | 0.3 | 1.3 | 1.1 | 0.6 | 1.0 | |
| 2009 | 0.1 | 0.5 | 0.5 | | 0.4 | 0.3 | 0.3 | 1.2 | | 1.6 | 0.9 | 0.9 | 0.7 | 1.3 | 0.9 | 0.7 | 0.8 | 0.7 | 0.3 | 0.4 | | | 0.6 | 0.6 | 0.7 | 0.4 | | 0.4 | 1.6 | 1.6 | 0.9 | 0.6 | 0.6 | | |
| 2010 | 0.4 | 0.8 | 0.4 | 0.3 | 0.5 | 0.4 | 0.4 | 0.9 | 0.1 | 0.7 | 0.9 | 1.1 | 0.9 | 1.6 | 0.7 | 1.0 | 0.8 | 0.7 | 0.2 | 0.3 | 0.9 | 0.4 | 0.1 | 0.6 | 0.7 | 1.6 | 1.4 | 1.7 | 1.0 | 1.9 | 1.3 | 1.6 | 1.4 | 1.1 | |
| 2011 | 0.3 | 1.0 | 0.4 | 0.8 | 0.3 | 0.4 | 0.3 | 0.3 | 0.6 | 1.1 | 1.0 | 1.4 | 0.7 | 0.6 | 0.3 | 0.9 | 0.7 | 0.7 | 0.8 | 0.7 | 0.6 | 0.7 | 0.6 | 1.0 | 0.4 | 0.6 | 2.1 | 2.1 | 2.0 | 1.9 | 0.7 | 0.9 | 1.6 | 1.2 | |
| 2012 | 0.5 | 1.8 | 0.7 | 0.3 | 0.8 | 0.8 | 0.3 | 1.0 | 0.9 | 0.9 | 0.6 | 1.0 | 1.3 | 1.1 | 0.6 | 0.6 | 0.8 | 0.5 | 0.8 | 0.6 | 0.9 | 1.6 | 1.9 | 2.7 | 1.3 | 2.1 | 2.4 | 2.7 | 2.1 | 2.7 | 2.4 | 1.3 | 2.1 | 2.0 | |
| 2013 | 0.3 | 0.1 | 0.2 | 0.2 | 0.6 | 0.3 | 0.7 | 0.6 | 0.7 | 2.3 | 1.1 | 3.0 | 0.9 | 0.9 | 0.7 | 0.4 | 1.1 | 1.0 | 0.3 | 0.6 | 0.6 | 0.4 | 1.4 | 1.6 | 1.3 | 2.3 | 2.0 | 2.4 | 2.3 | 1.4 | 1.1 | 1.4 | 2.0 | 1.6 | |
| 2014 | 0.4 | 0.5 | 0.1 | | | 0.2 | 0.7 | 0.7 | 0.1 | 1.4 | 1.0 | 1.7 | 0.9 | 1.1 | 0.9 | 0.3 | 0.9 | 1.0 | 0.8 | 0.9 | 1.3 | 1.1 | 0.9 | 1.3 | 1.1 | 0.9 | 1.3 | 1.0 | 1.7 | 1.3 | 1.4 | 1.6 | 2.0 | 1.3 | |
| 2015 | 0.7 | 1.0 | | | 0.4 | 0.6 | 0.7 | 0.7 | 0.6 | 1.6 | 1.9 | 1.9 | 1.0 | 1.1 | 1.7 | 0.9 | 1.2 | 0.7 | 1.0 | 0.9 | 1.6 | 0.9 | 1.3 | 2.0 | 1.7 | 2.0 | 1.7 | 1.0 | 0.7 | 1.4 | 0.9 | 1.3 | 1.3 | 1.9 | 1.4 |
| 2016 | 1.1 | 0.5 | 0.3 | 0.08 | 0.8 | 0.5 | 0.9 | 1.1 | 0.3 | 1.7 | 1.1 | 1.7 | 2.1 | 1.9 | 1.3 | 0.7 | 1.3 | 1.5 | 0.8 | 1.1 | 2.0 | 1.6 | 2.0 | 1.9 | 2.1 | 1.6 | 2.4 | 2.3 | 1.9 | 2.4 | 1.7 | 1.4 | 2.1 | 2.0 | 2.0 |
| 2017 | 0.8 | | 0.4 | 0.1 | | 0.3 | 1.1 | 0.4 | 0.3 | 1.4 | 1.1 | 0.9 | 1.6 | 0.9 | 1.3 | 0.9 | 1.0 | 1.3 | 0.5 | 0.9 | 1.0 | 1.6 | 1.3 | 2.0 | 1.1 | 1.4 | 1.4 | 1.3 | 1.7 | 1.1 | 1.3 | 2.3 | 1.1 | 1.6 | 1.4 |
| 2018 | 0.4 | 0.2 | 0.1 | 0.1 | 0.2 | 0.2 | 1.3 | 1.0 | 0.6 | 1.7 | 1.6 | 1.7 | 1.1 | 1.4 | 0.6 | 0.3 | 1.1 | 0.7 | 0.5 | 0.6 | 0.9 | 1.4 | 0.6 | 1.0 | 1.0 | 0.9 | 1.4 | 0.4 | 1.4 | 1.7 | 1.0 | 1.1 | 0.9 | 1.7 | 1.1 |
| 2019 | 0.3 | 0.3 | 0.4 | 0.2 | 0.5 | 0.3 | 0.6 | 0.9 | 1.9 | 2.0 | 1.6 | 1.9 | 1.4 | 1.6 | 1.1 | 1.1 | 1.4 | 1.0 | 0.3 | 0.6 | 1.6 | 0.9 | 2.1 | 1.0 | 0.9 | 1.9 | 1.6 | 1.6 | 1.7 | 1.6 | 1.7 | 1.6 | 1.7 | 2.0 | 1.6 |
| Mean | 0.4 | 0.4 | 0.3 | 0.2 | 0.4 | 0.3 | 0.6 | 0.7 | 0.6 | 1.3 | 1.0 | 1.5 | 1.1 | 1.2 | 0.8 | 0.6 | 1.0 | 0.5 | 0.3 | 0.4 | 0.9 | 0.9 | 1.0 | 1.2 | 1.2 | 1.5 | 1.6 | 1.5 | 1.5 | 1.5 | 1.3 | 1.2 | 1.3 | 1.8 | 1.3 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|-----|----|------|----|-----|----|------|----|-----|-----|-----|-----|----|----|------|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|---|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | 1 | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | 1 | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | 1 | | | | | 1 | | | | | | | | | | | | | | | | | 1 | | 1 | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | 1 | | 2 | |
| 2013 | | | | | | | | | | | | 1 | | | 1 | | 2 | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | 0.5 | | 0.07 | | 0.1 | | 0.07 | | | 0.3 | | | | | 0.07 | | | | | | | | | | | 0.1 | 0.2 | 0.3 | | |

Pileated Woodpecker is a year-round resident at MBO, with mean daily abundance similar to that of Hairy Woodpecker in summer and fall, slightly lower in winter, and a bit higher in spring. Compared to the other regularly observed woodpeckers at MBO, there is less variability in abundance across the course of spring and fall, but there has been a more pronounced increase in abundance over the years in both seasons. Despite its consistent presence, only nine individuals have been banded over 15 years, but this may in part reflect the ability for such large and strong birds to escape nets designed for capturing much smaller birds.

AMKE: American Kestrel / Crécérelle d'Amérique (*Falco sparverius*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|------|------|-------|------|-------|-------|------|------|------|-------|-------|------|------|
| First | 4-10 | 4-14 | | | 5-12 | 4-11 | 5-8 | 4-26 | 4-18 | 4-12 | 5-1 | 4-18 | 4-15 | 4-20 | 4-20 | 4-21 | 9-3 | 9-7 | 8-7 | 9-16 | 8-20 | 8-4 | 9-16 | 8-14 | 9-14 | 8-20 | 8-18 | 8-8 | 8-17 | 8-7 | 8-8 | 8-22 |
| Peak | 4-10 | 4-14 | | | 5-12 | 4-11 | 5-8 | 4-26 | 4-29 | 4-20 | 5-1 | 4-18 | 5-13 | 4-20 | 5-8 | 4-26 | 9-3 | 9-7 | 8-7 | 9-16 | 8-20 | 8-4 | 9-16 | 9-20 | 9-14 | 8-20 | 9-1 | 9-1 | 9-15 | 8-7 | 9-12 | 8-31 |
| Last | 4-18 | 4-14 | | | 5-12 | 5-12 | 5-8 | 4-26 | 5-23 | 5-28 | 5-9 | 4-18 | 5-29 | 5-22 | 5-19 | 5-9 | 10-13 | 9-30 | 9-14 | 10-4 | 8-20 | 10-24 | 9-25 | 10-15 | 10-18 | 9-26 | 9-25 | 9-30 | 10-11 | 10-17 | 10-8 | 10-2 |
| Span | 9 | 1 | | | 1 | 32 | 1 | 1 | 36 | 47 | 9 | 1 | 45 | 33 | 30 | 19 | 41 | 24 | 39 | 19 | 1 | 82 | 10 | 63 | 35 | 38 | 39 | 54 | 56 | 72 | 62 | 42 |
| # days | 4 | 1 | | | 1 | 3 | 1 | 1 | 6 | 13 | 4 | 1 | 14 | 6 | 7 | 5 | 5 | 4 | 4 | 3 | 1 | 7 | 4 | 9 | 3 | 5 | 5 | 7 | 8 | 7 | 16 | 6 |
| % days | 7 | 1 | | | 1 | 4 | 1 | 1 | 9 | 19 | 6 | 1 | 20 | 9 | 10 | 7 | 6 | 4 | 4 | 3 | 1 | 8 | 4 | 10 | 3 | 5 | 5 | 7 | 8 | 7 | 16 | 6 |
| High | 1 | 1 | | | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 1 | 10 | 3 | 7 | 1 | 3 | 2 |
| Total | 4 | 1 | | | 1 | 3 | 1 | 1 | 7 | 14 | 4 | 1 | 15 | 6 | 8 | 4 | 5 | 4 | 4 | 3 | 1 | 7 | 4 | 12 | 6 | 5 | 18 | 9 | 17 | 7 | 25 | 8 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|------|--------|----|------|------|-----|-----|-----|-----|------|------|-----|------|-----|-----|----|------|------|------|------|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|
| 2005 | | | | | | | | 0.2 | 0.3 | 0.2 | | | | | | | 0.07 | | | | | | | | 0.1 | 0.1 | 0.1 | 0.1 | | 0.2 | | | | | 0.06 | |
| 2006 | | | | | | | | | 0.1 | | | | | | | | 0.01 | | | | | | | | | 0.1 | 0.1 | | 0.3 | | | | | | 0.04 | |
| 2007 | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | 0.3 | | 0.1 | | | | | | | | 0.04 | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.3 | | 0.1 | | | | | | | 0.03 |
| 2009 | | | | | | | | | | | | 0.1 | | | | | 0.01 | | | | | | 0.1 | | | | | | | | | | | | 0.01 | |
| 2010 | | | | | | | | | 0.1 | 0.1 | | | 0.1 | | | | 0.04 | | | | 0.1 | | | | 0.3 | | | 0.1 | | 0.1 | 0.1 | | 0.1 | | 0.08 | |
| 2011 | | | | | | | | | | | | 0.1 | | | | | 0.01 | | | | | | | | | | 0.3 | 0.3 | | | | | | | 0.04 | |
| 2012 | | | | | 0.2 | 0.04 | | | | | 0.1 | | | | | | 0.01 | | | | | 0.1 | | | 0.1 | | | 0.4 | 0.7 | 0.1 | 0.1 | | | | 0.1 | |
| 2013 | | | | | | | | | 0.4 | 0.7 | 0.3 | 0.1 | 0.1 | 0.1 | 0.1 | | 0.1 | | | | | | | 0.1 | | 0.4 | 0.3 | | | 0.1 | | | | 0.07 | | |
| 2014 | | | | | | | | | 0.4 | 0.7 | 0.3 | 0.1 | 0.1 | 0.1 | 0.1 | | 0.2 | | | | | | 0.1 | 0.1 | | 0.3 | | 0.1 | | | | | | 0.05 | | |
| 2015 | | | | | | | | | | 0.1 | 0.3 | 0.1 | | | | | 0.06 | | | | | | 0.1 | | 2.3 | | 0.1 | | | | | | | 0.2 | | |
| 2016 | | | | | | | | | | 0.1 | | | | | | | 0.01 | | | | | 0.1 | | | 0.6 | | 0.1 | 0.3 | 0.1 | | | | | | 0.09 | |
| 2017 | | | | | 0.1 | 0.03 | | | 0.1 | | 0.1 | 0.4 | 0.9 | 0.4 | 0.1 | | 0.2 | | | | | | 0.1 | | | 0.7 | 1.3 | 0.1 | | 0.1 | | | | 0.2 | | |
| 2018 | | | | | | | | | | 0.3 | | 0.3 | 0.1 | 0.1 | | | 0.09 | | | | 0.1 | | | 0.1 | | 0.3 | 0.1 | | 0.1 | | 0.1 | | | 0.07 | | |
| 2019 | | | | | | | | | 0.1 | 0.4 | 0.4 | 0.1 | 0.1 | | | | 0.1 | | | | | 0.7 | | | | 0.1 | 1.1 | 0.7 | 0.4 | 0.4 | | | | 0.3 | | |
| Mean | | | | | 0.02 | <0.005 | | 0.01 | 0.08 | 0.1 | 0.1 | 0.1 | 0.1 | 0.07 | 0.03 | | 0.06 | | | | 0.03 | 0.07 | 0.04 | 0.01 | 0.3 | 0.1 | 0.3 | 0.2 | 0.1 | 0.07 | 0.04 | 0.02 | 0.01 | 0.09 | | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|------|----|----|----|----|-----|------|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | 0.07 | | | | | | 0.07 | | | | | | | | | | | | | | | | | | | |

American Kestrel occurs at MBO primarily as a spring and fall migrant, although there are two late winter records that are far enough ahead of typical spring dates that they likely involved individuals wintering in the region. In spring, no more than two individuals have ever been observed in a day; observations were more numerous in 2014 and 2017, with breeding confirmed in 2017 at a nest box along the Arboretum access road. In fall, numbers have increased somewhat over the years, with a season total of more than 10 individuals four times since 2012, compared to seven or fewer in all earlier years. There tends to be a modest peak of migration from early to mid-September, though not apparent in all years, given the low overall numbers. Only one American Kestrel has been banded at MBO, on 25 April 2014.

MERL: Merlin / Faucon émerillon (*Falco columbarius*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|-------|
| First | 4-8 | 5-9 | 4-19 | 4-28 | 5-28 | 4-21 | 4-12 | 4-12 | 4-6 | 4-21 | 4-26 | 4-27 | 4-9 | 4-28 | 4-13 | 4-21 | 8-5 | 8-1 | 9-11 | 8-2 | 8-8 | 8-8 | 8-3 | 8-10 | 8-8 | 8-1 | 8-4 | 8-5 | 8-3 | 8-6 | 8-11 | 8-7 |
| Peak | 4-8 | 5-9 | 4-19 | 4-28 | 5-28 | 4-21 | 4-12 | 4-12 | 4-6 | 4-21 | 4-26 | 4-27 | 4-9 | 4-28 | 4-13 | 4-21 | 9-23 | 8-1 | 9-11 | 8-12 | 10-8 | 9-2 | 8-3 | 8-19 | 8-10 | 10-11 | 9-1 | 9-24 | 9-17 | 8-18 | 8-29 | 9-2 |
| Last | 5-4 | 5-21 | 5-12 | 4-28 | 5-28 | 4-21 | 5-11 | 5-18 | 5-15 | 5-31 | 4-26 | 6-3 | 6-3 | 5-16 | 5-15 | 5-14 | 10-13 | 10-24 | 10-20 | 10-14 | 10-19 | 10-13 | 10-25 | 10-30 | 10-18 | 10-30 | 10-19 | 11-1 | 11-4 | 11-5 | 11-6 | 10-24 |
| Span | 27 | 13 | 24 | 1 | 1 | 1 | 30 | 37 | 40 | 41 | 1 | 38 | 56 | 19 | 33 | 24 | 70 | 85 | 40 | 74 | 73 | 67 | 84 | 82 | 72 | 91 | 77 | 89 | 94 | 92 | 88 | 79 |
| # days | 2 | 2 | 4 | 1 | 1 | 1 | 2 | 2 | 4 | 2 | 1 | 7 | 8 | 6 | 6 | 3 | 9 | 13 | 6 | 17 | 20 | 17 | 15 | 23 | 16 | 35 | 22 | 27 | 29 | 24 | 28 | 20 |
| % days | 3 | 3 | 6 | 1 | 1 | 1 | 3 | 3 | 6 | 3 | 1 | 10 | 11 | 9 | 9 | 5 | 10 | 14 | 7 | 19 | 22 | 19 | 16 | 25 | 18 | 38 | 22 | 28 | 30 | 24 | 29 | 22 |
| High | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 2 | 3 | 1 | 2 | 2 | 5 | 2 | 3 | 4 | 2 | 3 | 2 |
| Total | 2 | 2 | 4 | 1 | 1 | 1 | 2 | 2 | 4 | 2 | 1 | 7 | 8 | 6 | 6 | 3 | 10 | 13 | 6 | 20 | 21 | 22 | 15 | 28 | 18 | 47 | 25 | 30 | 35 | 27 | 34 | 23 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|------|------|------|-----|------|--------|-----|------|------|------|-----|------|------|------|------|------|------|-----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|
| 2005 | | | | | | | | 0.2 | | | | 0.1 | | | | | 0.03 | | | | 0.1 | 0.3 | | | | 0.1 | | 0.4 | 0.2 | 0.2 | 0.2 | | | 0.1 | |
| 2006 | | | | | | | | | | | | | 0.1 | 0.1 | | | 0.03 | | 0.08 | 0.05 | 0.4 | 0.3 | 0.1 | | | 0.3 | | | 0.3 | | 0.1 | | 0.1 | | |
| 2007 | 0.06 | | | | | 0.02 | | | 0.1 | | | 0.1 | 0.3 | | | | 0.06 | | | | | 0.3 | 0.1 | 0.3 | 0.1 | 0.1 | 0.1 | 0.3 | 0.1 | | 0.3 | 0.3 | | 0.2 | |
| 2008 | 0.1 | | | | | 0.04 | | | | 0.1 | | | | | | | 0.01 | | 0.2 | 0.1 | 0.1 | 0.4 | 0.6 | 0.1 | 0.4 | 0.1 | 0.3 | 0.1 | | 0.3 | 0.3 | | 0.2 | | |
| 2009 | | | | | | | | | | | | | | | 0.1 | | 0.01 | | | | | 0.3 | 0.1 | 0.3 | 0.1 | 0.1 | 0.4 | 0.3 | 0.4 | 0.3 | 0.3 | 0.3 | | 0.2 | |
| 2010 | | 0.1 | | | | 0.02 | | | | 0.1 | | | | | | | 0.01 | | | | | 0.1 | | 0.1 | 0.9 | 0.6 | 0.1 | | 0.6 | 0.6 | 0.1 | | | 0.2 | |
| 2011 | | | | | | | | | 0.1 | | | | 0.1 | | | | 0.03 | | | | 0.1 | | 0.1 | 0.4 | 0.1 | 0.3 | | 0.1 | 0.3 | 0.3 | 0.1 | | 0.1 | 0.2 | |
| 2012 | | | | | | | | | 0.1 | | | | | 0.1 | | | 0.03 | | | | | 0.1 | 0.6 | 0.7 | 0.4 | 0.1 | 0.1 | 1.0 | 0.3 | 0.1 | 0.1 | 0.3 | | 0.3 | |
| 2013 | | | 0.07 | | | 0.02 | | 0.1 | 0.1 | 0.1 | | | 0.1 | | | | 0.06 | | | | | 0.7 | 0.1 | 0.1 | 0.1 | 0.6 | 0.1 | 0.1 | 0.3 | 0.3 | | 0.1 | 0.1 | 0.3 | 0.2 |
| 2014 | | | | | | | | | | 0.1 | | | | | | | 0.03 | | | | | 0.7 | 0.1 | 0.3 | 0.4 | 0.3 | 0.6 | 0.9 | 0.9 | 0.4 | 0.9 | 0.3 | 0.1 | | 0.5 |
| 2015 | | | | | | | | | | | 0.1 | | | | | | 0.01 | | | | | 0.3 | | 0.1 | 0.3 | 0.3 | 0.6 | | 0.7 | 0.4 | 0.4 | 0.1 | 0.3 | | 0.3 |
| 2016 | | | | | | | | | | | 0.6 | | 0.1 | | 0.1 | 0.1 | 0.1 | | | | | 0.1 | 0.1 | 0.1 | 0.4 | 0.6 | 0.4 | 0.3 | 1.1 | 0.3 | 0.3 | | 0.3 | 0.1 | 0.3 |
| 2017 | | | | | | | 0.1 | | 0.3 | 0.1 | | | | | 0.3 | 0.3 | 0.1 | | | | | 0.1 | 0.1 | | 0.4 | 0.1 | 0.6 | 1.1 | 0.7 | 0.6 | 0.7 | 0.1 | 0.1 | 0.1 | 0.4 |
| 2018 | | | | 0.1 | 0.02 | | | | 0.1 | 0.4 | 0.1 | 0.1 | | | | | 0.09 | | | | | 0.1 | 0.1 | 0.6 | 0.4 | 0.1 | 0.6 | 0.4 | 0.4 | 0.3 | 0.3 | 0.1 | 0.1 | 0.3 | 0.3 |
| 2019 | | | | | | | | | 0.1 | 0.3 | 0.1 | 0.3 | | | | | 0.09 | | | | | 0.1 | 0.4 | 0.4 | 0.7 | 0.1 | 0.6 | 0.9 | 0.6 | 0.3 | 0.3 | 0.1 | 0.1 | 0.3 | 0.3 |
| Mean | 0.01 | 0.01 | 0.01 | | 0.01 | <0.005 | | 0.03 | 0.04 | 0.06 | 0.1 | 0.06 | 0.09 | 0.03 | 0.04 | 0.04 | 0.05 | | 0.02 | 0.01 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.4 | 0.4 | 0.3 | 0.2 | 0.1 | 0.08 | 0.2 | 0.3 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|------|----|----|----|----|----|-----|------|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | 1 | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | 0.07 | | | | | | | 0.07 | | | | | | | | | | | | | | | | | | | | |

Merlin has been observed at MBO in all seasons, but with annual occurrences only in spring and fall; numbers are considerably higher in fall than other seasons, although still low, with only two weeks across 15 years during which the mean daily count exceeded one (Week 8 in 2016, and week 7 in 2017). Although still small, spring numbers have been notably higher over the past four years, with a season total of six to eight individuals annually, compared to four or fewer in all previous years. In fall, the increase has been less dramatic, though all four years with a season total of >30 individuals have occurred since 2014, and only the first three years had a season total <15. Only one Merlin has been banded at MBO, on 19 April 2007.

PEFA: Peregrine Falcon / Faucon pèlerin (*Falco peregrinus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|-------|------|-------|------|-------|-------|-------|------|------|------|------|-------|------|
| First | 5-4 | 4-5 | | | 3-28 | | 5-20 | 5-12 | 4-18 | | 5-16 | 5-3 | | 5-4 | 5-14 | 4-30 | 10-17 | 9-28 | 8-17 | 8-24 | 9-4 | 9-12 | 10-2 | 9-20 | 9-25 | 10-3 | 9-4 | 8-25 | 10-5 | 10-8 | 9-10 | 9-17 |
| Peak | 5-4 | 4-5 | | | 3-28 | | 5-20 | 5-12 | 4-18 | | 5-16 | 5-3 | | 5-4 | 5-14 | 4-30 | 10-17 | 9-28 | 8-17 | 8-24 | 9-4 | 9-12 | 10-2 | 9-20 | 10-18 | 10-3 | 9-4 | 8-25 | 10-5 | 10-8 | 9-10 | 9-18 |
| Last | 5-4 | 5-19 | | | 3-28 | | 5-20 | 5-20 | 5-6 | | 5-16 | 5-3 | | 5-4 | 5-28 | 5-8 | 10-17 | 9-28 | 8-31 | 10-23 | 9-5 | 10-14 | 10-4 | 10-28 | 10-18 | 10-11 | 11-5 | 10-4 | 10-5 | 10-8 | 10-11 | 10-8 |
| Span | 1 | 45 | | | 1 | | 1 | 9 | 19 | | 1 | 1 | | 1 | 15 | 9 | 1 | 1 | 15 | 61 | 2 | 33 | 3 | 39 | 24 | 9 | 63 | 41 | 1 | 1 | 32 | 22 |
| # days | 1 | 4 | | | 1 | | 1 | 2 | 2 | | 1 | 1 | | 1 | 4 | 2 | 1 | 1 | 3 | 3 | 2 | 3 | 2 | 5 | 3 | 2 | 5 | 5 | 1 | 1 | 3 | 3 |
| % days | 2 | 6 | | | 1 | | 1 | 3 | 3 | | 1 | 1 | | 1 | 6 | 3 | 1 | 1 | 3 | 3 | 2 | 3 | 2 | 5 | 3 | 2 | 5 | 5 | 1 | 1 | 3 | 3 |
| High | 1 | 1 | | | 1 | | 1 | 2 | 1 | | 1 | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | |
| Total | 1 | 4 | | | 1 | | 1 | 3 | 2 | | 1 | 1 | | 1 | 4 | 1 | 1 | 1 | 3 | 3 | 2 | 3 | 3 | 5 | 4 | 2 | 5 | 5 | 1 | 1 | 4 | 3 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|------|-----|-----|-----|------|--------|------|------|-----|------|----|------|------|------|------|------|------|-----|-----|----|----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 2005 | | | | | | | | | | | | 0.1 | | | | | 0.02 | | | | | | | | | | | | | | | 0.1 | | | 0.01 | |
| 2006 | | | | | | | | 0.3 | | | | 0.1 | | 0.1 | | | 0.06 | | | | | | | | | | | 0.1 | | | | | | | 0.01 | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | 0.3 | | 0.1 | | | | | | | | | | 0.03 | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | 0.1 | | | | | 0.1 | | | | | 0.03 | |
| 2009 | | | | | 0.07 | 0.03 | 0.1 | | | | | | | | | | 0.01 | | | | | | | | 0.1 | 0.1 | | | | | | | | | 0.02 | |
| 2010 | 0.05 | | | | | 0.02 | | | | | | | | | | | | | | | | | | | | | 0.3 | | | 0.1 | | | | | 0.03 | |
| 2011 | | | | | | | | | | | | | | 0.1 | | | 0.01 | | | | | | | | | | | | 0.3 | 0.1 | | | | | 0.03 | |
| 2012 | 0.1 | | | | | 0.04 | | | | | | | 0.3 | 0.1 | | 0.04 | | | | | | | | | | | 0.1 | | 0.3 | 0.1 | | 0.1 | | | 0.05 | |
| 2013 | | | | | | | | | 0.1 | | | 0.1 | | | | 0.03 | | | | | | | | | | | 0.1 | | 0.1 | 0.3 | | | | | 0.04 | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | 0.1 | | | | | | | 0.02 |
| 2015 | | | | | | | | | | | | | 0.1 | | | 0.01 | | | | | | | | 0.1 | | | 0.1 | | | | | 0.3 | 0.1 | | 0.05 | |
| 2016 | | | | | | | | | | | | 0.1 | | | | 0.01 | | | | | | | 0.1 | 0.1 | 0.1 | 0.1 | | | 0.1 | | | | | | 0.05 | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.01 |
| 2018 | | | | | | | | | | | | | 0.1 | | | 0.01 | | | | | | | | | | | | 0.1 | | | | | | | | 0.01 |
| 2019 | | | | | | | | | | | | | 0.1 | 0.3 | 0.1 | 0.06 | | | | | | | | | 0.3 | | 0.1 | | | 0.1 | | | | | 0.04 | |
| Mean | 0.01 | | | | 0.01 | <0.005 | 0.01 | 0.02 | | 0.01 | | 0.05 | 0.03 | 0.06 | 0.01 | 0.02 | | | | | | 0.02 | 0.02 | 0.05 | 0.04 | 0.03 | 0.04 | 0.03 | 0.07 | 0.05 | 0.04 | 0.03 | 0.03 | 0.03 | | |

Peregrine Falcon is observed at MBO annually in fall, somewhat less regularly in spring, and rarely in winter. All observations have been of individuals flying past MBO. Both in spring and fall, timing of sightings varies widely from year to year, though spring records are more frequent from early to mid-May, and in fall there is a slight overall peak in early October, corresponding to the main push of migrants through the region. Observations earlier in fall, in winter, and in early spring most likely involve the breeding pair on the île-aux-Tourtes bridge a couple of kilometres west of MBO, part of the growing Montreal-area breeding population.

G CFL: Great Crested Flycatcher / Tyrann huppé (*Myiarchus crinitus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | 5-11 | 5-12 | 5-10 | 5-13 | 5-3 | 5-3 | 5-2 | 5-7 | 5-9 | 5-10 | 5-5 | 5-12 | 5-7 | 5-6 | 5-8 | 5-7 | 8-1 | 8-2 | 8-2 | 8-1 | 8-2 | 8-5 | 8-1 | 8-4 | 8-1 | 8-1 | 8-2 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 |
| Peak | 5-30 | 5-23 | 5-22 | 5-28 | 6-3 | 5-25 | 5-24 | 5-12 | 5-16 | 5-31 | 5-9 | 5-21 | 6-4 | 5-25 | 5-25 | 5-24 | 8-15 | 8-18 | 8-2 | 8-4 | 8-11 | 8-15 | 8-18 | 8-6 | 8-18 | 8-2 | 8-28 | 8-23 | 8-23 | 8-1 | 8-22 | 8-13 |
| Last | 6-3 | 6-5 | 6-5 | 6-4 | 6-4 | 6-5 | 6-5 | 6-5 | 6-5 | 6-4 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-4 | 9-21 | 9-2 | 9-7 | 9-12 | 9-4 | 9-6 | 9-2 | 9-8 | 9-3 | 9-28 | 9-7 | 9-10 | 9-9 | 9-13 | 9-16 | 9-9 |
| Span | 14 | 25 | 27 | 23 | 33 | 34 | 35 | 30 | 28 | 26 | 32 | 25 | 30 | 31 | 29 | 29 | 52 | 32 | 37 | 43 | 34 | 33 | 33 | 36 | 34 | 59 | 37 | 41 | 40 | 44 | 47 | 40 |
| # days | 23 | 16 | 16 | 16 | 29 | 27 | 28 | 21 | 24 | 31 | 25 | 25 | 29 | 25 | 23 | 23 | 29 | 20 | 23 | 35 | 12 | 7 | 19 | 28 | 21 | 33 | 36 | 38 | 28 | 40 | 32 | 27 |
| % days | 22 | 23 | 23 | 23 | 42 | 39 | 39 | 40 | 30 | 35 | 44 | 36 | 36 | 41 | 36 | 34 | 33 | 22 | 25 | 38 | 13 | 8 | 21 | 31 | 23 | 36 | 37 | 39 | 29 | 41 | 33 | 29 |
| High | 9 | 6 | 3 | 5 | 6 | 5 | 10 | 8 | 5 | 8 | 4 | 5 | 7 | 6 | 7 | 6 | 6 | 4 | 4 | 7 | 3 | 2 | 7 | 6 | 7 | 5 | 4 | 5 | 5 | 3 | 5 | |
| Total | 31 | 32 | 29 | 30 | 81 | 57 | 116 | 111 | 51 | 80 | 66 | 76 | 78 | 95 | 90 | 68 | 45 | 34 | 42 | 88 | 16 | 8 | 41 | 67 | 47 | 63 | 69 | 69 | 57 | 79 | 48 | 52 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|-----|-----|-----|-----|------|----|
| 2005 | | | | | | | | | | | | | 0.1 | 0.4 | 0.9 | 4.2 | 0.5 | 0.5 | 0.8 | 0.7 | 0.7 | 1.1 | 1.7 | 0.6 | 1.3 | | 0.4 | 0.6 | | | | | | 0.5 | |
| 2006 | | | | | | | | | | | | | 0.3 | 1.0 | 1.9 | 1.4 | 0.5 | 1.9 | 0.8 | 1.3 | 0.3 | 1.3 | 1.6 | 0.6 | 1.1 | | | | | | | | | 0.4 | |
| 2007 | | | | | | | | | | | | | 0.6 | 0.7 | 1.7 | 1.1 | 0.4 | 0.4 | 0.3 | 0.4 | 1.3 | 2.0 | 1.6 | 0.9 | 0.1 | 0.1 | | | | | | | | 0.5 | |
| 2008 | | | | | | | | | | | | | 0.1 | 0.6 | 2.4 | 1.1 | 0.4 | 0.6 | 0.4 | 0.5 | 4.0 | 3.0 | 2.4 | 1.3 | 0.9 | 0.9 | 0.1 | | | | | | | 1.0 | |
| 2009 | | | | | | | | | | | | 0.6 | 2.1 | 3.9 | 2.6 | 2.4 | 1.2 | 2.0 | 1.5 | 1.7 | 0.7 | 1.1 | 0.1 | | 0.3 | | | | | | | | | 0.2 | |
| 2010 | | | | | | | | | | | | 1.0 | 0.3 | 1.9 | 2.7 | 2.3 | 0.8 | 0.7 | 0.3 | 0.4 | 0.1 | 0.3 | 0.4 | | 0.1 | 0.1 | | | | | | | | 0.09 | |
| 2011 | | | | | | | | | | | | 0.3 | 2.0 | 3.6 | 6.3 | 4.4 | 1.7 | 1.3 | 1.5 | 1.4 | 0.7 | 2.0 | 2.3 | 0.6 | 0.3 | | | | | | | | | 0.5 | |
| 2012 | | | | | | | | | | | | 0.6 | 5.1 | 4.6 | 3.4 | 2.1 | 1.6 | 0.3 | 0.8 | 0.5 | 1.6 | 2.9 | 3.3 | 1.3 | 0.4 | 0.1 | | | | | | | | 0.7 | |
| 2013 | | | | | | | | | | | | | 1.0 | 2.7 | 1.3 | 2.3 | 0.7 | 1.0 | 4.0 | 2.7 | 2.4 | 1.4 | 2.0 | 0.4 | 0.4 | | | | | | | | | 0.5 | |
| 2014 | | | | | | | | | | | | | 1.0 | 3.9 | 3.3 | 3.8 | 1.2 | 2.7 | 1.0 | 1.7 | 2.7 | 2.3 | 1.6 | 0.9 | 0.7 | 0.7 | | 0.1 | | | | | | 0.7 | |
| 2015 | | | | | | | | | | | | 0.6 | 2.0 | 2.1 | 2.6 | 2.1 | 0.9 | 1.7 | 2.0 | 1.9 | 1.3 | 1.3 | 1.9 | 2.6 | 2.1 | 0.7 | | | | | | | | 0.7 | |
| 2016 | | | | | | | | | | | | | 0.9 | 3.4 | 3.7 | 2.9 | 1.1 | 2.3 | 2.0 | 2.1 | 2.0 | 1.7 | 1.9 | 2.4 | 1.1 | 0.7 | | | | | | | | 0.7 | |
| 2017 | | | | | | | | | | | | 0.3 | 0.7 | 2.3 | 4.0 | 3.9 | 1.1 | 2.3 | 3.0 | 2.7 | 1.9 | 1.9 | 1.6 | 2.1 | 0.4 | 0.3 | | | | | | | | 0.6 | |
| 2018 | | | | | | | | | | | | 0.6 | 3.4 | 3.3 | 3.7 | 2.6 | 1.4 | 3.3 | 2.8 | 3.0 | 2.7 | 2.6 | 1.0 | 1.6 | 1.3 | 1.9 | 0.3 | | | | | | | 0.8 | |
| 2019 | | | | | | | | | | | | 0.1 | 0.9 | 1.7 | 5.4 | 4.7 | 1.3 | 2.0 | 2.0 | 2.0 | 1.4 | 1.6 | 0.9 | 1.3 | 0.9 | 0.6 | 0.3 | | | | | | | 0.5 | |
| Mean | | | | | | | | | | | | 0.3 | 1.4 | 2.4 | 3.1 | 2.7 | 1.0 | 1.3 | 1.3 | 1.3 | 1.6 | 1.8 | 1.6 | 1.1 | 0.8 | 0.4 | 0.08 | 0.04 | 0.01 | | | | | 0.6 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|----|------|----|----|-----|-----|-----|-----|-----|----|---|
| 2005 | | | | | | | | | | | | | 1 | | | 1 | 2 | | | | 1 | 3 | 1 | | | | 1 | | | | | | | | 6 | |
| 2006 | | | | | | | | | | | | | | | | 1 | 1 | | | | | | 1 | | | | | | | | | | | | 1 | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | 1 |
| 2008 | | | | | | | | | | | | | | | | | | | | | | 1 | 4 | | | | | | | | | | | | | 5 |
| 2009 | | | | | | | | | | | | | | 2 | | 1 | 3 | | 2 | 2 | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | 1 | | 1 | | | | | | 1 | | | | | | | | | | | | 1 | |
| 2011 | | | | | | | | | | | | | | | 1 | 1 | 2 | | 2 | 2 | | | 1 | | | | | | | | | | | | 1 | |
| 2012 | | | | | | | | | | | | | | | | 1 | 1 | | 1 | 1 | | 1 | | | | | | | | | | | | | 1 | |
| 2013 | | | | | | | | | | | | | | 2 | | | 2 | | 5 | 5 | | 2 | | 1 | | | | | | | | | | | 3 | |
| 2014 | | | | | | | | | | | | | | | 1 | | 1 | | 1 | 1 | 2 | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | 1 |
| 2016 | | | | | | | | | | | | | | 1 | | | 1 | | 1 | 1 | | | 1 | 1 | | | | | | | | | | | 2 | |
| 2017 | | | | | | | | | | | | | | 1 | 1 | | 2 | | 4 | 4 | | | 2 | | | | | | | | | | | | 2 | |
| 2018 | | | | | | | | | | | | | | | | | | 3 | | 3 | 3 | 3 | | 2 | 1 | | | | | | | | | | 9 | |
| 2019 | | | | | | | | | | | | | | | | | | | 1 | 1 | | | | 1 | | | | | | | | | | | | 1 |
| Mean | | | | | | | | | | | | | 0.07 | 0.4 | 0.3 | 0.3 | 1.1 | 0.3 | 1.1 | 1.4 | 0.3 | 0.7 | 0.8 | 0.4 | 0.07 | | 0.07 | | | | | | | 2.3 | | |

Great Crested Flycatcher has over time started to arrive at MBO earlier in spring, but peak abundance has largely continued to occur in Week 9. After migrants pass through, at least one or two pairs remain to nest at MBO in most years. Mean daily counts in fall tend to be lower than for most of spring; the peak of migration tends not to be clearly pronounced, and varies among the first four weeks of the season. Spring and especially summer numbers have shown an overall increasing trend over time, but fall counts have largely fluctuated around the long-term mean.

EAKI: Eastern Kingbird / Tyrann tritri (*Tyrannus tyrannus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| First | 5-11 | 5-4 | 5-10 | 5-5 | 4-28 | 5-3 | 5-1 | 5-4 | 5-6 | 5-5 | 5-3 | 5-3 | 4-28 | 5-3 | 5-5 | 5-3 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-3 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 |
| Peak | 5-17 | 5-13 | 5-15 | 5-6 | 5-11 | 5-18 | 5-9 | 5-13 | 5-11 | 5-24 | 5-19 | 5-16 | 5-23 | 5-22 | 5-21 | 5-15 | 8-22 | 8-10 | 8-1 | 8-1 | 8-1 | 8-4 | 8-7 | 8-3 | 8-18 | 8-1 | 8-4 | 8-19 | 8-2 | 8-15 | 8-19 | 8-8 |
| Last | 6-2 | 6-1 | 6-5 | 6-3 | 6-5 | 6-5 | 6-5 | 6-3 | 6-4 | 6-4 | 6-5 | 6-1 | 6-5 | 6-5 | 6-2 | 6-3 | 9-4 | 8-30 | 8-23 | 8-29 | 9-24 | 9-3 | 8-30 | 8-20 | 9-8 | 8-30 | 9-1 | 9-10 | 9-6 | 8-26 | 9-5 | 9-2 |
| Span | 23 | 29 | 27 | 30 | 39 | 34 | 36 | 31 | 30 | 31 | 34 | 30 | 39 | 34 | 29 | 32 | 35 | 30 | 23 | 29 | 55 | 34 | 30 | 20 | 39 | 30 | 41 | 37 | 26 | 36 | 33 | |
| # days | 15 | 25 | 26 | 29 | 37 | 33 | 33 | 30 | 25 | 27 | 30 | 21 | 33 | 19 | 25 | 27 | 23 | 23 | 22 | 23 | 26 | 15 | 24 | 17 | 23 | 17 | 14 | 24 | 22 | 21 | 16 | 21 |
| % days | 25 | 36 | 37 | 41 | 54 | 47 | 47 | 43 | 36 | 40 | 43 | 30 | 47 | 27 | 35 | 39 | 26 | 25 | 24 | 25 | 29 | 16 | 26 | 19 | 25 | 19 | 14 | 24 | 22 | 21 | 16 | 22 |
| High | 3 | 2 | 4 | 4 | 4 | 8 | 6 | 8 | 5 | 5 | 4 | 3 | 5 | 3 | 7 | 5 | 10 | 8 | 5 | 4 | 6 | 3 | 8 | 5 | 5 | 4 | 5 | 7 | 2 | 10 | 3 | 6 |
| Total | 23 | 35 | 59 | 83 | 67 | 66 | 83 | 85 | 84 | 62 | 63 | 34 | 66 | 27 | 53 | 59 | 90 | 95 | 67 | 50 | 50 | 24 | 71 | 40 | 43 | 33 | 23 | 45 | 31 | 65 | 24 | 50 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|-----|------|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|-----|-----|------|-----|------|----|-----|-----|-----|-----|-----|-----|
| 2005 | | | | | | | | | | | | 0.4 | 1.4 | 0.9 | 0.8 | 0.4 | 0.1 | 0.06 | 0.09 | 0.7 | 3.3 | 3.9 | 4.9 | 0.1 | | | | | | | | | | 1.0 | |
| 2006 | | | | | | | | | | | | 0.6 | 0.9 | 1.3 | 1.9 | 0.4 | 0.5 | 0.7 | 1.0 | 0.9 | 3.3 | 5.0 | 3.6 | 1.4 | 0.3 | | | | | | | | | | 1.0 |
| 2007 | | | | | | | | | | | | | 2.1 | 1.7 | 2.7 | 1.9 | 0.8 | 3.0 | 3.0 | 3.0 | 4.3 | 3.4 | 1.7 | 0.1 | | | | | | | | | | | 0.7 |
| 2008 | | | | | | | | | | | | 1.7 | 2.7 | 3.1 | 2.7 | 1.6 | 1.2 | 1.0 | 2.0 | 1.5 | 2.9 | 1.7 | 2.1 | 0.3 | 0.1 | | | | | | | | | | 0.5 |
| 2009 | | | | | | | | | | 0.7 | 1.3 | 1.9 | 2.0 | 2.1 | 1.6 | 1.0 | 1.0 | 0.8 | 0.9 | 3.3 | 1.9 | 1.0 | 0.7 | 0.1 | | | 0.1 | | | | | | | | 0.5 |
| 2010 | | | | | | | | | | | | 1.3 | 2.0 | 2.7 | 2.0 | 1.4 | 0.9 | 0.7 | 0.8 | 0.8 | 1.6 | 1.0 | 0.6 | 0.1 | 0.1 | | | | | | | | | | 0.3 |
| 2011 | | | | | | | | | | 0.1 | 0.6 | 3.6 | 3.0 | 2.4 | 2.1 | 1.2 | 1.3 | 1.3 | 1.3 | 3.7 | 3.4 | 1.7 | 1.1 | 0.1 | | | | | | | | | | | 0.8 |
| 2012 | | | | | | | | | | | | 2.3 | 4.0 | 2.1 | 2.7 | 1.0 | 1.2 | 1.0 | 0.3 | 0.6 | 2.6 | 1.4 | 1.7 | | | | | | | | | | | | 0.4 |
| 2013 | | | | | | | | | | | | 0.1 | 2.6 | 4.1 | 2.9 | 2.3 | 1.2 | | | | 1.7 | 1.4 | 2.3 | 0.3 | 0.3 | 0.1 | | | | | | | | | 0.5 |
| 2014 | | | | | | | | | | | | 0.3 | 2.0 | 2.7 | 2.4 | 1.7 | 0.9 | 0.3 | 2.0 | 1.3 | 2.6 | 1.1 | 0.6 | 0.1 | 0.3 | | | | | | | | | | 0.4 |
| 2015 | | | | | | | | | | | | 0.6 | 1.3 | 2.9 | 2.6 | 1.7 | 0.9 | 0.7 | | 0.3 | 1.4 | 0.4 | 0.4 | 0.6 | 0.4 | | | | | | | | | | 0.2 |
| 2016 | | | | | | | | | | | | 0.1 | 0.9 | 2.1 | 1.1 | 0.6 | 0.5 | | | | 0.6 | 2.1 | 2.4 | 1.0 | 0.1 | 0.1 | | | | | | | | | 0.5 |
| 2017 | | | | | | | | | | 0.1 | 1.0 | 1.7 | 1.6 | 3.0 | 2.0 | 0.9 | 1.3 | 0.8 | 1.0 | 0.7 | 1.4 | 1.0 | 0.7 | 0.3 | 0.3 | | | | | | | | | | 0.3 |
| 2018 | | | | | | | | | | | | 0.4 | 0.3 | 1.7 | 1.1 | 0.3 | 0.4 | 0.3 | 0.3 | 1.4 | 4.3 | 3.0 | 0.6 | | | | | | | | | | | | 0.7 |
| 2019 | | | | | | | | | | | | 0.4 | 0.9 | 2.9 | 2.4 | 1.0 | 0.8 | | 0.8 | 0.4 | 0.4 | 0.3 | 1.6 | 0.6 | 0.3 | 0.3 | | | | | | | | | 0.2 |
| Mean | | | | | | | | | | | 0.07 | 0.7 | 1.8 | 2.4 | 2.2 | 1.4 | 0.9 | 0.8 | 0.8 | 0.8 | 2.1 | 2.2 | 1.8 | 0.8 | 0.2 | 0.06 | | 0.01 | | | | | | | 0.5 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|-----|-----|-----|------|-----|-----|------|-----|-----|-----|------|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|---|
| 2005 | | | | | | | | | | | | | | 1 | 1 | | 2 | | | | | | 1 | | | | | | | | | | | | 1 | |
| 2006 | | | | | | | | | | | | | | | 1 | | 1 | | | | 1 | | | | | | | | | | | | | | | 1 |
| 2007 | | | | | | | | | | | | | | 1 | 1 | | 2 | | 4 | | 4 | | | | | | | | | | | | | | | 1 |
| 2008 | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | 1 |
| 2009 | | | | | | | | | | | | | 1 | 1 | | | 2 | | | | | 1 | | | | | | | | | | | | | | 1 |
| 2010 | | | | | | | | | | | | | | 1 | 1 | | 2 | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | 2 | 1 | 3 | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | 1 | 2 | | | 3 | | 1 | 1 | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | 1 | 1 | | | 2 | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | 2 | | 2 | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | 2 | | | | | | | | | | | | | | 2 |
| 2019 | | | | | | | | | | | | | | 2 | 4 | | 6 | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | 0.3 | 0.7 | 0.8 | 0.07 | 1.8 | 0.3 | 0.07 | 0.3 | 0.1 | 0.2 | 0.07 | | | | | | | | | | | 0.4 | | |

The earliest Eastern Kingbirds usually return to MBO during the first week of May, although in 2009 and 2017 there were early arrivals on April 28. They then remain present until the end of the season, though generally in modest numbers, peaking slightly around mid-May. In all years except 2013 and 2016, at least some Eastern Kingbirds have been observed during the breeding season. Fall numbers peak in the first couple of weeks of August at levels comparable to the spring maximum, and decline sharply beginning in Week 4; only in three years have any been observed beyond the first week of September. Over four times as many Eastern Kingbirds have been banded in spring as in fall. In all seasons, there has been some evidence of decline in recent years.

OSFL: Olive-sided Flycatcher / Moucherolle à côtés olive (*Contopus cooperi*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | | | | | | | | | | 5-28 | | | 5-24 | | 5-31 | 5-27 | 8-13 | 8-29 | | 8-16 | 8-13 | 9-6 | 8-20 | 8-15 | 8-18 | | 8-17 | 8-23 | 8-21 | 8-20 | 9-4 | 8-21 |
| Peak | | | | | | | | | | 5-28 | | | 5-24 | | 6-4 | 5-29 | 8-13 | 8-29 | | 8-16 | 8-13 | 9-6 | 8-20 | 8-15 | 8-18 | | 8-17 | 8-23 | 8-21 | 8-20 | 9-4 | 8-21 |
| Last | | | | | | | | | | 5-28 | | | 5-31 | | 6-4 | 5-31 | 8-13 | 8-29 | | 8-31 | 9-2 | 9-6 | 8-20 | 8-15 | 8-18 | | 8-17 | 8-26 | 9-5 | 8-20 | 9-4 | 8-25 |
| Span | | | | | | | | | | 1 | | | 8 | | 5 | 5 | 1 | 1 | | 16 | 21 | 1 | 1 | 1 | 1 | | 1 | 4 | 16 | 1 | 1 | 5 |
| # days | | | | | | | | | | 1 | | | 3 | | 3 | 2 | 1 | 1 | | 2 | 4 | 1 | 1 | 1 | 1 | | 1 | 2 | 6 | 1 | 1 | 2 |
| % days | | | | | | | | | | 1 | | | 4 | | 4 | 3 | 1 | 1 | | 2 | 4 | 1 | 1 | 1 | 1 | | 1 | 2 | 6 | 1 | 1 | 2 |
| High | | | | | | | | | | 1 | | | 1 | | 2 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | 2 | 1 | 1 | 1 |
| Total | | | | | | | | | | 1 | | | 3 | | 4 | 1 | 1 | 1 | | 2 | 4 | 1 | 1 | 1 | 1 | | 1 | 2 | 8 | 1 | 1 | 2 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|------|------|--------|-----|-----|----|----|------|------|------|------|------|----|----|----|-----|-----|-----|-----|-----|------|------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | | | | 0.01 | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | | | 0.01 |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | 0.1 | | | | | | | | | | | 0.02 |
| 2009 | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | 0.4 | | | | | | | | | | | 0.04 |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | 0.01 |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | | | | 0.01 |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | | | | 0.01 |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | | | | 0.01 |
| 2014 | | | | | | | | | | | | | | | 0.1 | | 0.01 | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | | | | 0.01 |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | 0.3 | | | | | | | | | | | | 0.02 |
| 2017 | | | | | | | | | | | | | | | 0.1 | 0.3 | 0.04 | | | | | | 0.3 | 0.7 | | 0.1 | | | | | | | | | 0.08 | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | | | | 0.01 |
| 2019 | | | | | | | | | | | | | | | | 0.6 | 0.06 | | | | | | | 0.1 | | | | | | | | | | | | 0.01 |
| Mean | | | | | | | | | | | | | | | 0.02 | 0.06 | <0.005 | | | | | 0.02 | 0.08 | 0.07 | 0.06 | 0.02 | | | | | | | | | 0.02 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|------|------|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--|--|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | 1 | | 1 | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | 0.07 | 0.07 | 0.1 | | | | | | | | | | | | | | | | | | | | | |

Only four Olive-sided Flycatchers have been observed at MBO in spring, all within the final two weeks of the season. The species is slightly more regular in fall, with at least one observation every year except 2007 and 2014, but it is still rare, with the season total of individuals observed exceeding two only twice (four in 2009 and eight in 2017). Despite being scarce, there is a distinct pattern to their occurrence, with all sightings between Week 2 and Week 6, and more often in Week 3 than any other period. Curiously, although far more have been observed in fall, none have been banded, compared to half of the individuals recorded in spring being banded.

EAWP: Eastern Wood-Pewee / Pioui de l'Est (*Contopus virens*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|------|------|------|------|------|------|------|------|------|
| First | | 5-28 | 5-18 | 5-26 | 5-22 | 5-26 | 5-19 | 5-27 | 5-27 | 5-24 | 5-22 | 5-23 | 5-21 | 5-27 | 5-21 | 5-23 | 8-1 | 8-6 | 8-4 | 8-29 | 8-6 | 8-5 | 8-3 | 8-12 | 8-14 | 8-1 | 8-1 | 8-1 | 8-2 | 8-1 | 8-5 | |
| Peak | | 5-28 | 5-18 | 5-26 | 5-22 | 5-26 | 5-19 | 5-27 | 5-27 | 5-24 | 5-22 | 5-30 | 5-21 | 6-1 | 5-23 | 5-24 | 8-15 | 8-6 | 8-17 | 8-29 | 8-6 | 8-5 | 8-24 | 8-12 | 8-14 | 8-10 | 8-3 | 8-6 | 8-25 | 8-13 | 8-7 | 8-12 |
| Last | | 6-2 | 6-1 | 6-2 | 6-5 | 5-26 | 6-2 | 5-27 | 6-3 | 6-4 | 6-5 | 6-4 | 6-5 | 6-3 | 6-5 | 6-2 | 9-19 | 9-4 | 10-5 | 8-29 | 10-13 | 8-5 | 9-4 | 8-26 | 9-9 | 9-16 | 9-6 | 10-4 | 9-18 | 9-10 | 9-23 | 9-12 |
| Span | | 6 | 15 | 8 | 15 | 1 | 15 | 1 | 8 | 12 | 15 | 13 | 16 | 8 | 16 | 11 | 50 | 30 | 63 | 1 | 69 | 1 | 33 | 15 | 27 | 47 | 37 | 65 | 49 | 40 | 54 | 39 |
| # days | | 3 | 6 | 4 | 4 | 1 | 9 | 1 | 4 | 10 | 4 | 7 | 8 | 7 | 16 | 6 | 26 | 2 | 7 | 1 | 11 | 1 | 10 | 4 | 4 | 21 | 31 | 26 | 33 | 37 | 30 | 16 |
| % days | | 4 | 9 | 6 | 6 | 1 | 13 | 1 | 6 | 15 | 6 | 10 | 11 | 10 | 23 | 9 | 30 | 2 | 8 | 1 | 12 | 1 | 11 | 4 | 4 | 23 | 32 | 27 | 34 | 38 | 31 | 17 |
| High | | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 2 | 2 | 4 | 1 | 3 | 1 | 1 | 1 | 4 | 1 | 1 | 4 | 3 | 2 | 4 | 4 | 4 | 3 |
| Total | | 4 | 8 | 4 | 4 | 1 | 12 | 2 | 4 | 12 | 4 | 9 | 8 | 8 | 20 | 7 | 38 | 2 | 9 | 1 | 11 | 1 | 16 | 4 | 4 | 36 | 50 | 29 | 59 | 54 | 46 | 24 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|-----|-----|------|------|-----|------|------|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|----|
| 2005 | | | | | | | | | | | | | | | | | | 0.8 | 0.6 | 0.7 | 1.1 | 0.9 | 0.9 | 0.6 | 1.0 | 0.6 | 0.3 | 0.1 | | | | | | 0.4 | |
| 2006 | | | | | | | | | | | | | | | | 0.4 | 0.1 | 0.06 | 0.1 | 0.08 | 0.09 | 0.1 | | | 0.1 | | | | | | | | | 0.02 | |
| 2007 | | | | | | | | | | | | | | | 0.6 | 0.6 | 0.1 | | | | 0.3 | | 0.4 | 0.1 | | | 0.1 | 0.1 | 0.1 | | | | | 0.1 | |
| 2008 | | | | | | | | | | | | | | | | 0.3 | 0.3 | 0.06 | | | | | | | 0.1 | | | | | | | | | 0.01 | |
| 2009 | | | | | | | | | | | | | | | 0.1 | 0.4 | 0.06 | | | | 0.1 | 0.4 | 0.3 | 0.1 | 0.3 | | 0.1 | | 0.1 | | | | 0.1 | | |
| 2010 | | | | | | | | | | | | | | | | 0.1 | 0.01 | | | | | 0.1 | | | | | | | | | | | | 0.01 | |
| 2011 | | | | | | | | | | | | | | | 0.6 | 0.4 | 0.7 | 0.2 | | | | 0.1 | 0.3 | 0.1 | 0.7 | 1.0 | | | | | | | 0.2 | | |
| 2012 | | | | | | | | | | | | | | | | 0.3 | 0.03 | 0.3 | 0.3 | | 0.1 | | 0.3 | | 0.3 | | | | | | | | 0.04 | | |
| 2013 | | | | | | | | | | | | | | | | 0.1 | 0.4 | 0.06 | | | | 0.1 | 0.1 | | 0.1 | 0.1 | | | | | | | 0.04 | | |
| 2014 | | | | | | | | | | | | | | | | 1.1 | 0.7 | 0.2 | 0.3 | | 0.1 | 1.4 | 1.9 | 1.0 | 0.3 | 0.1 | 0.1 | 0.3 | | | | | 0.4 | | |
| 2015 | | | | | | | | | | | | | | | 0.1 | 0.3 | 0.1 | 0.06 | | 0.3 | 0.1 | 1.7 | 1.0 | 1.7 | 1.1 | 1.3 | 0.3 | | | | | | 0.5 | | |
| 2016 | | | | | | | | | | | | | | | | 0.4 | 0.9 | 0.1 | 0.3 | | 0.1 | 0.7 | 0.6 | 0.6 | 0.9 | 0.6 | | 0.4 | | 0.1 | 0.3 | | 0.3 | | |
| 2017 | | | | | | | | | | | | | | | 0.1 | 0.6 | 0.4 | 0.1 | 0.3 | 0.8 | 0.6 | 0.4 | 0.9 | 1.1 | 2.4 | 1.7 | 1.0 | 0.9 | | | | | 0.6 | | |
| 2018 | | | | | | | | | | | | | | | | 0.4 | 0.7 | 0.1 | | | | 1.0 | 2.3 | 1.1 | 1.1 | 1.1 | 1.0 | | | | | | 0.6 | | |
| 2019 | | | | | | | | | | | | | | | 0.3 | 1.4 | 1.1 | 0.3 | 1.0 | 0.5 | 0.7 | 1.3 | 1.6 | 1.4 | 1.3 | 0.3 | 0.1 | | 0.6 | | | | 0.5 | | |
| Mean | | | | | | | | | | | | | | | 0.1 | 0.4 | 0.4 | 0.1 | 0.3 | 0.2 | 0.2 | 0.6 | 0.7 | 0.6 | 0.6 | 0.5 | 0.2 | 0.1 | 0.07 | 0.02 | 0.03 | 0.01 | | 0.3 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|------|------|-----|-----|-----|----|----|------|-----|-----|------|-----|----|----|----|------|-----|-----|-----|-----|----|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | 1 | 2 | | | | | | | | | | 4 | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | 1 |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | 1 | | | | | | | | | 2 |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | 1 |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | | | | | | | | | | | 2 |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | | | | | | | | | | 1 |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | 1 | | | | 1 | | | | | 4 |
| 2017 | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | 1 |
| 2018 | | | | | | | | | | | | | | | | 1 | 1 | 2 | | | | | 3 | 1 | | 1 | | | | | | | | 5 | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | 0.07 | 0.07 | 0.1 | | | | | 0.07 | 0.4 | 0.5 | 0.07 | 0.3 | | | | 0.07 | | | | 1.4 | |

Eastern Wood-Pewee is a regular but uncommon resident at MBO from late May to early September. Spring arrivals are always between 18 May and 28 May, with numbers peaking in either of the final two weeks of the season. Summer records have been scattered, but more frequent in 2005 and again since 2012. Fall numbers are highest at the start of the season and taper off slowly through Week 5, then quickly become scarce thereafter, with sightings extending to late September or early October in only four years. This species is only rarely banded at MBO, with just two in total in spring (both in 2019), and 21 in fall. Across spring, summer, and fall, counts in recent years have been consistently above average.

YBFL: Yellow-bellied Flycatcher / Moucherolle à ventre jaune (*Empidonax flaviventris*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | 5-30 | 5-20 | | 5-28 | | 5-23 | 5-25 | | 5-25 | 5-21 | 5-22 | 5-21 | 5-23 | 5-13 | 5-20 | 5-22 | 8-10 | 8-6 | 9-4 | 8-9 | 8-18 | 8-6 | 8-14 | 8-11 | 8-7 | 8-4 | 8-6 | 8-1 | 8-9 | 8-7 | 8-8 | 8-10 |
| Peak | 5-30 | 5-20 | | 5-28 | | 5-23 | 5-28 | | 5-25 | 5-21 | 5-22 | 5-21 | 5-30 | 5-13 | 6-1 | 5-24 | 9-1 | 8-16 | 9-4 | 8-31 | 8-23 | 9-9 | 8-30 | 8-14 | 9-4 | 8-22 | 8-6 | 8-26 | 8-24 | 8-19 | 8-23 | 8-25 |
| Last | 5-30 | 6-1 | | 5-30 | | 5-23 | 5-28 | | 5-30 | 5-26 | 5-26 | 5-28 | 5-30 | 5-13 | 6-5 | 5-27 | 9-18 | 9-5 | 9-11 | 10-4 | 9-4 | 9-18 | 9-20 | 9-22 | 9-23 | 9-14 | 9-23 | 10-3 | 9-12 | 10-7 | 10-1 | 9-20 |
| Span | 1 | 13 | | 3 | | 1 | 4 | | 6 | 6 | 5 | 8 | 8 | 1 | 17 | 6 | 40 | 31 | 8 | 57 | 18 | 44 | 38 | 43 | 48 | 42 | 49 | 64 | 35 | 62 | 55 | 42 |
| # days | 1 | 5 | | 2 | | 1 | 3 | | 2 | 2 | 2 | 2 | 5 | 1 | 10 | 3 | 10 | 13 | 3 | 14 | 12 | 12 | 20 | 16 | 22 | 17 | 19 | 18 | 17 | 25 | 22 | 16 |
| % days | 2 | 7 | | 3 | | 1 | 4 | | 3 | 3 | 3 | 3 | 7 | 1 | 14 | 4 | 11 | 14 | 3 | 15 | 13 | 13 | 22 | 18 | 24 | 19 | 19 | 18 | 17 | 26 | 22 | 17 |
| High | 1 | 1 | | 1 | | 1 | 3 | | 2 | 1 | 1 | 1 | 3 | 1 | 5 | 2 | 2 | 6 | 1 | 4 | 4 | 3 | 4 | 2 | 3 | 9 | 3 | 3 | 6 | 3 | 9 | 4 |
| Total | 1 | 5 | | 2 | | 1 | 5 | | 3 | 2 | 2 | 2 | 7 | 1 | 25 | 4 | 12 | 24 | 3 | 23 | 22 | 17 | 32 | 20 | 27 | 33 | 27 | 26 | 35 | 40 | 50 | 26 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|------|------|-----|-----|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|-----|------|
| 2005 | | | | | | | | | | | | | | | | 0.2 | 0.02 | | | | | 0.3 | 0.3 | | 0.6 | 0.1 | 0.4 | | | | | | | | 0.1 | |
| 2006 | | | | | | | | | | | | | | 0.1 | 0.4 | 0.1 | 0.07 | | | | 0.1 | 0.6 | 1.4 | 0.4 | 0.7 | 0.1 | | | | | | | | | 0.3 | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | 0.3 | | | | | | | | | | 0.03 |
| 2008 | | | | | | | | | | | | | | | 0.1 | 0.1 | 0.03 | | | | | 0.9 | 0.4 | | 1.1 | 0.7 | | 0.1 | | | | | | | 0.3 | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | 0.6 | 1.3 | 1.3 | | | | | | | | | 0.1 | | | 0.3 |
| 2010 | | | | | | | | | | | | | | | 0.1 | | 0.01 | | | | 0.1 | 0.1 | 0.3 | 0.4 | 0.1 | 0.7 | 0.6 | | | | | | | | 0.2 | |
| 2011 | | | | | | | | | | | | | | | 0.7 | | 0.07 | | | | | 0.1 | 0.9 | 0.6 | 1.3 | 1.1 | 0.3 | 0.3 | | | | | | | 0.4 | |
| 2012 | | | | | | | | | | | | | | | | | | | | | 0.4 | 1.0 | 0.4 | 0.3 | 0.1 | 0.1 | 0.4 | | | | | | | | 0.2 | |
| 2013 | | | | | | | | | | | | | | | 0.3 | 0.1 | 0.04 | | | | 0.1 | 0.3 | 0.3 | 0.9 | 1.0 | 0.6 | 0.4 | 0.3 | | | | | | | 0.3 | |
| 2014 | | | | | | | | | | | | | | 0.1 | 0.1 | | 0.03 | | | | 0.1 | 0.1 | 0.6 | 2.4 | 1.0 | 0.1 | 0.3 | | | | | | | | 0.4 | |
| 2015 | | | | | | | | | | | | | | 0.1 | 0.1 | | 0.03 | | 0.3 | 0.1 | 0.4 | 0.1 | 0.7 | 1.3 | 0.7 | | 0.4 | 0.1 | | | | | | | 0.3 | |
| 2016 | | | | | | | | | | | | | | 0.1 | 0.1 | | 0.03 | | | | 0.4 | 0.1 | 1.0 | 1.4 | 0.3 | 0.1 | | 0.1 | | 0.1 | | | | | 0.3 | |
| 2017 | | | | | | | | | | | | | | | 0.6 | 0.4 | 0.1 | | | | 0.4 | 1.0 | 2.1 | 0.4 | 0.7 | 0.3 | | | | | | | | | 0.4 | |
| 2018 | | | | | | | | | | | | | 0.1 | | | | 0.01 | | | | 0.1 | 0.9 | 1.3 | 1.4 | 1.0 | 0.1 | | 0.3 | 0.3 | | | | | | 0.4 | |
| 2019 | | | | | | | | | | | | | 0.6 | 1.1 | 1.9 | 0.4 | 0.3 | 0.3 | | 0.1 | 1.0 | 0.9 | 2.4 | 1.4 | 1.3 | | 0.3 | 0.1 | | | | | | | 0.5 | |
| Mean | | | | | | | | | | | | | 0.01 | 0.08 | 0.3 | 0.2 | 0.05 | 0.01 | 0.01 | 0.01 | 0.1 | 0.4 | 0.7 | 1.0 | 0.8 | 0.4 | 0.2 | 0.1 | 0.03 | 0.04 | | | | | 0.3 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|------|-----|-----|-----|-----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|----|----|
| 2005 | | | | | | | | | | | | | | | | 1 | 1 | | | | | 2 | 1 | | 3 | 1 | 3 | | | | | | | | | 10 | |
| 2006 | | | | | | | | | | | | | | | | 2 | 2 | | | | | 3 | 3 | 1 | 3 | 1 | | | | | | | | | | 11 | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | 1 |
| 2008 | | | | | | | | | | | | | | | | 1 | 1 | | | | | 6 | 2 | | 7 | 4 | | | | | | | | | | 20 | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | 2 | 7 | 6 | | | | | | | | | | | | 15 |
| 2010 | | | | | | | | | | | | | | | 1 | | 1 | | | | 1 | 1 | 1 | 3 | 1 | 5 | 4 | | | | | | | | | 16 | |
| 2011 | | | | | | | | | | | | | | | 5 | | 5 | | | | | 1 | 5 | 3 | 8 | 6 | | 1 | | | | | | | | 24 | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | 3 | 1 | 3 | 2 | | 1 | 1 | | | | | | | | | 11 |
| 2013 | | | | | | | | | | | | | | | 1 | 1 | 2 | | | | 1 | 2 | 1 | 4 | 4 | 4 | 1 | 2 | | | | | | | | 19 | |
| 2014 | | | | | | | | | | | | | | | 1 | | 1 | | | | 1 | 1 | 3 | 15 | 7 | 1 | 2 | | | | | | | | | 30 | |
| 2015 | | | | | | | | | | | | | | | 1 | | 1 | | 1 | 1 | 3 | 1 | 4 | 8 | 3 | | 2 | 1 | | | | | | | | 22 | |
| 2016 | | | | | | | | | | | | | | 1 | 1 | | 2 | | | | 3 | 1 | 4 | 6 | 1 | 1 | | 1 | | 1 | | | | | | 18 | |
| 2017 | | | | | | | | | | | | | | | | | | | | | 3 | 5 | 8 | 2 | 4 | 1 | | | | | | | | | | | 23 |
| 2018 | | | | | | | | | | | | | 1 | | | | 1 | | | | 1 | 3 | 7 | 1 | 5 | 1 | | 2 | 2 | 1 | | | | | | 23 | |
| 2019 | | | | | | | | | | | | | 2 | 6 | 5 | 13 | 1 | 1 | | 1 | 6 | 5 | 7 | 7 | 7 | | 1 | | | | | | | | | 33 | |
| Mean | | | | | | | | | | | | | 0.07 | 0.2 | 1.2 | 0.5 | 2.0 | 0.07 | 0.07 | 0.1 | 0.7 | 2.2 | 2.9 | 4.4 | 4.0 | 2.3 | 0.9 | 0.5 | 0.2 | 0.2 | | | | | 18.4 | | |

Yellow-bellied Flycatcher is a rare spring and uncommon fall migrant at MBO. It has been missed in three years in spring, and was substantially more common in 2017 and 2019 than other years. The two summer records represent late spring and early fall migrants. Fall numbers build over the first few weeks of the season, almost always peaking in Week 4 or Week 5, but occasionally one week earlier or later. There have only been three sightings in October, all within the first week, and all since 2016. Aside from 2019, numbers banded in spring have always been very small; fall banding totals are substantially larger, and have been increasing over time, with the past seven years all above the long-term average for the season.

TRFL: Traill's Flycatcher / Moucherolle des saules ou M. des aulnes (*Empidonax traillii or alnorum*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | 5-16 | 5-9 | 5-20 | 5-28 | 5-18 | 5-22 | 5-16 | 5-14 | 5-15 | 5-11 | 5-13 | 5-15 | 5-18 | 5-21 | 5-20 | 5-17 | 8-2 | 8-2 | 8-3 | 8-1 | 8-8 | 8-2 | 8-6 | 8-7 | 8-7 | 8-3 | 8-1 | 8-6 | 8-7 | 8-3 | 8-8 | 8-4 |
| Peak | 5-30 | 5-30 | 6-1 | 6-1 | 5-23 | 5-24 | 5-25 | 5-28 | 5-25 | 5-27 | 5-27 | 5-28 | 5-30 | 5-30 | 5-31 | 5-28 | 8-15 | 8-21 | 8-8 | 8-8 | 8-12 | 8-10 | 8-15 | 8-10 | 8-16 | 8-22 | 8-30 | 8-16 | 8-24 | 8-20 | 8-11 | 8-15 |
| Last | 6-2 | 6-4 | 6-5 | 6-5 | 6-3 | 6-2 | 6-5 | 6-5 | 6-4 | 6-3 | 6-4 | 6-2 | 6-1 | 6-3 | 6-5 | 6-3 | 9-18 | 9-15 | 9-11 | 9-19 | 9-12 | 9-10 | 9-7 | 9-8 | 9-4 | 8-30 | 9-15 | 9-9 | 9-9 | 9-26 | 9-22 | 9-12 |
| Span | 18 | 27 | 17 | 9 | 17 | 12 | 21 | 23 | 21 | 24 | 23 | 19 | 15 | 14 | 17 | 18 | 48 | 45 | 40 | 50 | 36 | 40 | 33 | 33 | 29 | 28 | 46 | 35 | 34 | 55 | 46 | 40 |
| # days | 6 | 9 | 11 | 7 | 11 | 6 | 11 | 16 | 11 | 15 | 18 | 13 | 14 | 10 | 14 | 11 | 14 | 21 | 19 | 24 | 21 | 11 | 13 | 19 | 15 | 13 | 21 | 16 | 13 | 31 | 14 | 18 |
| % days | 10 | 13 | 16 | 10 | 16 | 9 | 16 | 23 | 16 | 22 | 26 | 19 | 20 | 14 | 20 | 17 | 16 | 23 | 21 | 26 | 23 | 12 | 14 | 21 | 16 | 14 | 21 | 16 | 13 | 32 | 14 | 19 |
| High | 3 | 3 | 4 | 6 | 3 | 2 | 7 | 9 | 5 | 13 | 6 | 8 | 12 | 5 | 16 | 7 | 5 | 4 | 4 | 4 | 4 | 2 | 6 | 6 | 4 | 5 | 3 | 4 | 4 | 3 | 4 | 4 |
| Total | 10 | 13 | 20 | 17 | 23 | 8 | 39 | 50 | 28 | 54 | 52 | 37 | 46 | 21 | 52 | 31 | 21 | 29 | 32 | 46 | 35 | 13 | 23 | 37 | 23 | 26 | 30 | 23 | 18 | 44 | 26 | 28 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|-----|-----|-----|-----|-----|-----|
| 2005 | | | | | | | | | | | | | | 0.3 | 0.1 | 1.4 | 0.2 | 0.3 | 0.1 | 0.2 | 0.3 | | 1.0 | 0.7 | 0.7 | 0.1 | 0.1 | | | | | | | 0.2 | |
| 2006 | | | | | | | | | | | | | 0.1 | | 0.9 | 0.9 | 0.2 | | | | 0.7 | 1.1 | 0.9 | 0.6 | 0.4 | 0.3 | 0.1 | | | | | | | 0.3 | |
| 2007 | | | | | | | | | | | | | | 0.4 | 0.9 | 1.6 | 0.3 | 3.4 | 0.3 | 2.0 | 0.7 | 1.4 | 0.7 | 1.4 | 0.1 | 0.1 | | | | | | | | 0.4 | |
| 2008 | | | | | | | | | | | | | | | 0.4 | 2.0 | 0.2 | | | | 1.6 | 2.9 | 0.7 | 0.4 | 0.6 | 0.1 | 0.1 | 0.1 | | | | | | | 0.5 |
| 2009 | | | | | | | | | | | | | | 0.6 | 1.4 | 1.3 | 0.3 | 1.0 | | 0.4 | | 1.4 | 1.1 | 1.0 | 1.1 | 0.1 | 0.1 | | | | | | | 0.4 | |
| 2010 | | | | | | | | | | | | | | 0.1 | 0.7 | 0.3 | 0.1 | 0.7 | 0.2 | 0.3 | 0.3 | 0.7 | 0.3 | 0.3 | 0.1 | 0.1 | | | | | | | | 0.1 | |
| 2011 | | | | | | | | | | | | | | 0.1 | 3.9 | 1.6 | 0.6 | 0.7 | | 0.3 | 0.3 | 0.7 | 1.0 | 0.4 | 0.7 | 0.1 | | | | | | | | 0.3 | |
| 2012 | | | | | | | | | | | | | 0.1 | 0.9 | 4.3 | 1.9 | 0.7 | 0.3 | 0.3 | 0.2 | 0.1 | 2.4 | 0.9 | 1.4 | | 0.4 | | | | | | | | 0.4 | |
| 2013 | | | | | | | | | | | | | 0.1 | 0.6 | 2.0 | 1.3 | 0.4 | 0.3 | 0.5 | 0.4 | 0.1 | 1.0 | 1.4 | 0.3 | 0.4 | | | | | | | | | 0.3 | |
| 2014 | | | | | | | | | | | | | 0.1 | 0.6 | 4.9 | 2.5 | 0.8 | 1.7 | 0.5 | 1.0 | 0.4 | 0.9 | 0.3 | 2.0 | 0.1 | | | | | | | | | 0.3 | |
| 2015 | | | | | | | | | | | | | 0.1 | 2.4 | 4.1 | 0.7 | 0.7 | 0.7 | | 0.3 | 0.7 | 0.3 | 0.7 | 0.7 | 1.3 | 0.4 | 0.1 | | | | | | | 0.3 | |
| 2016 | | | | | | | | | | | | | 0.1 | 0.3 | 3.4 | 1.4 | 0.5 | | | | 0.3 | 0.6 | 1.3 | 0.9 | 0.1 | 0.1 | | | | | | | | 0.2 | |
| 2017 | | | | | | | | | | | | | | 1.9 | 2.3 | 2.4 | 0.7 | 1.0 | | 0.4 | 0.1 | 0.3 | 0.9 | 1.0 | 0.1 | 0.1 | | | | | | | | 0.2 | |
| 2018 | | | | | | | | | | | | | | 0.1 | 1.4 | 1.4 | 0.3 | | | | 0.6 | 0.9 | 1.7 | 0.7 | 0.9 | 1.3 | | 0.1 | 0.1 | | | | | 0.4 | |
| 2019 | | | | | | | | | | | | | | 0.6 | 2.4 | 4.4 | 0.7 | 2.0 | 0.3 | 1.0 | | 1.3 | 1.1 | 0.3 | 0.3 | 0.4 | | 0.3 | | | | | | 0.3 | |
| Mean | | | | | | | | | | | | | 0.06 | 0.6 | 2.2 | 1.7 | 0.5 | 0.7 | 0.1 | 0.4 | 0.4 | 1.1 | 0.9 | 0.8 | 0.5 | 0.3 | 0.05 | 0.04 | 0.01 | | | | | 0.3 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|------|----|
| 2005 | | | | | | | | | | | | | | 2 | | 3 | 5 | | | | | | 5 | 4 | 2 | 1 | | | | | | | | | 12 |
| 2006 | | | | | | | | | | | | | 1 | | 3 | 2 | 6 | | | | 5 | 4 | 4 | 2 | 1 | 1 | 1 | | | | | | | | 18 |
| 2007 | | | | | | | | | | | | | | 3 | 2 | 2 | 7 | | | | 5 | 10 | 1 | 4 | 1 | 1 | | | | | | | | | 22 |
| 2008 | | | | | | | | | | | | | | | 3 | 6 | 9 | | | | 10 | 13 | 2 | 2 | 2 | | 1 | | | | | | | | 30 |
| 2009 | | | | | | | | | | | | | 3 | 8 | 4 | 15 | 1 | 1 | 1 | | 8 | 8 | 4 | 3 | 1 | | | | | | | | | | 24 |
| 2010 | | | | | | | | | | | | | | | 5 | | 5 | | 1 | 1 | 2 | 5 | 1 | 2 | 1 | 1 | | | | | | | | | 12 |
| 2011 | | | | | | | | | | | | | | | 17 | 2 | 19 | | | | 2 | 5 | 7 | 2 | 1 | 1 | | | | | | | | | 18 |
| 2012 | | | | | | | | | | | | | 1 | 1 | 11 | 4 | 17 | | 1 | 1 | 1 | 15 | 2 | 3 | | 3 | | | | | | | | | 24 |
| 2013 | | | | | | | | | | | | | | 2 | 10 | 4 | 16 | 1 | 2 | 3 | 1 | 7 | 6 | 1 | 1 | | | | | | | | | | 16 |
| 2014 | | | | | | | | | | | | | | 2 | 25 | 7 | 34 | 4 | 1 | 5 | 1 | 5 | 1 | 7 | 1 | | | | | | | | | | 15 |
| 2015 | | | | | | | | | | | | | 1 | 12 | 13 | | 26 | 1 | | 1 | 3 | 2 | 1 | 4 | 2 | | 1 | | | | | | | | 13 |
| 2016 | | | | | | | | | | | | | | | 9 | 3 | 12 | | | | 1 | 4 | 2 | 5 | | 1 | | | | | | | | | 13 |
| 2017 | | | | | | | | | | | | | | 12 | 5 | 6 | 23 | | | | 1 | 2 | 2 | 4 | 1 | | | | | | | | | | 10 |
| 2018 | | | | | | | | | | | | | | 1 | 5 | 2 | 8 | | | | 4 | 4 | 4 | 3 | 5 | 4 | | 1 | 1 | | | | | | 26 |
| 2019 | | | | | | | | | | | | | | 2 | 13 | 20 | 35 | 4 | 1 | 5 | | 6 | 6 | 1 | 1 | 1 | | | | | | | | | 14 |
| Mean | | | | | | | | | | | | | 0.2 | 2.7 | 8.6 | 4.3 | 15.8 | 0.7 | 0.4 | 1.1 | 2.4 | 6.0 | 3.5 | 3.1 | 1.5 | 1.0 | 0.2 | 0.07 | 0.07 | | | | | 17.8 | |

Willow Flycatcher (Moucherolle des saules, *Empidonax traillii*) and Alder Flycatcher (Moucherolle des aulnes, *Empidonax alnorum*) have both been confirmed at MBO, but they can only rarely be reliably distinguished, and are therefore summarized as Traill's Flycatcher, although the vast majority are likely to be Alder Flycatcher. Spring arrival is usually around mid-May, with a strong peak in Week 9 in most years, occasionally deferred to Week 10. Numbers in summer tend to be lower, and although they may include occasional breeders, most are late spring or early fall migrants. Traill's Flycatcher is almost always present from the start of the fall season, but with much higher numbers from Week 2 to 4, and dropping off sharply after Week 6, with only one record to date from the final week of September. Both in spring and fall, numbers have fluctuated from year to year, with differences more pronounced in banding totals; overall there appears to be a slight decline over time in fall.

LEFL: Least Flycatcher / Moucherolle tchébec (*Empidonax minimus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | 5-11 | 5-12 | 5-10 | 5-7 | 5-9 | 5-10 | 5-12 | 5-10 | 4-29 | 5-9 | 5-9 | 5-6 | 5-16 | 5-10 | 5-7 | 5-9 | 8-1 | 8-3 | 8-11 | 8-1 | 8-2 | 8-4 | 8-8 | 8-15 | 8-4 | 8-1 | 8-4 | 8-16 | 8-3 | 8-3 | 8-6 | 8-5 |
| Peak | 5-28 | 5-21 | 5-18 | 5-7 | 5-18 | 5-17 | 5-13 | 5-13 | 4-29 | 5-13 | 5-12 | 5-13 | 5-17 | 5-11 | 5-20 | 5-14 | 8-22 | 8-22 | 8-25 | 9-1 | 8-13 | 8-18 | 8-22 | 8-25 | 8-17 | 8-23 | 8-19 | 8-17 | 8-17 | 8-11 | 8-24 | 8-20 |
| Last | 6-1 | 5-28 | 5-29 | 6-1 | 6-1 | 5-24 | 6-1 | 6-5 | 6-2 | 5-31 | 5-24 | 5-31 | 5-31 | 5-31 | 5-30 | 5-30 | 9-4 | 9-15 | 9-12 | 9-12 | 9-4 | 9-9 | 9-21 | 9-9 | 9-2 | 9-11 | 9-20 | 9-7 | 9-16 | 9-23 | 9-9 | 9-11 |
| Span | 22 | 17 | 20 | 26 | 24 | 15 | 21 | 27 | 35 | 23 | 16 | 26 | 16 | 22 | 24 | 22 | 35 | 44 | 33 | 43 | 34 | 37 | 45 | 26 | 30 | 42 | 48 | 23 | 45 | 52 | 35 | 38 |
| # days | 16 | 12 | 12 | 15 | 12 | 11 | 14 | 10 | 17 | 19 | 16 | 19 | 12 | 17 | 20 | 15 | 12 | 15 | 14 | 22 | 12 | 11 | 12 | 13 | 12 | 19 | 26 | 12 | 25 | 20 | 12 | 16 |
| % days | 27 | 17 | 17 | 21 | 17 | 16 | 20 | 14 | 24 | 28 | 23 | 27 | 17 | 24 | 29 | 21 | 14 | 16 | 15 | 24 | 13 | 12 | 13 | 14 | 13 | 21 | 27 | 12 | 26 | 20 | 12 | 17 |
| High | 5 | 4 | 4 | 1 | 4 | 4 | 9 | 10 | 4 | 11 | 6 | 7 | 7 | 6 | 15 | 6 | 4 | 4 | 4 | 2 | 2 | 5 | 3 | 2 | 2 | 14 | 4 | 3 | 3 | 2 | 3 | 4 |
| Total | 26 | 21 | 20 | 15 | 19 | 20 | 39 | 26 | 42 | 44 | 43 | 39 | 28 | 34 | 85 | 33 | 21 | 23 | 21 | 25 | 14 | 19 | 16 | 17 | 15 | 37 | 37 | 15 | 36 | 24 | 19 | 23 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|-----|-----|------|------|-----|-----|-----|-----|-----|------|-----|------|-----|-----|-----|-----|-----|-----|------|------|----|-----|-----|-----|-----|-----|----|
| 2005 | | | | | | | | | | | | | 0.7 | 1.1 | 1.4 | 0.6 | 0.4 | | | | 0.1 | 0.3 | 0.7 | 1.7 | 0.1 | | | | | | | | | 0.2 | |
| 2006 | | | | | | | | | | | | | 0.7 | 1.9 | 0.4 | | 0.3 | | 0.2 | 0.09 | 0.1 | 0.7 | 0.7 | 0.9 | 0.3 | 0.3 | 0.3 | | | | | | | 0.3 | |
| 2007 | | | | | | | | | | | | | 1.0 | 1.3 | 0.6 | | 0.3 | 0.1 | | 0.08 | | 0.3 | 0.3 | 1.3 | 0.4 | 0.6 | 0.1 | | | | | | | 0.2 | |
| 2008 | | | | | | | | | | | | 0.3 | 0.7 | 0.4 | 0.4 | 0.3 | 0.2 | | | | 0.4 | 0.4 | 0.4 | 0.4 | 1.0 | 0.7 | 0.1 | | | | | | | 0.3 | |
| 2009 | | | | | | | | | | | | | 0.3 | 1.7 | 0.4 | 0.3 | 0.3 | | 0.3 | 0.1 | 0.1 | 0.6 | 0.4 | 0.4 | 0.4 | | | | | | | | 0.2 | | |
| 2010 | | | | | | | | | | | | | 0.3 | 2.1 | 0.4 | | 0.3 | | 0.2 | 0.1 | 0.3 | 0.3 | 0.9 | 0.4 | 0.4 | 0.4 | | | | | | | 0.2 | | |
| 2011 | | | | | | | | | | | | | 1.7 | 2.3 | 1.3 | 0.3 | 0.6 | | | | | 0.3 | 0.1 | 1.0 | 0.4 | 0.1 | | 0.3 | | | | | 0.2 | | |
| 2012 | | | | | | | | | | | | | 2.7 | 0.4 | 0.1 | 0.4 | 0.4 | | 0.8 | 0.4 | | | 0.7 | 1.0 | 0.6 | 0.1 | | | | | | | 0.2 | | |
| 2013 | | | | | | | | | 0.6 | 0.1 | | | 1.7 | 2.6 | 0.9 | 0.1 | 0.6 | 0.7 | 1.0 | 0.9 | 0.6 | 0.1 | 0.4 | 0.6 | 0.4 | | | | | | | | 0.2 | | |
| 2014 | | | | | | | | | | | | | 3.9 | 0.9 | 1.3 | 0.3 | 0.6 | | 0.3 | 0.1 | 0.6 | 0.1 | 0.7 | 3.1 | 0.4 | 0.3 | | | | | | | 0.4 | | |
| 2015 | | | | | | | | | | | | | 2.9 | 2.9 | 0.4 | | 0.6 | | | | 0.6 | 0.3 | 1.7 | 1.3 | 0.7 | 0.4 | | 0.3 | | | | | 0.4 | | |
| 2016 | | | | | | | | | | | | 0.3 | 2.3 | 1.9 | 1.0 | 0.1 | 0.6 | 0.3 | | 0.1 | | | 1.1 | 0.3 | 0.6 | 0.1 | | | | | | | 0.2 | | |
| 2017 | | | | | | | | | | | | | 2.7 | 1.0 | 0.3 | 0.4 | 0.4 | | 0.3 | 0.1 | 0.4 | 0.6 | 1.3 | 1.4 | 0.6 | 0.6 | 0.3 | | | | | | 0.4 | | |
| 2018 | | | | | | | | | | | | | 2.1 | 1.4 | 1.0 | 0.3 | 0.5 | 0.3 | 0.3 | 0.3 | 0.3 | 0.6 | 0.3 | 1.0 | 0.4 | 0.4 | 0.1 | 0.3 | | | | | 0.2 | | |
| 2019 | | | | | | | | | | | | 0.6 | 1.1 | 6.7 | 3.6 | 0.1 | 1.2 | | | | 0.3 | 0.4 | 0.1 | 0.9 | 0.3 | 0.7 | | | | | | | 0.2 | | |
| Mean | | | | | | | | | | | 0.04 | 0.09 | 1.5 | 2.0 | 1.0 | 0.2 | 0.5 | 0.07 | 0.2 | 0.1 | 0.3 | 0.3 | 0.7 | 1.0 | 0.5 | 0.3 | 0.07 | 0.06 | | | | | 0.2 | | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|----|
| 2005 | | | | | | | | | | | | | 2 | 5 | 1 | 1 | 9 | | | | | | 3 | 5 | | | | | | | | | | | 8 |
| 2006 | | | | | | | | | | | | | | 3 | 1 | | 4 | | 1 | 1 | | 2 | 3 | 3 | | 2 | 1 | | | | | | | 11 | |
| 2007 | | | | | | | | | | | | | 3 | 3 | 1 | | 7 | | | | | 2 | | 6 | 3 | 3 | | | | | | | | 14 | |
| 2008 | | | | | | | | | | | | 1 | | | 1 | | 2 | | | | | 2 | 1 | 2 | 2 | 4 | 2 | | | | | | | 13 | |
| 2009 | | | | | | | | | | | | 1 | 7 | 1 | 1 | 10 | | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | | | | | | | | | 6 | |
| 2010 | | | | | | | | | | | | 1 | 3 | | | 4 | | 1 | 1 | 1 | 1 | 2 | 4 | 2 | 3 | 1 | | | | | | | | 13 | |
| 2011 | | | | | | | | | | | | | 4 | 2 | 3 | | 9 | | | | | 1 | | 2 | | | | | | | | | | 3 | |
| 2012 | | | | | | | | | | | | | 5 | 2 | | 2 | 9 | | 2 | 2 | | | 2 | 4 | 2 | | | | | | | | | 8 | |
| 2013 | | | | | | | | | | | | | 2 | 8 | 2 | | 12 | | 2 | 2 | 1 | | 1 | 1 | 2 | | | | | | | | | 5 | |
| 2014 | | | | | | | | | | | | | 14 | 2 | 5 | | 21 | | 1 | 1 | 1 | | 1 | 10 | 1 | 1 | | | | | | | | 14 | |
| 2015 | | | | | | | | | | | | | 5 | 8 | 2 | | 15 | | | | 2 | 1 | 5 | | 2 | | | | 1 | | | | | 11 | |
| 2016 | | | | | | | | | | | | | 5 | 2 | | 1 | 8 | | | | | | 3 | 1 | 2 | | | | | | | | | 6 | |
| 2017 | | | | | | | | | | | | | | 11 | 2 | 1 | 14 | | 1 | 1 | 1 | | 5 | 2 | 2 | 2 | 1 | | | | | | | 13 | |
| 2018 | | | | | | | | | | | | | 6 | 4 | 1 | | 11 | | | | 2 | | 1 | 4 | | | | 1 | 2 | | | | | 10 | |
| 2019 | | | | | | | | | | | | 2 | 2 | 21 | 12 | | 37 | | | | 1 | 1 | 1 | 4 | | 4 | | | | | | | | 11 | |
| Mean | | | | | | | | | | | | 0.2 | 3.3 | 5.4 | 2.1 | 0.4 | 11.5 | | 0.6 | 0.6 | 0.8 | 0.7 | 2.1 | 3.2 | 1.5 | 1.0 | 0.2 | 0.2 | | | | | 9.7 | | |

Least Flycatcher is the earliest of the *Empidonax* flycatchers to return to MBO in spring, with the first sighting of the year between 6 May and 12 May in all years except 2013 (29 April) and 2017 (16 May). Numbers almost always peak in Week 7 or 8, more frequently on the early side in recent years. Numbers drop off sharply by Week 10, and remain low through summer, mostly reflecting late spring or early fall migrants, although occasionally there may be summer residents too. Fall numbers build to a peak that on average occurs in late August; by Week 7 the species is scarce, and the latest three records have been between 20 September and 23 September. Numbers have increased over the years in spring, but have fluctuated around the long-term mean in fall.

EAPH: Eastern Phoebe / Moucherolle phébi (*Sayornis phoebe*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|
| First | 4-5 | 3-31 | 3-28 | 4-10 | 4-14 | 4-5 | 3-30 | 4-6 | 4-15 | 4-10 | 4-13 | 3-30 | 4-12 | 4-7 | 4-6 | 4-6 | 8-1 | 8-2 | 8-16 | 8-1 | 8-4 | 8-2 | 8-8 | 8-1 | 8-1 | 8-3 | 8-1 | 8-1 | 8-13 | 8-1 | 8-3 | |
| Peak | 4-5 | 4-15 | 3-31 | 4-10 | 4-17 | 5-12 | 5-19 | 4-6 | 4-22 | 4-19 | 4-29 | 4-21 | 4-19 | 5-1 | 4-19 | 4-20 | 10-2 | 8-7 | 8-21 | 8-1 | 8-13 | 8-13 | 9-14 | 9-20 | 9-23 | 8-23 | 9-22 | 9-29 | 8-4 | 9-30 | 8-3 | 8-31 |
| Last | 6-3 | 6-5 | 6-5 | 5-30 | 6-5 | 6-5 | 6-3 | 5-30 | 6-5 | 6-1 | 6-4 | 5-29 | 5-30 | 6-2 | 5-30 | 6-2 | 10-9 | 10-5 | 10-20 | 10-17 | 10-10 | 10-21 | 10-18 | 10-28 | 10-13 | 10-16 | 10-12 | 10-19 | 11-3 | 10-26 | 10-28 | 10-18 |
| Span | 60 | 67 | 70 | 51 | 53 | 62 | 66 | 55 | 52 | 53 | 53 | 61 | 49 | 57 | 55 | 58 | 70 | 65 | 66 | 78 | 68 | 81 | 78 | 82 | 74 | 77 | 71 | 80 | 95 | 75 | 89 | 77 |
| # days | 51 | 65 | 53 | 6 | 45 | 13 | 25 | 20 | 46 | 36 | 16 | 37 | 36 | 20 | 33 | 33 | 40 | 17 | 18 | 21 | 29 | 14 | 32 | 25 | 42 | 55 | 36 | 38 | 50 | 42 | 52 | 34 |
| % days | 86 | 94 | 76 | 9 | 65 | 19 | 36 | 29 | 66 | 53 | 23 | 53 | 51 | 29 | 47 | 49 | 45 | 19 | 20 | 23 | 32 | 15 | 35 | 27 | 46 | 60 | 37 | 39 | 51 | 43 | 53 | 37 |
| High | 4 | 3 | 3 | 1 | 3 | 2 | 3 | 2 | 6 | 4 | 2 | 3 | 3 | 2 | 4 | 3 | 4 | 2 | 4 | 3 | 4 | 2 | 3 | 2 | 4 | 3 | 3 | 3 | 6 | 7 | 6 | 4 |
| Total | 81 | 100 | 73 | 6 | 67 | 16 | 32 | 26 | 112 | 52 | 18 | 51 | 56 | 21 | 53 | 51 | 55 | 18 | 23 | 26 | 42 | 15 | 54 | 32 | 58 | 76 | 47 | 51 | 87 | 69 | 86 | 49 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|------|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|
| 2005 | | | | | | | | 2.7 | 1.3 | 1.7 | 0.9 | 1.3 | 1.3 | 1.6 | 1.0 | 0.8 | 1.4 | 0.9 | 1.2 | 1.1 | 0.3 | 0.6 | 0.1 | 0.6 | 0.6 | 1.3 | 1.3 | 1.0 | 1.5 | 1.0 | | | | | 0.6 |
| 2006 | | | | | | | 0.7 | 1.3 | 2.1 | 1.3 | 1.6 | 1.6 | 2.0 | 1.3 | 1.3 | 1.3 | 1.4 | 0.8 | 0.4 | 0.6 | 0.7 | 0.1 | | 0.1 | 0.4 | | | 0.4 | 0.3 | 0.4 | | | | | 0.2 |
| 2007 | | | | | | | 1.3 | 0.7 | 1.3 | 2.0 | 1.1 | 1.1 | 1.3 | 0.9 | 0.4 | 0.3 | 1.0 | 0.9 | | 0.5 | | | 0.9 | 0.6 | 0.3 | | | 0.1 | 0.3 | 0.7 | 0.3 | 0.1 | | | 0.3 |
| 2008 | | | | | | | | 0.1 | | 0.1 | | | | 0.3 | 0.1 | 0.1 | 0.09 | 0.2 | 0.2 | 0.2 | 0.6 | | | 0.4 | 0.4 | 0.1 | 0.6 | 0.4 | 0.4 | 0.1 | 0.1 | | | 0.3 | |
| 2009 | | | | | | | | | 0.9 | 2.0 | 0.7 | 1.6 | 1.6 | 0.9 | 1.0 | 1.0 | 1.0 | 1.0 | 0.3 | 0.2 | 0.7 | 1.6 | 0.9 | 0.3 | | 0.3 | 0.3 | 0.7 | 0.6 | 0.4 | 0.3 | | | 0.5 | |
| 2010 | | | | | | | 0.4 | 0.1 | 0.1 | | | | 0.3 | 0.1 | 0.4 | 0.7 | 0.2 | | | | 0.3 | 0.4 | 0.1 | | | 0.1 | 0.1 | 0.1 | 0.4 | 0.1 | 0.3 | | | 0.2 | |
| 2011 | | | | | | | 0.3 | 0.3 | 0.6 | 0.7 | 0.4 | | 0.3 | 1.0 | 0.4 | 0.6 | 0.5 | | | | 0.3 | 0.3 | | 0.4 | 1.0 | 1.0 | 1.6 | 2.1 | 0.4 | 0.4 | | 0.1 | | 0.6 | |
| 2012 | | | | 0.2 | 0.04 | | 1.0 | 0.4 | 0.4 | 0.4 | 0.4 | | 0.3 | 0.4 | 0.4 | 0.3 | 0.4 | | 0.3 | 0.1 | | 0.1 | 0.1 | | 0.3 | | 0.1 | 1.0 | 0.4 | 1.4 | 0.4 | 0.3 | 0.3 | 0.4 | |
| 2013 | | | | | | | | 0.9 | 3.0 | 2.3 | 3.1 | 2.1 | 2.0 | 1.4 | 1.1 | 1.6 | 1.6 | 1.0 | 0.8 | 0.9 | 1.3 | | | 1.1 | 0.4 | 0.3 | 1.1 | 0.7 | 1.6 | 1.0 | 0.3 | 0.4 | | 0.6 | |
| 2014 | | | | | | | 0.1 | 0.1 | 1.9 | 1.7 | 1.3 | 1.0 | 0.4 | 0.3 | 0.7 | 0.8 | 0.8 | | | | 1.6 | 1.1 | 0.7 | 1.6 | 1.0 | 1.3 | 0.3 | 0.7 | 1.3 | 0.6 | 0.7 | | | 0.8 | |
| 2015 | | | | | | | | 0.6 | 0.4 | 0.6 | 0.1 | 0.4 | 0.3 | | 0.1 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.4 | 0.1 | 0.1 | 0.3 | 1.1 | 0.9 | 0.3 | 1.7 | 1.1 | 0.1 | 0.4 | | | 0.5 | |
| 2016 | | | | | | | 0.1 | 0.3 | 0.4 | 2.3 | 1.4 | 1.1 | 0.7 | 0.3 | 0.6 | | 0.7 | | | | 0.6 | 0.7 | 0.6 | 0.1 | 0.1 | 0.3 | 1.0 | 1.0 | 2.0 | 0.6 | 0.1 | 0.1 | | 0.5 | |
| 2017 | | | | | | | | 0.6 | 1.9 | 1.9 | 1.3 | 1.1 | 0.6 | 0.6 | 0.1 | 0.8 | 0.8 | | 0.8 | 0.4 | 2.6 | 1.3 | 1.3 | 0.7 | 0.6 | 0.7 | 0.9 | 0.4 | 0.9 | 0.6 | 1.0 | 1.4 | 0.1 | 0.9 | |
| 2018 | | | | | | | | 0.1 | 0.3 | 0.7 | 0.6 | 0.7 | 0.3 | 0.1 | 0.1 | 0.3 | 0.3 | 0.3 | 0.8 | 0.6 | 0.9 | | 0.1 | 1.1 | 0.7 | 0.6 | 0.3 | 0.9 | 0.6 | 3.0 | 1.4 | 0.6 | 0.4 | 0.1 | 0.7 |
| 2019 | | | | | | | 0.1 | 0.7 | 2.0 | 0.7 | 1.0 | 1.0 | 0.7 | 1.0 | 0.3 | 0.8 | 0.8 | 1.0 | 0.8 | 0.9 | 3.3 | 1.4 | 1.1 | 0.7 | 1.0 | 0.3 | 1.0 | 1.1 | 0.7 | 1.0 | 0.3 | 0.3 | | 0.9 | |
| Mean | | | | 0.01 | <0.005 | 0.2 | 0.5 | 0.7 | 1.3 | 1.0 | 1.0 | 0.9 | 0.7 | 0.6 | 0.5 | 0.7 | 0.5 | 0.5 | 0.5 | 0.8 | 0.5 | 0.6 | 0.5 | 0.5 | 0.5 | 0.6 | 0.9 | 0.9 | 0.7 | 0.3 | 0.2 | 0.05 | 0.03 | 0.5 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|-----|-----|-----|-----|------|-----|-----|----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| 2005 | | | | | | | | 1 | | | 1 | | | | | | 2 | | | | | | | | | | 4 | | 1 | 1 | | | | | 6 |
| 2006 | | | | | | | | | 3 | | | 1 | 1 | | | | 5 | | | | 1 | 1 | | | | | | | | | | | | | 2 |
| 2007 | | | | | | | | | | 3 | | | | | | | 3 | | | | | | 1 | 1 | | 1 | | | 1 | 1 | 1 | | | | 6 |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | 3 | | 2 | | 1 | 1 | 1 | | | | | 8 |
| 2009 | | | | | | | | | | 1 | | | | 2 | | | 3 | | | | 1 | 1 | | | | | 1 | | | 2 | | | | 5 | |
| 2010 | | | | | | | | | | | | | | | | | | | | | 2 | | | | | | | | | | | | | | 2 |
| 2011 | | | | | | | | | 1 | | | | | | | | 1 | | | | | | | | | 1 | 2 | | | | | | | | 3 |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | 1 | 2 | 1 | | | | 5 |
| 2013 | | | | | | | | | 5 | 2 | | 1 | | | | 8 | | 1 | 1 | 2 | | 1 | 1 | 1 | 1 | | | 2 | | | | | | 8 | |
| 2014 | | | | | | | | | 3 | | | | 1 | | | 4 | | | | 1 | 1 | | 2 | 2 | | | | 1 | | | | | | 7 | |
| 2015 | | | | | | | | | | | | 1 | | | | 1 | 1 | | | 1 | | | 1 | 1 | | | 2 | 1 | | | | | | 5 | |
| 2016 | | | | | | | | | 3 | 1 | | | | | | 4 | | | | | 1 | | | | | | | 6 | | | 1 | | | | 8 |
| 2017 | | | | | | | | | 4 | 2 | | | | | | 6 | | 3 | 3 | 4 | 1 | 4 | 2 | | 1 | | | 1 | 1 | | | | | 14 | |
| 2018 | | | | | | | | | | | | | | | | 4 | | 2 | 2 | | | | | | | | 2 | 4 | | | | | | | 6 |
| 2019 | | | | | | | | | 2 | 2 | | | | | | 4 | | 1 | 1 | 7 | | 1 | | | | | 1 | 2 | | | | | | | 11 |
| Mean | | | | | | | | 0.5 | 1.5 | 1.5 | 0.5 | 0.07 | 0.2 | 0.2 | | 2.7 | 0.07 | 0.5 | 0.5 | 1.2 | 0.3 | 0.5 | 0.7 | 0.3 | 0.4 | 0.4 | 0.4 | 1.3 | 0.5 | 0.3 | 0.1 | | 6.4 | | |

Eastern Phoebe occurs at MBO over a longer period each year than any other flycatcher, from late March (in five years) or early April through mid-late October, and once even into the first week of November. There tends not to be a strong peak of migration in either spring or fall; many of the sightings in both seasons are likely of local residents. Only three times, all since 2017, have peak daily counts in a season exceeded five individuals. Spring counts were highest in the first few years, whereas fall numbers have increased slightly over time. Modest numbers are banded annually in both spring and fall, with the average banding peaks in Week 4 of spring and Week 9 of fall likely most indicative of the peak passage of migrants.

NSHR: Northern Shrike / Pie-grièche boréale (*Lanius borealis*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|------|------|------|-------|
| First | 4-7 | 3-31 | 3-29 | 4-16 | 4-3 | 3-28 | | 3-29 | | | 3-28 | 3-28 | 3-30 | 4-8 | 4-11 | 4-2 | 10-24 | 10-7 | 10-18 | 10-13 | 10-28 | | 10-24 | 10-24 | 10-27 | 10-19 | 10-26 | 10-26 | 11-6 | 11-4 | | 10-23 |
| Peak | 4-7 | 4-6 | 3-29 | 4-16 | 4-3 | 3-28 | | 4-1 | | | 3-28 | 3-28 | 3-30 | 4-8 | 4-11 | 4-3 | 10-30 | 10-7 | 10-25 | 10-13 | 10-30 | | 10-30 | 10-24 | 10-27 | 10-19 | 10-26 | 10-27 | 11-6 | 11-4 | | 10-25 |
| Last | 4-10 | 4-18 | 3-29 | 4-26 | 4-14 | 3-29 | | 4-3 | | | 4-15 | 4-3 | 4-15 | 4-19 | 4-11 | 4-10 | 10-30 | 10-29 | 10-30 | 10-28 | 10-30 | | 10-30 | 10-24 | 10-30 | 10-28 | 10-31 | 11-6 | 11-6 | 11-6 | | 10-30 |
| Span | 4 | 19 | 1 | 11 | 12 | 2 | | 6 | | | 19 | 7 | 17 | 12 | 1 | 9 | 7 | 23 | 13 | 16 | 3 | | 7 | 1 | 4 | 10 | 6 | 12 | 1 | 3 | | 8 |
| # days | 2 | 13 | 1 | 7 | 6 | 2 | | 4 | | | 5 | 3 | 4 | 3 | 1 | 4 | 5 | 5 | 9 | 3 | 2 | | 6 | 1 | 2 | 2 | 4 | 5 | 1 | 3 | | 4 |
| % days | 3 | 19 | 1 | 10 | 9 | 3 | | 6 | | | 7 | 4 | 6 | 4 | 1 | 6 | 6 | 5 | 10 | 3 | 2 | | 7 | 1 | 2 | 2 | 4 | 5 | 1 | 3 | | 4 |
| High | 1 | 2 | 1 | 1 | 1 | 1 | | 2 | | | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 1 | 2 | | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | | 1 |
| Total | 2 | 15 | 1 | 7 | 6 | 2 | | 5 | | | 5 | 3 | 4 | 3 | 1 | 4 | 6 | 5 | 10 | 3 | 3 | | 7 | 1 | 2 | 2 | 4 | 6 | 1 | 3 | | 4 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|------|------|------|------|-----|-----|-----|------|------|----|----|----|----|------|------|-----|-----|----|----|----|----|----|----|----|----|------|------|------|-----|-----|------|------|------|
| 2005 | 0.3 | | | 0.8 | | 0.3 | | 0.3 | | | | | | | | | 0.03 | | | | | | | | | | | | | | | | 0.9 | | 0.07 |
| 2006 | 0.3 | 0.1 | 0.2 | | | 0.1 | 0.1 | 1.2 | 0.9 | 0.1 | | | | | | | 0.2 | | | | | | | | | | | 0.1 | | 0.1 | 0.4 | | | 0.05 | |
| 2007 | 0.3 | | 0.2 | | | 0.1 | 0.1 | | | | | | | | | | 0.01 | | | | | | | | | | | | | | | | | 0.1 | |
| 2008 | 0.3 | | | | | 0.08 | | | 0.1 | 0.7 | 0.1 | | | | | | 0.1 | | | | | | | | | | | | 0.3 | | | 0.1 | | 0.03 | |
| 2009 | | | 0.3 | 0.2 | 0.4 | 0.2 | 0.1 | 0.5 | 0.3 | | | | | | | | 0.09 | | | | | | | | | | | | | | | | 0.4 | | 0.03 |
| 2010 | 0.4 | 0.1 | 0.09 | 0.08 | 0.3 | 0.2 | 0.3 | | | | | | | | | | 0.03 | | | | | | | | | | | | | | | | | | |
| 2011 | 0.4 | | 0.08 | | 0.1 | 0.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | 1.0 | | 0.08 |
| 2012 | 0.2 | | | 0.3 | 0.2 | 0.2 | 0.7 | | | | | | | | | | 0.07 | | | | | | | | | | | | | | | | 0.1 | | 0.01 |
| 2013 | 0.1 | | | | 0.07 | 0.04 | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.3 | | 0.02 |
| 2014 | 0.4 | 0.5 | | 0.1 | 0.2 | 0.2 | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | 0.1 | | | 0.1 | 0.02 |
| 2015 | 0.3 | | | | | 0.2 | 0.4 | | 0.3 | | | | | | | | 0.07 | | | | | | | | | | | | | | | | 0.4 | 0.1 | 0.04 |
| 2016 | 0.4 | | | | 0.08 | 0.08 | 0.4 | | | | | | | | | | 0.04 | | | | | | | | | | | | | | | | 0.6 | 0.3 | 0.06 |
| 2017 | 0.3 | | | | | 0.09 | 0.3 | | 0.3 | | | | | | | | 0.06 | | | | | | | | | | | | | | | | | 0.1 | 0.01 |
| 2018 | 0.4 | 0.3 | | | | 0.1 | | 0.1 | 0.3 | | | | | | | | 0.04 | | | | | | | | | | | | | | | | | 0.4 | 0.03 |
| 2019 | | 0.3 | | | | 0.06 | | | 0.1 | | | | | | | | 0.01 | | | | | | | | | | | | | | | | | | |
| Mean | 0.3 | 0.1 | 0.06 | 0.07 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.08 | 0.01 | | | | | 0.05 | | | | | | | | | | | | 0.01 | 0.02 | 0.06 | 0.4 | 0.2 | 0.04 | | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | | |
|------|-----|------|-----|-----|------|-----|----|----|----|-----|----|----|----|----|----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|------|-----|-----|-----|-----|---|---|---|
| 2005 | | | | 1 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | 1 | | | |
| 2006 | | | 1 | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | 1 | | | | | | | | 1 | | | | | | | | | | | | | | | | | | 1 | 3 | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 |
| 2010 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 |
| 2014 | 2 | | | | | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 |
| 2015 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 |
| 2016 | 1 | | | | 1 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 2 |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | 1 | | | | 1 | | | | 1 | | | | | | | | 1 | | | | | | | | | | | | | | | | | | 1 | 1 | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | 0.4 | 0.08 | 0.2 | 0.1 | 0.09 | 0.6 | | | | 0.1 | | | | | | | 0.1 | | | | | | | | | | | | | | 0.07 | 0.2 | 0.6 | 0.2 | 0.9 | | | |

Northern Shrike visits MBO annually in small numbers, between late fall and early spring. The earliest sighting ever was on 7 October, but in nine years the first observation in fall was not until the last week of October or later. It is always very scarce, with an average of four sightings per fall, and a high count of 10 in 2007. It is one of the few species that is seen more frequently in winter than other seasons, although it is rare even then, and often there are repeat sightings of the same individual. Spring records are most frequent in the first two weeks of the season, with 10 April the average last date of observation, and 26 April the latest ever. In all seasons, Northern Shrike has become slightly less common over the years. It is rarely banded in fall and winter, and very rarely in spring.

WEVI: White-eyed Vireo / Viréo aux yeux blancs (*Vireo griseus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| First | | | | | | | | | | | 5-21 | | | | | 5-21 | | | | | | | | | | | | | | | | |
| Peak | | | | | | | | | | | 5-21 | | | | | 5-21 | | | | | | | | | | | | | | | | |
| Last | | | | | | | | | | | 5-22 | | | | | 5-22 | | | | | | | | | | | | | | | | |
| Span | | | | | | | | | | | 2 | | | | | 2 | | | | | | | | | | | | | | | | |
| # days | | | | | | | | | | | 2 | | | | | 2 | | | | | | | | | | | | | | | | |
| % days | | | | | | | | | | | 3 | | | | | 3 | | | | | | | | | | | | | | | | |
| High | | | | | | | | | | | 1 | | | | | 1 | | | | | | | | | | | | | | | | |
| Total | | | | | | | | | | | 2 | | | | | 0 | | | | | | | | | | | | | | | | 0 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|------|-----|--------|------|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | 0.3 | | 0.03 | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | 0.02 | | <0.005 | | | | | | | | | | | | | | | | | | | | |

Only one White-eyed Vireo has been observed at MBO, an individual detected on two consecutive mornings in May 2015.

YTVI: Yellow-throated Vireo / Viréo à gorge jaune (*Vireo flavifrons*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8-16 | | | | 8-16 |
| Peak | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8-16 | | | | 8-16 |
| Last | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8-16 | | | | 8-16 |
| Span | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | 1 |
| # days | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | 1 |
| % days | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | 1 |
| High | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | 1 |
| Total | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | 0 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.01 |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | <0.005 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--|------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.07 |

Yellow-throated Vireo has been observed at MBO just once, on 16 August 2016.

BHVI: Blue-headed Vireo / Viréo à tête bleue (*Vireo solitarius*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|------|-------|------|-------|
| First | 5-14 | 4-30 | 5-8 | 4-20 | 4-27 | 5-5 | 4-29 | 5-2 | 5-8 | 4-22 | 5-7 | 5-4 | 4-28 | 5-2 | 5-1 | 5-1 | 8-22 | 9-5 | 8-30 | 8-2 | 8-18 | 8-7 | 8-6 | 9-15 | 8-1 | 9-13 | 8-3 | 8-26 | 8-23 | 8-11 | 8-18 | 8-19 |
| Peak | 5-14 | 5-18 | 5-13 | 4-20 | 4-27 | 5-15 | 5-6 | 5-15 | 5-16 | 4-22 | 5-10 | 5-10 | 5-16 | 5-31 | 5-7 | 5-10 | 9-30 | 9-23 | 10-2 | 10-4 | 10-1 | 10-1 | 9-25 | 10-2 | 10-8 | 10-1 | 9-27 | 10-2 | 9-9 | 10-3 | 10-2 | 9-29 |
| Last | 6-1 | 5-25 | 5-31 | 6-1 | 5-22 | 5-22 | 5-31 | 5-17 | 5-25 | 5-28 | 5-25 | 5-22 | 5-29 | 5-31 | 6-3 | 5-27 | 10-24 | 10-24 | 10-14 | 10-25 | 10-15 | 10-30 | 10-4 | 10-26 | 10-23 | 10-21 | 10-18 | 10-20 | 11-6 | 10-14 | 11-2 | 10-21 |
| Span | 19 | 26 | 24 | 43 | 26 | 18 | 33 | 16 | 18 | 37 | 19 | 19 | 32 | 30 | 34 | 26 | 64 | 50 | 46 | 85 | 59 | 85 | 60 | 42 | 84 | 39 | 77 | 56 | 76 | 65 | 77 | 64 |
| # days | 4 | 10 | 8 | 22 | 11 | 6 | 12 | 7 | 8 | 6 | 13 | 9 | 17 | 11 | 17 | 11 | 25 | 22 | 21 | 32 | 29 | 25 | 16 | 22 | 21 | 25 | 29 | 24 | 31 | 26 | 30 | 25 |
| % days | 7 | 14 | 11 | 31 | 16 | 9 | 17 | 10 | 11 | 9 | 19 | 13 | 24 | 16 | 24 | 16 | 28 | 24 | 23 | 35 | 32 | 27 | 18 | 24 | 23 | 27 | 30 | 24 | 32 | 27 | 31 | 27 |
| High | 1 | 3 | 2 | 5 | 3 | 2 | 3 | 3 | 2 | 1 | 3 | 5 | 4 | 2 | 5 | 3 | 3 | 4 | 5 | 10 | 9 | 6 | 5 | 5 | 5 | 8 | 5 | 6 | 4 | 9 | 14 | 7 |
| Total | 4 | 14 | 9 | 40 | 19 | 8 | 16 | 10 | 10 | 6 | 21 | 17 | 28 | 12 | 26 | 16 | 34 | 34 | 36 | 82 | 86 | 44 | 27 | 43 | 38 | 61 | 54 | 49 | 50 | 66 | 84 | 53 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|------|-----|-----|-----|-----|-----|------|-----|------|-----|-----|----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-----|
| 2005 | | | | | | | | | | | | | 0.1 | | 0.3 | 0.2 | 0.07 | | | | | | | 0.3 | 0.3 | 0.3 | 0.3 | 0.6 | 1.2 | 1.7 | 0.5 | 0.1 | 0.1 | | 0.4 | |
| 2006 | | | | | | | | | | 0.1 | | 0.3 | 0.3 | 1.1 | 0.1 | | 0.2 | | | | | | | | | 0.4 | 0.7 | 1.0 | 0.6 | 1.3 | 0.7 | | 0.1 | | 0.4 | |
| 2007 | | | | | | | | | | | | 0.1 | 0.4 | 0.4 | 0.1 | 0.1 | 0.1 | | | | | | | 0.3 | 0.3 | 0.7 | 0.3 | 2.1 | 1.3 | 0.1 | | | | 0.4 | | |
| 2008 | | | | | | | | | 0.7 | 0.3 | 1.4 | 1.1 | 0.7 | 1.3 | 0.1 | 0.6 | | | | | | 0.3 | | 0.1 | 0.1 | 0.1 | 0.9 | 0.6 | 4.0 | 4.1 | 0.7 | | 0.1 | | 0.9 | |
| 2009 | | | | | | | | | | 0.4 | 0.4 | 1.0 | 0.9 | | | | 0.3 | | | | | | | | | 1.0 | 1.3 | 4.4 | 3.9 | 0.9 | | | | | 0.9 | |
| 2010 | | | | | | | | | | | | 0.3 | 0.3 | 0.6 | | | 0.1 | | | | | | 0.1 | | 0.4 | 0.1 | | 0.1 | 0.3 | 0.7 | 1.7 | 1.9 | 0.3 | 0.4 | 0.1 | 0.5 |
| 2011 | | | | | | | | | | 0.3 | | 0.6 | 0.3 | 0.9 | 0.1 | 0.1 | 0.2 | | | | | 0.1 | | 0.1 | | | 0.9 | 1.0 | 0.9 | 0.7 | | | | | 0.3 | |
| 2012 | | | | | | | | | | | 0.6 | 0.6 | 0.3 | | | | 0.1 | | | | | | | | | | 0.1 | 0.9 | 2.9 | 1.9 | 0.3 | | 0.1 | | 0.5 | |
| 2013 | | | | | | | | | | | | 0.1 | 0.3 | 0.9 | 0.1 | | 0.1 | | | | | 0.1 | | | 0.1 | 0.1 | 0.1 | 1.4 | 1.1 | 1.1 | 0.9 | | 0.3 | | 0.4 | |
| 2014 | | | | | | | | | 0.1 | | | | 0.1 | 0.3 | 0.3 | | 0.09 | | | | | | | | | | 1.7 | 3.0 | 2.6 | 0.6 | 0.6 | 0.3 | | | 0.7 | |
| 2015 | | | | | | | | | | | | 0.3 | 1.4 | 1.0 | 0.3 | | 0.3 | | | | | 0.1 | | 0.1 | 0.6 | 0.1 | 0.7 | 0.6 | 1.3 | 1.3 | 1.3 | 1.4 | 0.1 | | 0.6 | |
| 2016 | | | | | | | | | | | | 0.6 | 1.7 | 0.1 | | | 0.2 | | | | | | | 0.1 | | | 0.1 | 1.0 | 2.1 | 2.0 | 1.3 | 0.3 | | | 0.5 | |
| 2017 | | | | | | | | | | 0.6 | 1.1 | 0.9 | 1.1 | 0.3 | | 0.4 | | | | | | | | 0.4 | 0.3 | 1.6 | 0.7 | 0.9 | 1.1 | 1.3 | 0.6 | | 0.1 | 0.1 | 0.5 | |
| 2018 | | | | | | | | | | | 0.7 | 0.4 | 0.1 | 0.1 | 0.3 | 0.2 | | | | | | | 0.1 | | 0.1 | 0.1 | 0.1 | 0.9 | 1.1 | 2.7 | 3.0 | 1.3 | | | 0.7 | |
| 2019 | | | | | | | | | | 0.1 | 1.4 | 0.7 | 0.6 | 0.4 | 0.4 | 0.4 | | | | | | | | | 0.4 | | 1.4 | 0.6 | 3.1 | 4.3 | 1.3 | 0.4 | 0.1 | 0.1 | 0.9 | |
| Mean | | | | | | | | | 0.06 | 0.1 | 0.5 | 0.6 | 0.6 | 0.2 | 0.09 | 0.2 | | | | | 0.06 | 0.01 | 0.1 | 0.1 | 0.1 | 0.1 | 0.3 | 0.8 | 1.0 | 2.1 | 2.0 | 0.7 | 0.1 | 0.07 | 0.06 | 0.6 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|-----|-----|-----|-----|------|----|----|-----|----|-----|-----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | 2 | 1 | | 2 | 3 | 5 | 5 | 1 | | 1 | | 20 | |
| 2006 | | | | | | | | | | | | | | | 1 | | 1 | | | | | | | | | 1 | 2 | 1 | 2 | 6 | 3 | | | | 15 | |
| 2007 | | | | | | | | | | | | | 1 | | | | 1 | | | | | | | 1 | 1 | 2 | 1 | 8 | 5 | | | | | | 18 | |
| 2008 | | | | | | | | | | | | 1 | 3 | | | | 4 | | | | | | | | | 2 | 4 | 3 | 18 | 8 | 1 | | | | 36 | |
| 2009 | | | | | | | | | 1 | | | | | 2 | | | 3 | | | | | | | | | 2 | 2 | 21 | 15 | 3 | | | | | 41 | |
| 2010 | | | | | | | | | | | | 1 | | | | | 1 | | | | | | | 1 | | 1 | 2 | 5 | 4 | 6 | 1 | 3 | 1 | | 24 | |
| 2011 | | | | | | | | | | 1 | | 1 | | | | | 2 | | | | | | | | | | 4 | 2 | 4 | 2 | | | | | 12 | |
| 2012 | | | | | | | | | | | | 1 | 1 | | | | 2 | | | | | | | | | | 1 | 1 | 8 | 4 | | | | | 14 | |
| 2013 | | | | | | | | | | | | | | 1 | | | 1 | | | | | | | 1 | | 6 | 1 | 2 | | | | 1 | | | 11 | |
| 2014 | | | | | | | | | | | | | | | | | 2 | | | | | | | | | 6 | 8 | 5 | 1 | 1 | 1 | | | | 22 | |
| 2015 | | | | | | | | | | | | | 2 | | | | 2 | | | | | | 1 | | | | 4 | 1 | 5 | 3 | | | | | 15 | |
| 2016 | | | | | | | | | | | | 2 | | | | | 2 | | | | | | | | | 1 | 2 | 7 | 3 | | | | | | 13 | |
| 2017 | | | | | | | | | | 1 | 1 | | | | 1 | | 3 | | | | | | | 1 | 3 | 2 | 2 | 2 | 2 | 1 | | | | | 13 | |
| 2018 | | | | | | | | | | | 1 | 1 | | | | | 2 | | | | | | | | | 2 | 4 | 7 | 8 | 1 | | | | | 22 | |
| 2019 | | | | | | | | | | | 1 | 1 | | | | | 2 | | | | | | | | | 1 | 1 | 11 | 10 | 1 | 3 | 1 | 1 | | 30 | |
| Mean | | | | | | | | | 0.2 | 0.4 | 0.8 | 0.3 | 0.07 | | | 1.7 | | | | | | | | 0.1 | 0.2 | 0.3 | 0.5 | 2.5 | 2.5 | 7.0 | 5.3 | 1.1 | 0.5 | 0.2 | 0.2 | 20.4 |

Blue-headed Vireo is generally only a migrant at MBO, but arrives earlier in spring and lingers later in fall than other vireos. In six years, the earliest individuals have reached MBO before the end of April, but numbers almost always peak in early to mid-May, and there are only very rare sightings by the end of spring. There have never been any summer records, but some molt migrants have been observed in August, and occasional juveniles early in the month suggest breeding nearby in some years at least. Typically though numbers do not build significantly until mid-September, peaking most often in late September and early October. Numbers have fluctuated somewhat over time, peaking in 2008 in both spring and fall, but also with above average abundance in several recent years.

PHVI: Philadelphia Vireo / Viréo de Philadelphie (*Vireo philadelphicus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|
| First | 5-21 | | | 5-18 | 5-2 | | 5-25 | 5-14 | 5-23 | 5-15 | 5-23 | 5-17 | 5-19 | 5-25 | 5-21 | 5-18 | 8-4 | 8-14 | 8-9 | 8-14 | 8-19 | 8-21 | 8-26 | 8-24 | 8-7 | 8-8 | 8-31 | 8-26 | 8-17 | 8-23 | 9-9 | 8-18 |
| Peak | 5-21 | | | 5-18 | 5-2 | | 5-25 | 5-14 | 5-28 | 5-27 | 5-23 | 5-17 | 5-24 | 5-25 | 5-21 | 5-20 | 9-11 | 9-5 | 8-9 | 9-2 | 8-19 | 9-8 | 9-8 | 9-12 | 9-14 | 9-15 | 9-18 | 9-14 | 9-9 | 9-7 | 9-24 | 9-7 |
| Last | 5-21 | | | 5-20 | 6-1 | | 6-3 | 5-24 | 5-30 | 5-27 | 5-23 | 5-30 | 5-31 | 5-25 | 6-5 | 5-27 | 10-1 | 10-2 | 9-28 | 10-2 | 9-10 | 9-24 | 10-4 | 9-27 | 9-18 | 9-26 | 9-20 | 10-2 | 9-18 | 10-1 | 10-24 | 9-27 |
| Span | 1 | | | 3 | 31 | | 10 | 11 | 8 | 13 | 1 | 14 | 13 | 1 | 16 | 10 | 59 | 50 | 51 | 50 | 23 | 35 | 40 | 35 | 43 | 50 | 21 | 38 | 33 | 40 | 46 | 41 |
| # days | 1 | | | 2 | 5 | | 3 | 2 | 3 | 2 | 1 | 5 | 4 | 1 | 2 | 3 | 15 | 11 | 6 | 12 | 3 | 12 | 10 | 7 | 10 | 20 | 8 | 14 | 8 | 19 | 7 | 11 |
| % days | 2 | | | 3 | 7 | | 4 | 3 | 4 | 3 | 1 | 7 | 6 | 1 | 3 | 4 | 17 | 12 | 7 | 13 | 3 | 13 | 11 | 8 | 11 | 22 | 8 | 14 | 8 | 19 | 7 | 12 |
| High | 1 | | | 1 | 1 | | 1 | 1 | 2 | 2 | 1 | 1 | 2 | 1 | 2 | 1 | 4 | 2 | 2 | 3 | 2 | 4 | 2 | 3 | 3 | 5 | 3 | 6 | 3 | 3 | 2 | 3 |
| Total | 1 | | | 2 | 5 | | 3 | 2 | 4 | 3 | 1 | 5 | 5 | 1 | 3 | 2 | 26 | 14 | 8 | 17 | 5 | 17 | 13 | 11 | 16 | 37 | 12 | 24 | 15 | 32 | 8 | 17 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|------|------|-----|-----|------|------|-----|-----|-----|------|------|------|-----|-----|-----|-----|-----|-----|------|-----|------|-----|------|-----|
| 2005 | | | | | | | | | | | | | | 0.1 | | | 0.02 | | | | 0.1 | 0.1 | 0.1 | 0.1 | 0.3 | 0.9 | 0.7 | 0.7 | 0.7 | | | | | 0.3 | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | 0.1 | | 0.4 | 0.4 | 0.7 | | | 0.3 | | | | | 0.2 | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | 0.6 | | | 0.3 | | | 0.3 | | | | | | 0.09 | |
| 2008 | | | | | | | | | | | | | | 0.3 | | | 0.03 | | | | | | | 0.1 | 1.1 | 0.6 | 0.1 | 0.1 | 0.1 | | | | | 0.2 | |
| 2009 | | | | | | | | | | | | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.07 | | | | | | | 0.3 | | 0.4 | | | | | | | | 0.05 | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | 0.1 | 0.7 | 1.0 | 0.4 | | | | | | | 0.2 |
| 2011 | | | | | | | | | | | | | | | 0.3 | 0.1 | 0.04 | | | | | | | 0.1 | 0.1 | 0.4 | 0.6 | 0.4 | | 0.1 | | | | 0.1 | |
| 2012 | | | | | | | | | | | | | 0.1 | | 0.1 | 0.1 | 0.03 | | | | | | | 0.1 | 0.3 | 0.3 | 0.9 | | 0.3 | | | | | 0.1 | |
| 2013 | | | | | | | | | | | | | | 0.4 | 0.1 | 0.06 | | | | 0.1 | | | 0.3 | 0.3 | 0.1 | 1.4 | | | | | | | 0.2 | | |
| 2014 | | | | | | | | | | | | 0.1 | | 0.3 | | 0.04 | | | | | 0.1 | | 0.4 | 1.0 | 0.6 | 2.1 | 0.9 | 0.1 | | | | | | 0.4 | |
| 2015 | | | | | | | | | | | | | | 0.1 | | 0.01 | | | | | | | | 0.4 | 0.1 | 1.0 | 0.1 | | | | | | | 0.1 | |
| 2016 | | | | | | | | | | | | | 0.4 | 0.1 | 0.1 | 0.07 | | | | | | | 0.1 | 0.4 | 0.3 | 2.0 | 0.4 | 0.1 | | | | | | 0.2 | |
| 2017 | | | | | | | | | | | | | 0.1 | 0.4 | 0.1 | 0.07 | | | | | | 0.1 | 0.3 | | 1.0 | 0.7 | | | | | | | | 0.2 | |
| 2018 | | | | | | | | | | | | | | 0.1 | | 0.01 | | | | | | | 0.6 | 0.6 | 0.9 | 0.7 | 0.9 | 1.0 | | | | | | 0.3 | |
| 2019 | | | | | | | | | | | | | 0.3 | | 0.1 | 0.04 | | | | | | | | | 0.3 | 0.1 | 0.6 | | | | | 0.1 | | 0.08 | |
| Mean | | | | | | | | | | | | 0.01 | 0.03 | 0.1 | 0.1 | 0.06 | 0.03 | | | | 0.02 | 0.08 | 0.05 | 0.2 | 0.3 | 0.5 | 0.8 | 0.3 | 0.2 | 0.01 | | 0.01 | | 0.2 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|------|------|----|-----|----|-----|-----|----|-----|------|-----|-----|-----|-----|-----|-----|------|-----|------|-----|-----|-----|----|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 3 | 3 | 2 | 1 | | | | | | 11 |
| 2006 | | | | | | | | | | | | | | | | | | | | | | 1 | | | 1 | 1 | | | 2 | | | | | | 5 |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | 1 |
| 2008 | | | | | | | | | | | | | 1 | | | | 1 | | | | | | | 1 | 5 | | | 1 | | | | | | 9 | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | 1 |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | 1 | | 1 | 4 | 4 | 1 | | | | | | | 11 |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | 3 | 2 | 3 | | 1 | | | | | | 11 |
| 2012 | | | | | | | | | | | | | | 1 | | | 1 | | | | | | | 1 | | 4 | | 1 | | | | | | 6 | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | 5 | | | | | | | | | 7 |
| 2014 | | | | | | | | | | | | | | | | | | | | | 1 | | 2 | 4 | 2 | 6 | 3 | | | | | | | | 18 |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | 4 | 4 | 1 | | | | | | | | 5 |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | 7 | | 1 | | | | | | | 9 |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | 3 | 2 | | | | | | | | | 5 |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | 1 | 3 | 4 | 3 | 3 | | | | | | | | 14 |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | 3 | | | | | 1 | | 5 |
| Mean | | | | | | | | | | | | | 0.07 | 0.07 | | 0.1 | | | | | 0.1 | 0.07 | 0.4 | 1.3 | 1.7 | 2.7 | 1.1 | 0.3 | 0.07 | | 0.07 | | 7.9 | | |

Philadelphia Vireo is a rare migrant at MBO. Only three times has it been observed before the second half of May, and most frequently there is a minor peak in abundance in Week 9. On average, only two individuals are observed each spring. In fall, observations are irregular over the first three weeks of August, then build to a small peak, on average in Week 7. There have been only three observations past the end of September, two in the first week of October, and an exceptionally late individual banded on 24 October 2019. Only two Philadelphia Vireos have been banded in spring; in fall the species is banded somewhat more frequently. Numbers have fluctuated slightly over time without any clear trend.

WAVI: Warbling Vireo / Viréo mélodieux (*Vireo gilvus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | 5-22 | 5-7 | 5-9 | 5-6 | 5-4 | 5-2 | 5-13 | 5-5 | 5-4 | 5-8 | 5-5 | 5-10 | 5-12 | 5-8 | 5-8 | 5-8 | 8-3 | 8-3 | 8-3 | 8-1 | 8-2 | 8-2 | 8-1 | 8-4 | 8-1 | 8-3 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 |
| Peak | 5-22 | 5-29 | 5-22 | 5-26 | 5-30 | 5-7 | 5-29 | 5-10 | 6-3 | 5-16 | 5-26 | 5-20 | 5-17 | 5-16 | 5-26 | 5-22 | 8-3 | 8-3 | 8-4 | 9-7 | 8-2 | 9-7 | 8-2 | 9-7 | 8-18 | 9-9 | 8-1 | 9-4 | 8-1 | 9-5 | 8-7 | 8-17 |
| Last | 5-31 | 6-4 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-4 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-4 | 9-22 | 9-24 | 9-19 | 9-23 | 9-21 | 9-9 | 9-25 | 9-11 | 9-25 | 9-21 | 9-22 | 9-24 | 9-24 | 9-30 | 9-26 | 9-21 |
| Span | 10 | 29 | 28 | 31 | 33 | 35 | 24 | 32 | 33 | 28 | 32 | 27 | 25 | 29 | 29 | 28 | 51 | 53 | 48 | 54 | 51 | 39 | 56 | 39 | 56 | 50 | 53 | 55 | 55 | 61 | 57 | 52 |
| # days | 5 | 21 | 25 | 31 | 23 | 26 | 23 | 32 | 29 | 28 | 32 | 27 | 24 | 28 | 27 | 25 | 9 | 9 | 15 | 19 | 13 | 10 | 9 | 17 | 41 | 30 | 47 | 47 | 46 | 45 | 43 | 27 |
| % days | 8 | 30 | 36 | 44 | 33 | 37 | 33 | 46 | 41 | 41 | 46 | 39 | 34 | 40 | 39 | 37 | 10 | 10 | 16 | 21 | 14 | 11 | 10 | 19 | 45 | 33 | 48 | 48 | 47 | 46 | 44 | 29 |
| High | 1 | 8 | 5 | 5 | 6 | 3 | 10 | 14 | 6 | 6 | 9 | 12 | 12 | 8 | 8 | 8 | 2 | 1 | 3 | 3 | 3 | 2 | 4 | 5 | 5 | 7 | 5 | 6 | 9 | 6 | 3 | 4 |
| Total | 5 | 37 | 53 | 71 | 46 | 48 | 53 | 182 | 97 | 91 | 146 | 150 | 118 | 116 | 95 | 87 | 12 | 9 | 20 | 28 | 18 | 12 | 17 | 34 | 87 | 55 | 89 | 114 | 97 | 103 | 72 | 51 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|-----|-----|-----|-----|-----|------|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|
| 2005 | | | | | | | | | | | | | | 0.1 | 0.3 | 0.4 | 0.08 | 0.2 | 0.06 | 0.1 | 0.4 | 0.3 | 0.1 | 0.1 | | | 0.3 | 0.4 | | | | | | | 0.1 | |
| 2006 | | | | | | | | | | | | 0.6 | 0.4 | 1.1 | 1.9 | 1.3 | 0.5 | 0.4 | | 0.2 | 0.3 | 0.1 | | 0.1 | 0.3 | 0.3 | | 0.1 | | | | | | | | 0.1 |
| 2007 | | | | | | | | | | | | | 1.4 | 2.3 | 3.0 | 0.9 | 0.8 | 0.6 | 1.0 | 0.8 | 1.0 | 0.4 | 0.3 | 0.4 | 0.3 | 0.1 | 0.1 | 0.1 | | | | | | | | 0.2 |
| 2008 | | | | | | | | | | | | 0.6 | 2.6 | 3.0 | 2.7 | 1.3 | 1.0 | 1.8 | 0.2 | 1.0 | 0.4 | 0.4 | 0.6 | 0.6 | 0.9 | 0.6 | 0.4 | 0.1 | | | | | | | | 0.3 |
| 2009 | | | | | | | | | | | | 0.3 | 0.7 | 1.3 | 1.7 | 2.6 | 0.7 | 0.3 | | 0.1 | 0.6 | 0.1 | 0.1 | 0.7 | 0.1 | 0.7 | | 0.1 | | | | | | | | 0.2 |
| 2010 | | | | | | | | | | | | 1.0 | 0.6 | 1.9 | 1.6 | 1.9 | 0.7 | | 0.7 | 0.4 | 0.1 | 0.3 | 0.3 | 0.1 | 0.1 | 0.7 | | | | | | | | | | 0.1 |
| 2011 | | | | | | | | | | | | | 0.7 | 2.0 | 3.3 | 1.6 | 0.8 | | 0.5 | 0.3 | 1.7 | 0.1 | | 0.3 | 0.1 | | | 0.1 | | | | | | | | 0.2 |
| 2012 | | | | | | | | | | | | 3.0 | 9.6 | 4.3 | 5.4 | 3.7 | 2.6 | 1.8 | 2.3 | 2.0 | 0.7 | 0.4 | 0.7 | 0.9 | 0.6 | 1.6 | | | | | | | | | | 0.4 |
| 2013 | | | | | | | | | | | | 0.6 | 2.7 | 3.7 | 2.7 | 4.1 | 1.4 | 1.3 | 3.3 | 2.4 | 1.6 | 1.6 | 2.7 | 1.9 | 1.6 | 1.6 | 0.7 | 0.9 | | | | | | | | 1.0 |
| 2014 | | | | | | | | | | | | 0.1 | 3.1 | 3.7 | 3.4 | 3.0 | 1.3 | 1.3 | 1.5 | 1.4 | 0.4 | 0.7 | 0.4 | 1.4 | 1.9 | 2.6 | 0.3 | 0.1 | | | | | | | | 0.6 |
| 2015 | | | | | | | | | | | | 1.7 | 5.0 | 5.7 | 5.1 | 3.3 | 2.1 | 2.7 | 2.8 | 2.7 | 2.3 | 0.6 | 1.4 | 1.7 | 2.0 | 2.4 | 2.0 | 0.3 | | | | | | | | 0.9 |
| 2016 | | | | | | | | | | | | | 3.6 | 6.4 | 7.6 | 3.9 | 2.1 | 3.5 | 1.8 | 2.6 | 2.7 | 1.3 | 1.9 | 1.9 | 2.7 | 2.7 | 2.4 | 0.7 | | | | | | | | 1.2 |
| 2017 | | | | | | | | | | | | | 1.1 | 5.9 | 5.6 | 4.3 | 1.7 | 1.3 | 2.0 | 1.7 | 2.6 | 1.9 | 1.0 | 2.1 | 0.4 | 1.6 | 2.6 | 1.7 | | | | | | | | 1.0 |
| 2018 | | | | | | | | | | | | 0.1 | 4.0 | 4.9 | 4.4 | 3.1 | 1.7 | 1.7 | 2.5 | 2.1 | 1.3 | 1.1 | 1.3 | 1.6 | 2.3 | 3.0 | 2.9 | 1.0 | 0.3 | | | | | | | 1.1 |
| 2019 | | | | | | | | | | | | 0.1 | 1.3 | 2.7 | 5.4 | 4.0 | 1.4 | 0.3 | 0.3 | 0.3 | 1.3 | 0.9 | 1.1 | 2.1 | 1.0 | 1.9 | 1.0 | 0.9 | 0.1 | | | | | | | 0.7 |
| Mean | | | | | | | | | | | | 0.5 | 2.5 | 3.3 | 3.6 | 2.7 | 1.3 | 0.9 | 0.9 | 0.9 | 1.2 | 0.7 | 0.8 | 1.1 | 1.0 | 1.3 | 0.8 | 0.4 | 0.03 | | | | | | | 0.5 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|----|-----|---|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | 1 | 1 | | | | | | | | 3 | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | 1 | | 1 | 1 | 2 | | | | | | | | | | 5 | |
| 2007 | | | | | | | | | | | | | 3 | 4 | 2 | | 9 | | | | 2 | 2 | 1 | 1 | | | | | | | | | | | | 5 | |
| 2008 | | | | | | | | | | | | | 2 | | 1 | | 3 | | | | 2 | 2 | 1 | 2 | 4 | 2 | 2 | | | | | | | | | 15 | |
| 2009 | | | | | | | | | | | | | | 2 | | | 2 | | | | 2 | | | 1 | | | | | | | | | | | | | 3 |
| 2010 | | | | | | | | | | | | 1 | | 1 | 1 | | 3 | | 2 | 2 | | 2 | 1 | 1 | 1 | 1 | | | | | | | | | | 6 | |
| 2011 | | | | | | | | | | | | | 1 | 1 | 1 | | 3 | | | | 4 | | | | | | | | | | | | | | | | 4 |
| 2012 | | | | | | | | | | | | 2 | 6 | | 1 | | 9 | 2 | 6 | 8 | 2 | | | 1 | | 1 | | | | | | | | | | | 4 |
| 2013 | | | | | | | | | | | | | | 2 | | | 2 | | 7 | 7 | | 3 | | | | 2 | | | | | | | | | | | 5 |
| 2014 | | | | | | | | | | | | | 3 | | | | 3 | 1 | 2 | 3 | | | | | | 2 | | | | | | | | | | | 2 |
| 2015 | | | | | | | | | | | | 1 | 5 | 1 | 1 | | 8 | 1 | 4 | 5 | | | | | | 1 | | | | | | | | | | | 1 |
| 2016 | | | | | | | | | | | | | 2 | 1 | | | 3 | | 2 | 2 | | | 1 | 2 | 1 | | | | | | | | | | | | 4 |
| 2017 | | | | | | | | | | | | | | 1 | 2 | | 3 | 1 | 2 | 3 | 1 | 1 | | 1 | | | | | | | | | | | | | 3 |
| 2018 | | | | | | | | | | | | | 1 | 2 | | | 3 | 2 | 5 | 7 | 1 | 1 | 1 | 1 | | 1 | 3 | 1 | | | | | | | | | 9 |
| 2019 | | | | | | | | | | | | | 1 | | 2 | | 3 | | | | 1 | 1 | 1 | 3 | | 1 | | | | | | | | | | | 7 |
| Mean | | | | | | | | | | | | 0.3 | 1.6 | 1.0 | 0.7 | | 3.6 | 0.5 | 2.0 | 2.5 | 1.0 | 0.8 | 0.5 | 0.9 | 0.5 | 0.9 | 0.4 | 0.1 | | | | | | | | 5.1 | |

Warbling Vireo is an uncommon migrant and breeder at MBO. It generally arrives in early May, with numbers building to a peak in Week 8 or 9, and tapering off in Week 10 and over summer. Mean daily counts tend to be somewhat lower in fall, staying at a relatively steady level over the first half of the season and then dropping off rapidly; the latest record to date is on 30 September. Abundance has increased substantially over time in all three seasons, although this is reflected more by daily estimated totals than by number of birds banded.

REVI: Red-eyed Vireo / Viréo aux yeux rouges (*Vireo olivaceus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|------|-------|------|------|-------|------|-------|------|------|------|------|-------|
| First | 5-19 | 5-18 | 5-21 | 5-18 | 5-19 | 5-16 | 5-18 | 5-12 | 5-17 | 5-13 | 5-12 | 5-14 | 5-17 | 5-13 | 5-20 | 5-16 | 8-2 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 |
| Peak | 5-28 | 5-21 | 5-31 | 6-2 | 6-1 | 6-5 | 5-29 | 5-28 | 5-31 | 5-27 | 5-19 | 5-31 | 5-29 | 5-28 | 5-29 | 5-28 | 9-21 | 9-1 | 8-26 | 8-12 | 8-24 | 9-7 | 9-6 | 8-18 | 8-27 | 8-9 | 8-9 | 8-9 | 8-8 | 8-29 | 8-24 | 8-23 |
| Last | 6-3 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-4 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-4 | 10-6 | 10-17 | 10-24 | 10-12 | 10-8 | 10-19 | 10-7 | 10-5 | 10-11 | 10-1 | 10-26 | 10-3 | 10-6 | 10-4 | 10-6 | 10-10 |
| Span | 16 | 19 | 16 | 19 | 18 | 21 | 19 | 25 | 20 | 23 | 25 | 23 | 20 | 24 | 17 | 20 | 66 | 78 | 85 | 73 | 69 | 80 | 68 | 66 | 72 | 62 | 87 | 64 | 67 | 65 | 67 | 71 |
| # days | 15 | 17 | 13 | 12 | 14 | 15 | 16 | 22 | 17 | 22 | 24 | 21 | 20 | 23 | 17 | 18 | 53 | 60 | 51 | 52 | 53 | 61 | 57 | 62 | 62 | 60 | 57 | 59 | 59 | 60 | 63 | 58 |
| % days | 25 | 25 | 19 | 17 | 20 | 21 | 23 | 31 | 24 | 32 | 34 | 30 | 29 | 33 | 24 | 26 | 60 | 66 | 56 | 57 | 58 | 67 | 63 | 68 | 68 | 66 | 58 | 60 | 60 | 61 | 64 | 62 |
| High | 9 | 3 | 6 | 5 | 4 | 4 | 12 | 7 | 7 | 7 | 12 | 10 | 15 | 7 | 11 | 8 | 18 | 9 | 17 | 10 | 9 | 12 | 13 | 13 | 13 | 18 | 19 | 23 | 16 | 22 | 24 | 16 |
| Total | 35 | 29 | 33 | 23 | 22 | 25 | 68 | 58 | 58 | 65 | 92 | 85 | 116 | 77 | 77 | 58 | 250 | 186 | 177 | 187 | 152 | 205 | 235 | 266 | 247 | 455 | 353 | 503 | 332 | 463 | 474 | 299 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|-----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|------|-----|------|------|------|------|------|-----|-----|-----|-----|------|------|------|-----|-----|-----|
| 2005 | | | | | | | | | | | | | | 0.7 | 2.4 | 2.6 | 0.6 | 1.3 | 0.8 | 1.0 | 1.0 | 2.0 | 2.3 | 3.1 | 6.3 | 4.0 | 8.3 | 6.9 | 2.0 | 0.2 | | | | | 2.8 | |
| 2006 | | | | | | | | | | | | | | 1.0 | 1.9 | 1.3 | 0.4 | 1.8 | 2.8 | 2.3 | 3.1 | 3.3 | 2.1 | 3.9 | 4.4 | 2.4 | 3.6 | 1.7 | 1.7 | 0.1 | | 0.1 | | | 2.0 | |
| 2007 | | | | | | | | | | | | | | 0.1 | 2.3 | 2.3 | 0.5 | 3.0 | 1.0 | 2.1 | 2.4 | 2.7 | 3.6 | 5.3 | 4.9 | 4.1 | 0.7 | 0.6 | 0.4 | 0.3 | 0.1 | | 0.1 | | 1.9 | |
| 2008 | | | | | | | | | | | | | | 0.3 | 1.3 | 1.7 | 0.3 | 1.6 | 1.8 | 1.7 | 4.1 | 5.0 | 2.9 | 1.9 | 4.7 | 4.3 | 1.1 | 0.1 | 1.9 | 0.6 | 0.1 | | | | 2.1 | |
| 2009 | | | | | | | | | | | | | | 0.7 | 0.6 | 1.9 | 0.3 | 0.3 | 1.3 | 0.9 | 2.7 | 1.6 | 4.1 | 5.9 | 2.1 | 1.9 | 0.9 | 1.0 | 1.0 | 0.6 | | | | | 1.7 | |
| 2010 | | | | | | | | | | | | | | 0.4 | 1.1 | 2.0 | 0.4 | 1.0 | 2.5 | 2.0 | 4.4 | 5.0 | 2.7 | 3.3 | 2.7 | 5.0 | 3.0 | 1.3 | 1.1 | 0.1 | 0.3 | 0.3 | | | 2.3 | |
| 2011 | | | | | | | | | | | | | | 0.4 | 4.3 | 5.0 | 1.0 | 2.3 | 4.8 | 3.7 | 6.4 | 5.6 | 6.3 | 3.1 | 3.6 | 4.4 | 2.0 | 1.0 | 0.7 | 0.4 | | | | | 2.6 | |
| 2012 | | | | | | | | 0.4 | | | | | | 2.4 | 3.9 | 1.6 | 0.8 | 2.3 | 1.5 | 1.9 | 4.6 | 4.1 | 5.6 | 5.9 | 5.1 | 5.4 | 3.3 | 2.6 | 1.1 | 0.3 | | | | | 2.9 | |
| 2013 | | | | | | | | | | | | | | 2.0 | 2.7 | 3.6 | 0.8 | 1.7 | 1.5 | 1.6 | 5.1 | 4.4 | 4.0 | 5.4 | 3.6 | 2.3 | 4.7 | 3.4 | 1.7 | 0.4 | 0.1 | | | | 2.7 | |
| 2014 | | | | | | | | | | | | | | 0.4 | 1.9 | 3.3 | 4.3 | 1.0 | 2.7 | 4.3 | 3.6 | 8.3 | 7.7 | 7.1 | 9.4 | 9.6 | 9.0 | 7.0 | 5.3 | 1.6 | | | | | 5.0 | |
| 2015 | | | | | | | | | | | | | | 1.0 | 5.0 | 4.7 | 2.4 | 1.3 | 1.3 | 6.8 | 4.4 | 7.4 | 7.3 | 4.9 | 6.1 | 7.9 | 5.3 | 6.3 | 4.6 | 0.6 | | | 0.1 | | 3.6 | |
| 2016 | | | | | | | | | | | | | | 0.3 | 1.4 | 4.7 | 5.7 | 1.2 | 3.3 | 11.3 | 7.2 | 13.6 | 10.7 | 9.4 | 10.9 | 12.7 | 6.3 | 5.3 | 2.3 | 0.6 | 0.1 | | | | 5.1 | |
| 2017 | | | | | | | | | | | | | | | 2.0 | 8.3 | 6.3 | 1.7 | 1.7 | 6.5 | 4.4 | 10.4 | 9.7 | 4.9 | 6.0 | 4.4 | 6.3 | 3.4 | 1.4 | 0.6 | 0.3 | | | | 3.4 | |
| 2018 | | | | | | | | | | | | | | 0.3 | 3.0 | 4.0 | 3.7 | 1.1 | 3.3 | 10.5 | 7.4 | 7.9 | 10.0 | 9.4 | 8.6 | 11.0 | 7.6 | 7.0 | 2.9 | 1.6 | 0.3 | | | | | 4.7 |
| 2019 | | | | | | | | | | | | | | | 1.0 | 5.3 | 4.7 | 1.1 | 2.0 | 2.5 | 2.3 | 10.3 | 11.4 | 12.7 | 12.4 | 7.1 | 5.1 | 2.7 | 3.9 | 1.0 | 1.0 | | | | | 4.8 |
| Mean | | | | | | | | | | | | | 0.2 | 1.5 | 3.4 | 3.3 | 0.8 | 1.9 | 3.2 | 2.6 | 6.1 | 6.0 | 5.5 | 6.1 | 6.0 | 4.9 | 4.0 | 2.6 | 1.2 | 0.3 | 0.05 | 0.03 | 0.02 | | 3.2 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|-----|-----|-----|------|-----|------|-----|------|-----|
| 2005 | | | | | | | | | | | | | | | 1 | 1 | 1 | 3 | | | | | 7 | 2 | 4 | 27 | 5 | 35 | 33 | 3 | 1 | | | | | 117 |
| 2006 | | | | | | | | | | | | | | | | 1 | 1 | 2 | | | | 1 | | 2 | 6 | 8 | 6 | 10 | 4 | 5 | | | | | | 42 |
| 2007 | | | | | | | | | | | | | | | | 3 | 3 | | | | 3 | 8 | 5 | 11 | 13 | 16 | 1 | 2 | 1 | 1 | | | 1 | | 62 | |
| 2008 | | | | | | | | | | | | | | | | 1 | 1 | 2 | | | | 4 | 12 | 5 | 4 | 14 | 14 | 7 | | 9 | 1 | | | | | 70 |
| 2009 | | | | | | | | | | | | | | 1 | | 2 | 3 | | 4 | 4 | 10 | 4 | 9 | 14 | 2 | 5 | 4 | 2 | 4 | 2 | | | | | 56 | |
| 2010 | | | | | | | | | | | | | | 1 | 1 | | 2 | | 9 | 9 | 12 | 9 | 4 | 14 | 7 | 20 | 15 | 8 | 4 | | 1 | 2 | | | 96 | |
| 2011 | | | | | | | | | | | | | | | 4 | 1 | 5 | 2 | 10 | 12 | 6 | 4 | 1 | 5 | 4 | 11 | 3 | 2 | 2 | 3 | | | | 41 | | |
| 2012 | | | | | | | | | | | | | | | 2 | 1 | 3 | 3 | 3 | 6 | 13 | 9 | 8 | 9 | 10 | 8 | 8 | 4 | 4 | 2 | | | | | 75 | |
| 2013 | | | | | | | | | | | | | | | | 2 | 1 | 3 | | 4 | 4 | 9 | 7 | 5 | 7 | 13 | 6 | 13 | 12 | 6 | | | | | | 78 |
| 2014 | | | | | | | | | | | | | 1 | | 4 | 2 | 7 | 1 | 7 | 8 | 16 | 6 | 6 | 11 | 23 | 26 | 23 | 10 | 5 | | | | | 126 | | |
| 2015 | | | | | | | | | | | | | | | 4 | 4 | 8 | 15 | 15 | 8 | 4 | 6 | 5 | 18 | 12 | 17 | 14 | 1 | | | | | | | 85 | |
| 2016 | | | | | | | | | | | | | | | | 3 | 4 | 7 | 2 | 16 | 18 | 13 | 10 | 16 | 26 | 14 | 14 | 13 | 1 | 1 | 1 | | | | 109 | |
| 2017 | | | | | | | | | | | | | | 1 | 6 | 1 | 8 | 11 | 11 | 13 | 12 | 5 | 4 | 9 | 17 | 4 | 2 | | | 1 | | | | 67 | | |
| 2018 | | | | | | | | | | | | | | | 1 | 2 | 1 | 4 | 3 | 22 | 25 | 9 | 17 | 17 | 18 | 28 | 14 | 17 | 7 | 3 | 2 | | | | 132 | |
| 2019 | | | | | | | | | | | | | | | 1 | 4 | | 5 | 2 | 2 | 4 | 18 | 8 | 19 | 13 | 7 | 8 | 2 | 9 | 3 | 2 | | | | 89 | |
| Mean | | | | | | | | | | | | | 0.07 | 0.8 | 2.5 | 1.0 | 4.3 | 0.9 | 6.9 | 7.7 | 9.0 | 7.8 | 7.3 | 10.1 | 13.1 | 12.1 | 11.5 | 7.3 | 3.4 | 1.1 | 0.07 | 0.1 | 0.07 | | 83.0 | |

Red-eyed Vireo is by far the most abundant vireo species at MBO. The first sighting in spring has been between 12 May and 21 May in every year, on average getting slightly earlier over time. Numbers almost always peak in the final two weeks of spring, dip slightly in the first half of summer, and then increase again. Overall, numbers across the first five weeks of fall remain quite steady, then drop off over the course of September. There has been at least one sighting in October every year, occasionally as late as the final week of the month. In all seasons, numbers have been moderately to substantially above average since 2014, except for a slight dip below in summer 2019.

BLJA: Blue Jay / Geai bleu (*Cyanocitta cristata*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|------|------|------|
| First | 4-5 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 3-29 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-2 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 |
| Peak | 4-8 | 5-16 | 4-3 | 5-26 | 4-20 | 5-4 | 5-26 | 4-11 | 5-8 | 5-14 | 5-15 | 5-20 | 5-16 | 4-9 | 5-11 | 5-3 | 9-28 | 9-23 | 9-29 | 9-20 | 9-24 | 9-22 | 10-5 | 9-23 | 10-4 | 9-19 | 9-28 | 9-25 | 10-12 | 9-27 | 10-2 | 9-27 |
| Last | 6-3 | 6-5 | 6-3 | 6-4 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-2 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-4 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 11-6 | 11-6 | 11-6 | 11-6 | 11-6 | 11-1 |
| Span | 60 | 70 | 68 | 69 | 70 | 70 | 70 | 70 | 70 | 66 | 70 | 70 | 70 | 70 | 70 | 69 | 91 | 91 | 91 | 91 | 91 | 91 | 90 | 91 | 91 | 91 | 98 | 98 | 98 | 98 | 98 | 93 |
| # days | 51 | 68 | 67 | 67 | 66 | 64 | 68 | 67 | 68 | 65 | 68 | 68 | 67 | 69 | 70 | 66 | 88 | 91 | 91 | 91 | 91 | 91 | 83 | 91 | 91 | 98 | 98 | 98 | 97 | 98 | 98 | 92 |
| % days | 86 | 99 | 96 | 96 | 96 | 91 | 97 | 96 | 97 | 96 | 97 | 97 | 96 | 99 | 100 | 96 | 100 | 100 | 100 | 100 | 99 | 100 | 91 | 100 | 100 | 99 | 100 | 100 | 100 | 100 | 99 | |
| High | 11 | 24 | 18 | 22 | 14 | 34 | 18 | 14 | 55 | 32 | 22 | 24 | 65 | 21 | 29 | 27 | 45 | 50 | 72 | 36 | 40 | 220 | 65 | 125 | 90 | 83 | 164 | 50 | 50 | 45 | 41 | 78 |
| Total | 159 | 498 | 420 | 386 | 254 | 266 | 353 | 385 | 519 | 404 | 452 | 446 | 475 | 494 | 519 | 402 | 1334 | 1510 | 1098 | 1241 | 1086 | 2457 | 1476 | 2283 | 1537 | 1720 | 2010 | 1667 | 1427 | 1286 | 1453 | 1572 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|-----|------|------|-----|------|-----|------|------|------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 2005 | 2.3 | 1.5 | | 1.5 | 3.3 | 2.2 | | 6.0 | 2.3 | 2.2 | 2.6 | 2.7 | 2.3 | 2.3 | 0.7 | 4.0 | 2.7 | 1.3 | 4.0 | 2.7 | 4.3 | 7.1 | 6.0 | 12.4 | 11.7 | 15.7 | 9.9 | 25.7 | 34.2 | 24.3 | 16.0 | 15.1 | 18.7 | | 15.2 | |
| 2006 | 4.9 | 3.6 | 3.6 | 1.8 | 2.7 | 3.4 | 4.3 | 10.5 | 5.7 | 8.1 | 9.1 | 11.6 | 7.4 | 8.0 | 5.0 | 2.9 | 7.2 | 1.3 | 2.4 | 1.9 | 7.6 | 10.6 | 9.6 | 13.1 | 15.9 | 21.6 | 23.4 | 23.6 | 19.1 | 22.9 | 20.6 | 13.9 | 14.0 | | 16.6 | |
| 2007 | 5.4 | 5.1 | 2.0 | 2.2 | 6.6 | 4.7 | 10.0 | 7.0 | 9.0 | 8.7 | 5.4 | 5.4 | 4.7 | 3.6 | 3.6 | 2.6 | 6.0 | 0.6 | 2.0 | 1.2 | 5.4 | 5.4 | 5.9 | 7.3 | 5.9 | 13.6 | 27.4 | 17.7 | 28.4 | 16.4 | 8.0 | 8.0 | 7.4 | | 12.1 | |
| 2008 | 4.4 | 1.8 | 2.0 | 0.3 | | 2.2 | 3.1 | 4.6 | 3.4 | 6.6 | 6.6 | 5.9 | 7.9 | 5.6 | 8.1 | 3.4 | 5.5 | 1.2 | 0.6 | 0.9 | 6.7 | 12.1 | 8.1 | 15.3 | 12.6 | 12.9 | 14.1 | 23.4 | 18.0 | 18.1 | 16.3 | 11.9 | 7.7 | | 13.6 | |
| 2009 | 5.3 | 6.5 | 2.3 | 6.2 | 7.1 | 6.0 | 3.0 | 3.7 | 4.4 | 6.7 | 3.4 | 3.7 | 3.4 | 2.4 | 1.9 | 4.1 | 3.7 | 0.7 | 0.3 | 0.4 | 2.0 | 2.7 | 3.6 | 4.9 | 7.6 | 12.9 | 16.7 | 25.7 | 26.7 | 18.0 | 11.7 | 9.7 | 13.0 | | 11.9 | |
| 2010 | 6.5 | 5.0 | 3.9 | 5.8 | 4.6 | 5.3 | 4.6 | 1.4 | 2.3 | 3.3 | 2.9 | 11.0 | 2.3 | 5.6 | 2.0 | 2.7 | 3.8 | | 0.5 | 0.3 | 4.0 | 5.7 | 7.4 | 8.3 | 12.6 | 17.9 | 31.7 | 77.4 | 94.0 | 39.4 | 22.4 | 15.1 | 15.0 | | 27.0 | |
| 2011 | 4.3 | 3.0 | 3.5 | 4.5 | 2.6 | 3.7 | 6.1 | 3.4 | 4.3 | 6.0 | 4.1 | 6.1 | 5.3 | 3.9 | 6.4 | 4.7 | 5.0 | 2.0 | 2.3 | 2.1 | 3.1 | 2.4 | 2.9 | 8.0 | 4.6 | 9.3 | 23.9 | 23.7 | 39.9 | 33.9 | 27.0 | 17.7 | 14.6 | | 16.2 | |
| 2012 | 6.4 | 3.5 | 8.3 | 3.0 | 2.4 | 5.0 | 8.0 | 5.0 | 8.3 | 6.7 | 6.0 | 5.0 | 4.6 | 4.7 | 4.9 | 1.9 | 5.5 | 0.5 | 1.3 | 0.9 | 5.0 | 5.9 | 10.1 | 15.1 | 17.1 | 15.7 | 54.4 | 75.4 | 65.3 | 23.1 | 11.4 | 13.0 | 14.4 | | 25.1 | |
| 2013 | 2.3 | 2.0 | 2.9 | 2.8 | 3.6 | 2.9 | 5.1 | 4.0 | 3.6 | 6.7 | 6.1 | 19.3 | 7.6 | 8.6 | 4.6 | 8.6 | 7.4 | 2.3 | 6.3 | 4.6 | 10.1 | 6.9 | 10.4 | 12.3 | 12.1 | 14.1 | 19.0 | 24.6 | 19.9 | 35.4 | 26.4 | 15.0 | 13.3 | | 16.9 | |
| 2014 | 5.8 | 4.3 | 4.7 | 2.0 | 2.6 | 3.7 | 6.8 | 4.0 | 6.4 | 11.3 | 6.9 | 6.7 | 8.1 | 4.0 | 3.1 | 1.5 | 5.9 | 1.0 | 3.5 | 2.4 | 11.7 | 10.9 | 11.3 | 12.4 | 20.1 | 14.1 | 29.0 | 40.0 | 28.4 | 21.1 | 17.0 | 16.1 | 13.4 | | 18.9 | |
| 2015 | 8.1 | 8.0 | | 3.0 | 3.2 | 6.5 | 6.0 | 7.9 | 5.9 | 5.9 | 6.9 | 9.6 | 10.4 | 6.1 | 4.4 | 1.6 | 6.5 | 2.3 | 4.5 | 3.6 | 9.9 | 9.7 | 7.7 | 10.9 | 13.6 | 13.6 | 15.7 | 34.9 | 65.3 | 30.4 | 25.6 | 22.9 | 15.6 | 11.6 | | 20.5 |
| 2016 | 7.5 | 4.0 | 4.8 | 2.6 | 4.7 | 4.5 | 5.0 | 6.3 | 5.7 | 6.6 | 7.1 | 6.9 | 7.6 | 9.1 | 7.0 | 2.4 | 6.4 | 1.8 | 6.5 | 4.1 | 6.7 | 6.1 | 7.7 | 10.6 | 11.3 | 14.6 | 25.1 | 37.3 | 36.6 | 20.1 | 22.4 | 14.1 | 13.4 | 12.0 | 17.0 | |
| 2017 | 7.1 | 4.0 | 5.9 | 2.6 | 3.0 | 4.6 | 6.6 | 5.7 | 5.7 | 4.9 | 7.3 | 10.3 | 5.7 | 11.4 | 6.0 | 4.3 | 6.8 | 5.3 | 4.5 | 4.9 | 6.3 | 7.4 | 10.4 | 12.4 | 9.0 | 11.4 | 16.0 | 14.6 | 23.3 | 17.6 | 27.7 | 18.3 | 15.0 | 14.4 | 14.6 | |
| 2018 | 7.4 | 4.8 | 5.0 | 4.5 | 4.8 | 5.3 | 9.7 | 9.6 | 8.1 | 11.9 | 8.3 | 7.3 | 5.3 | 3.1 | 4.4 | 2.9 | 7.1 | 1.3 | 4.0 | 2.9 | 6.1 | 8.9 | 8.7 | 11.1 | 10.7 | 15.9 | 16.9 | 17.9 | 21.4 | 24.0 | 15.0 | 10.7 | 7.9 | 8.6 | 13.1 | |
| 2019 | 5.3 | 5.1 | 3.4 | 5.2 | 5.8 | 4.9 | 7.4 | 6.9 | 6.1 | 6.9 | 8.7 | 7.1 | 11.6 | 6.3 | 8.0 | 5.1 | 7.4 | 3.0 | 5.3 | 4.3 | 9.7 | 12.0 | 12.0 | 10.6 | 7.6 | 11.7 | 14.7 | 20.4 | 23.6 | 20.9 | 18.9 | 15.6 | 15.7 | 14.3 | 14.8 | |
| Mean | 5.8 | 4.1 | 3.8 | 3.3 | 4.4 | 4.4 | 6.1 | 5.7 | 5.4 | 6.9 | 6.1 | 7.9 | 6.3 | 5.6 | 4.7 | 3.5 | 5.8 | 1.5 | 3.1 | 2.4 | 6.6 | 7.6 | 8.1 | 11.0 | 11.5 | 14.3 | 22.5 | 32.2 | 36.3 | 24.4 | 19.1 | 14.5 | 13.3 | 12.2 | 16.9 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|----|
| 2005 | 3 | | | 2 | 1 | 6 | | | | | | | | | | | | | | | 1 | | | 2 | 3 | 3 | | 7 | 5 | 1 | | 2 | 2 | | 26 | |
| 2006 | | | | | 1 | 1 | | | 1 | | | 3 | 2 | | | | 6 | | | | | | | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 5 | 3 | | | 16 | |
| 2007 | 1 | | | | | 1 | | | | | | | 1 | 1 | 2 | | 4 | | | | | | | | | | | 2 | 4 | 2 | 1 | | | | 9 | |
| 2008 | | | | | | | | | | | | | 1 | 1 | | | 2 | | | | | 2 | | | | | | 7 | 1 | 1 | | | | | 28 | |
| 2009 | | | | | | | | | | | 1 | | | | | | 1 | | | | | | | 1 | 2 | 3 | 4 | 1 | 2 | 3 | | 1 | 1 | | 18 | |
| 2010 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | 1 | | 2 | 6 | 18 | 9 | 3 | 1 | 1 | | | 41 | |
| 2011 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | 1 | | 1 | 1 | 4 | 7 | | 2 | 2 | | | | 18 | |
| 2012 | 2 | 2 | | 2 | 1 | 7 | | | | 1 | 1 | 1 | | | 1 | | 4 | | | | | | 1 | | 1 | 1 | 9 | 24 | 9 | 2 | 1 | 1 | | | 49 | |
| 2013 | | | | | | | | | | | | | | | | | | | | 1 | 1 | | | 1 | | | 5 | 5 | 4 | 12 | 3 | 2 | 3 | | 35 | |
| 2014 | | 1 | | | | 1 | | | | | 1 | | | 1 | | | 2 | | | | 3 | 1 | | 2 | 1 | 2 | 7 | 17 | 23 | 9 | 1 | 4 | 2 | | 72 | |
| 2015 | 2 | | | | | 2 | | | | | | 1 | 2 | | | | 3 | | | | 1 | 1 | | | 3 | 2 | 1 | 11 | 16 | 2 | 3 | 1 | 2 | | 43 | |
| 2016 | 2 | | | | | 2 | | | | | 1 | | | | | | 1 | | | | 1 | | | | 1 | 3 | 6 | 16 | 4 | 3 | 1 | 1 | | | 36 | |
| 2017 | 1 | | | | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | 2 | 1 | 1 | 4 | 4 | 7 | 3 | 3 | | 1 | 27 | |
| 2018 | | 1 | 1 | | | 2 | | | | 1 | | 2 | 1 | | | | 4 | | | | | | 1 | | 1 | 2 | 3 | 3 | 2 | 1 | 2 | 1 | 3 | 2 | 19 | |
| 2019 | | | | | | | | | | | | 3 | 2 | | | | 5 | | | | | | | | 1 | 1 | 1 | 4 | 3 | 1 | 2 | 1 | 3 | 2 | | 19 |
| Mean | 0.9 | 0.3 | 0.2 | 0.6 | 0.3 | 1.8 | | | 0.5 | 0.1 | 0.3 | 0.6 | 0.6 | 0.3 | 0.2 | | 2.2 | | 0.2 | 0.2 | 0.5 | 0.3 | 0.1 | 0.9 | 1.1 | 1.5 | 3.5 | 7.6 | 7.1 | 3.2 | 1.7 | 1.5 | 0.9 | 0.6 | 30.0 | |

Blue Jay is ubiquitous at MBO, having been missed in only June 2010 and January 2015. Peak counts in spring have varied from Week 1 to Week 9, although on average Week 6 has had the highest numbers. Summer counts are lower than in any other season. In fall, numbers build steadily over the first six weeks, then jump sharply over the next couple of weeks, almost always peaking between Week 8 and Week 10, then tapering off until the end of the season, and into winter, with counts lowest in February. Blue Jay has been banded in all seasons, although commonly only in fall. Spring and summer numbers have generally increased over the years, whereas winter abundance has fluctuated less distinctly, and fall totals have been below average since 2017.

AMCR: American Crow / Corneille d'Amérique (*Corvus brachyrhynchos*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | |
|---------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|------|
| First | 4-5 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 3-29 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | |
| Peak | 5-11 | 4-27 | 5-1 | 4-18 | 4-18 | 5-28 | 5-1 | 5-6 | 5-23 | 5-29 | 5-19 | 5-26 | 4-24 | 5-28 | 5-1 | 5-9 | 10-23 | 9-17 | 10-21 | 10-22 | 10-15 | 10-24 | 10-27 | 10-17 | 9-18 | 10-21 | 10-10 | 10-26 | 10-17 | 10-13 | 9-17 | 10-13 | |
| Last | 6-3 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-4 | 6-5 | 6-5 | 6-5 | 6-4 | 6-5 | 6-4 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 11-6 | 11-6 | 11-6 | 11-6 | 11-6 | 11-1 |
| Span | 60 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 68 | 70 | 70 | 70 | 69 | 70 | 69 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 98 | 98 | 98 | 98 | 98 | 93 |
| # days | 59 | 69 | 70 | 70 | 69 | 70 | 70 | 70 | 69 | 64 | 70 | 70 | 68 | 68 | 66 | 68 | 87 | 91 | 91 | 91 | 91 | 91 | 90 | 91 | 91 | 91 | 97 | 98 | 97 | 98 | 96 | 93 | |
| % days | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99 | 94 | 100 | 100 | 97 | 97 | 94 | 99 | 99 | 100 | 100 | 100 | 100 | 100 | 99 | 100 | 100 | 100 | 99 | 100 | 99 | 100 | 98 | 100 | |
| High | 75 | 113 | 60 | 50 | 36 | 44 | 65 | 200 | 51 | 60 | 52 | 45 | 67 | 35 | 15 | 65 | 240 | 500 | 349 | 500 | 319 | 482 | 446 | 355 | 205 | 185 | 180 | 130 | 170 | 101 | 112 | 285 | |
| Total | 798 | 1800 | 1586 | 1178 | 1203 | 1313 | 1244 | 1745 | 1019 | 750 | 1048 | 726 | 1238 | 663 | 348 | 1111 | 5326 | 10218 | 9314 | 8814 | 4561 | 7437 | 5334 | 4084 | 4062 | 3741 | 3428 | 2949 | 3304 | 2543 | 2892 | 5200 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|-------------|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| 2005 | 128.8 | 3.0 | | 4.0 | 13.3 | 42.1 | | 17.0 | 10.7 | 23.0 | 11.3 | 8.3 | 17.7 | 9.4 | 10.6 | 16.4 | 13.5 | 5.2 | 8.2 | 6.8 | 4.9 | 27.4 | 42.4 | 18.1 | 27.4 | 63.4 | 44.6 | 57.4 | 73.7 | 115.2 | 113.7 | 100.6 | 115.3 | | 60.5 |
| 2006 | 18.2 | 19.4 | 5.5 | 5.2 | 23.7 | 14.7 | 23.7 | 17.7 | 28.3 | 35.3 | 36.9 | 26.9 | 27.6 | 31.4 | 22.7 | 9.3 | 26.1 | 4.8 | 1.8 | 3.2 | 12.3 | 21.6 | 26.9 | 41.4 | 70.6 | 178.6 | 243.6 | 243.9 | 126.3 | 67.4 | 131.3 | 152.0 | 144.0 | | 112.3 |
| 2007 | 40.0 | 40.4 | 35.5 | 8.8 | 14.8 | 30.3 | 17.3 | 22.1 | 19.9 | 32.7 | 25.4 | 28.3 | 18.9 | 21.6 | 20.6 | 19.9 | 22.7 | 12.0 | 7.2 | 9.8 | 13.3 | 26.4 | 54.0 | 84.6 | 132.3 | 74.0 | 139.3 | 137.9 | 106.0 | 106.3 | 110.0 | 179.3 | 167.3 | | 102.4 |
| 2008 | 18.6 | 6.3 | 3.4 | 3.7 | | 9.0 | 14.1 | 13.0 | 14.3 | 18.7 | 23.6 | 20.6 | 20.7 | 15.7 | 14.0 | 13.6 | 16.8 | 5.6 | 20.8 | 13.2 | 13.3 | 17.3 | 20.0 | 26.0 | 33.3 | 82.6 | 85.6 | 143.6 | 206.4 | 105.6 | 154.4 | 196.9 | 174.3 | | 96.9 |
| 2009 | 31.1 | 16.5 | 1.0 | 6.2 | 11.5 | 13.1 | 19.9 | 17.3 | 15.6 | 26.1 | 19.1 | 18.3 | 10.6 | 15.3 | 19.0 | 13.1 | 17.4 | 4.3 | 2.5 | 3.3 | 5.4 | 17.0 | 11.3 | 21.7 | 17.7 | 31.0 | 21.0 | 80.7 | 47.0 | 40.0 | 112.6 | 103.3 | 142.9 | | 50.1 |
| 2010 | 53.7 | 20.6 | 4.3 | 7.3 | 27.5 | 26.6 | 25.1 | 21.0 | 17.7 | 27.1 | 24.9 | 16.9 | 18.4 | 13.4 | 14.6 | 8.4 | 18.8 | 3.0 | 1.5 | 2.0 | 12.1 | 19.6 | 24.3 | 27.0 | 21.1 | 39.1 | 84.7 | 97.3 | 87.0 | 219.9 | 87.6 | 135.1 | 207.6 | | 81.7 |
| 2011 | 64.7 | 8.0 | 5.3 | 17.5 | 9.6 | 24.3 | 16.0 | 11.7 | 16.1 | 22.7 | 24.6 | 19.9 | 16.7 | 15.4 | 15.3 | 19.3 | 17.8 | 4.3 | 8.5 | 6.7 | 12.3 | 16.6 | 16.7 | 16.6 | 23.3 | 32.9 | 53.4 | 43.7 | 94.1 | 70.3 | 36.7 | 106.6 | 238.9 | | 58.6 |
| 2012 | 54.9 | 77.8 | 8.3 | 10.0 | 13.4 | 39.3 | 16.4 | 12.4 | 18.9 | 33.6 | 26.1 | 53.7 | 29.9 | 25.4 | 17.6 | 15.3 | 24.9 | 3.3 | 2.5 | 2.9 | 21.3 | 15.9 | 17.3 | 11.4 | 18.0 | 22.1 | 20.9 | 30.7 | 37.7 | 59.6 | 83.6 | 129.6 | 115.4 | | 44.9 |
| 2013 | 4.5 | 1.9 | 2.0 | 3.2 | 8.6 | 4.5 | 6.7 | 6.6 | 8.0 | 13.4 | 11.1 | 22.1 | 24.4 | 26.7 | 17.6 | 8.9 | 14.6 | 6.0 | 2.5 | 4.0 | 21.0 | 13.4 | 17.7 | 14.0 | 28.9 | 49.0 | 75.9 | 72.3 | 66.0 | 65.1 | 72.3 | 53.1 | 31.6 | | 44.6 |
| 2014 | 7.4 | 1.8 | 2.3 | 1.0 | 1.6 | 2.6 | 9.7 | 7.6 | 2.7 | 8.9 | 14.0 | 9.1 | 8.7 | 10.7 | 28.7 | 9.8 | 11.0 | 3.7 | 3.0 | 3.3 | 10.7 | 6.9 | 16.7 | 21.7 | 42.9 | 24.0 | 75.3 | 39.0 | 47.9 | 42.6 | 33.1 | 94.1 | 79.6 | | 41.1 |
| 2015 | 19.5 | 2.0 | 1.0 | | 2.6 | 13.7 | 8.3 | 5.0 | 6.6 | 15.6 | 23.0 | 23.0 | 16.7 | 21.1 | 17.7 | 12.7 | 15.0 | 3.7 | 3.5 | 3.6 | 21.0 | 19.3 | 16.6 | 34.6 | 18.4 | 31.1 | 21.0 | 33.9 | 47.0 | 45.0 | 60.1 | 34.1 | 49.1 | 58.4 | 35.0 |
| 2016 | 36.5 | 7.1 | 2.3 | 0.9 | 6.5 | 8.9 | 6.4 | 4.3 | 4.6 | 18.4 | 14.1 | 8.0 | 13.3 | 11.9 | 18.6 | 4.1 | 10.4 | 4.0 | 3.8 | 3.9 | 11.3 | 22.3 | 28.3 | 26.4 | 37.9 | 19.6 | 23.6 | 39.6 | 41.1 | 41.0 | 38.6 | 23.6 | 39.6 | 28.6 | 30.1 |
| 2017 | 6.8 | 0.5 | 1.3 | 2.4 | 3.3 | 3.4 | 9.6 | 6.1 | 8.3 | 34.6 | 25.1 | 19.9 | 23.1 | 14.4 | 23.0 | 12.7 | 17.7 | 4.0 | 5.0 | 4.6 | 4.7 | 10.0 | 15.9 | 23.4 | 34.6 | 37.9 | 26.4 | 42.6 | 30.9 | 50.9 | 37.1 | 92.0 | 42.6 | 23.1 | 33.7 |
| 2018 | 7.0 | 2.3 | 2.3 | 3.5 | 4.4 | 4.0 | 9.7 | 9.7 | 7.6 | 14.1 | 3.9 | 9.0 | 7.6 | 12.7 | 13.3 | 7.1 | 9.5 | 3.3 | 4.8 | 4.1 | 21.0 | 19.0 | 45.0 | 16.9 | 29.7 | 16.1 | 18.1 | 15.9 | 39.3 | 46.9 | 48.0 | 18.3 | 16.3 | 12.9 | 25.9 |
| 2019 | 1.2 | 1.6 | 0.2 | 1.0 | 3.9 | 1.7 | 2.7 | 4.7 | 3.7 | 5.1 | 6.7 | 5.1 | 4.7 | 5.0 | 6.1 | 5.7 | 5.0 | 3.0 | 1.8 | 2.3 | 4.6 | 11.6 | 15.0 | 12.1 | 25.3 | 50.7 | 55.9 | 30.0 | 44.6 | 36.6 | 49.4 | 28.4 | 22.1 | 26.9 | 29.5 |
| Mean | 31.4 | 15.0 | 4.7 | 4.9 | 11.4 | 14.6 | 13.3 | 11.6 | 12.2 | 22.0 | 19.3 | 19.3 | 17.3 | 16.7 | 17.3 | 11.7 | 16.1 | 5.2 | 5.5 | 5.3 | 12.6 | 17.6 | 24.5 | 26.4 | 37.4 | 50.1 | 65.9 | 73.9 | 73.0 | 73.8 | 77.6 | 96.5 | 105.8 | 30.0 | 55.8 |

American Crow is common at MBO throughout the year, having only been missed in one period, February 2015. Despite no clear evidence of migration past MBO, there is seasonal variation in the size and movements of local flocks. Numbers typically jump in Week 4 of spring, but this may reflect the transition from census only during the first three weeks to full effort beginning in Week 4. On average, counts taper off gradually as the rest of spring progresses, and drops to somewhat lower levels during the breeding season. In fall, numbers start fairly modestly in early August, then on average build steadily over the course of the next three months, although peak abundance in individual years has varied from Week 7 to Week 13. In all seasons, numbers have declined over time, with below average counts in most years since 2013. There has been at least one day each fall with a peak count of more than 100 individuals, twice reaching a maximum of 500 (in 2006 and 2008).

FICR: Fish Crow / Corneille de rivage (*Corvus ossifragus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| First | | | | | | | | 4-20 | | | | | | | | 4-20 | | | | | | | | | | | | | | | | |
| Peak | | | | | | | | 4-20 | | | | | | | | 4-20 | | | | | | | | | | | | | | | | |
| Last | | | | | | | | 4-20 | | | | | | | | 4-20 | | | | | | | | | | | | | | | | |
| Span | | | | | | | | 1 | | | | | | | | 1 | | | | | | | | | | | | | | | | |
| # days | | | | | | | | 1 | | | | | | | | 1 | | | | | | | | | | | | | | | | |
| % days | | | | | | | | 1 | | | | | | | | 1 | | | | | | | | | | | | | | | | |
| High | | | | | | | | 1 | | | | | | | | 1 | | | | | | | | | | | | | | | | |
| Total | | | | | | | | 1 | | | | | | | | 0 | | | | | | | | | | | | | | | | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|------|----|----|----|----|----|-----|--------|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | 0.1 | | | | | | | 0.01 | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | 0.01 | | | | | | | <0.005 | | | | | | | | | | | | | | | | | | |

Fish Crow has been observed at MBO only once, a single individual detected on census on 20 April 2012, then later found in the adjacent field, coinciding with an influx of sightings along the lower Great Lakes and upper St. Lawrence Valley that spring.

CORA: Common Raven / Grand Corbeau (*Corvus corax*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|---------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|-------|
| First | 4-9 | 3-28 | 4-20 | 4-2 | 4-18 | 4-15 | 3-31 | 3-31 | 3-30 | 3-30 | 3-29 | 3-30 | 3-31 | 3-31 | 4-4 | 4-4 | 8-22 | 8-2 | 8-4 | 8-11 | 8-9 | 8-2 | 8-1 | 8-8 | 8-3 | 8-3 | 8-3 | 8-3 | 8-1 | 8-3 | 8-1 | 8-5 |
| Peak | 4-9 | 5-24 | 5-6 | 4-30 | 4-20 | 4-15 | 5-6 | 5-5 | 5-3 | 4-27 | 4-19 | 5-2 | 4-4 | 5-4 | 5-1 | 4-27 | 10-22 | 8-5 | 10-21 | 9-1 | 10-23 | 10-13 | 9-18 | 9-27 | 9-6 | 10-22 | 10-8 | 9-15 | 9-10 | 9-4 | 9-17 | 9-24 |
| Last | 4-18 | 6-4 | 6-1 | 6-3 | 6-1 | 5-24 | 6-5 | 6-1 | 5-31 | 6-1 | 6-4 | 6-1 | 6-3 | 5-31 | 6-3 | 5-29 | 10-30 | 10-26 | 10-30 | 10-26 | 10-29 | 10-30 | 10-29 | 10-29 | 10-29 | 10-30 | 11-6 | 11-6 | 11-4 | 11-6 | 11-6 | 10-31 |
| Span | 10 | 69 | 43 | 63 | 45 | 40 | 67 | 63 | 63 | 64 | 68 | 64 | 65 | 62 | 61 | 56 | 70 | 86 | 88 | 77 | 82 | 90 | 90 | 83 | 88 | 89 | 96 | 96 | 96 | 96 | 98 | 88 |
| # days | 2 | 26 | 15 | 21 | 10 | 8 | 23 | 27 | 41 | 41 | 37 | 46 | 43 | 38 | 39 | 28 | 25 | 31 | 39 | 25 | 30 | 27 | 38 | 50 | 48 | 60 | 68 | 71 | 76 | 73 | 81 | 49 |
| % days | 3 | 38 | 21 | 30 | 14 | 11 | 33 | 39 | 59 | 60 | 53 | 66 | 61 | 54 | 56 | 40 | 28 | 34 | 43 | 27 | 33 | 30 | 42 | 55 | 53 | 66 | 69 | 72 | 78 | 74 | 83 | 53 |
| High | 1 | 2 | 3 | 2 | 2 | 1 | 2 | 3 | 4 | 5 | 3 | 4 | 6 | 4 | 4 | 3 | 4 | 2 | 6 | 2 | 3 | 6 | 6 | 4 | 4 | 12 | 11 | 6 | 10 | 7 | 8 | 6 |
| Total | 2 | 27 | 17 | 26 | 13 | 8 | 24 | 32 | 53 | 66 | 47 | 69 | 87 | 56 | 68 | 40 | 38 | 34 | 61 | 32 | 37 | 42 | 57 | 69 | 81 | 120 | 120 | 118 | 176 | 149 | 174 | 87 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|-------------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2005 | | | | | | | | 0.2 | | 0.2 | | | | | | | 0.03 | | | | | | | 0.1 | 0.4 | 0.1 | 0.4 | 0.3 | 0.8 | 0.7 | 1.2 | 0.9 | 0.9 | | 0.4 | |
| 2006 | 0.1 | 0.07 | 0.2 | | 0.2 | 0.1 | 0.1 | | | | 0.3 | 0.6 | 0.9 | 0.9 | 1.0 | 0.1 | 0.4 | | 0.2 | 0.09 | 0.7 | 0.3 | 0.4 | 0.3 | 0.3 | 0.6 | | 0.1 | 0.3 | 0.7 | 0.6 | 0.1 | 0.4 | | 0.4 | |
| 2007 | 0.06 | | 0.3 | 0.2 | 0.4 | 0.2 | | | | 0.3 | 0.3 | 1.0 | 0.1 | 0.4 | | 0.3 | 0.2 | | 0.2 | 0.08 | 0.4 | 0.3 | 0.4 | 0.7 | 1.1 | 1.0 | 0.7 | 0.7 | 0.9 | 0.1 | 1.3 | 0.3 | | 0.7 | | |
| 2008 | | | 0.2 | 0.6 | | 0.2 | 0.3 | 0.1 | 0.1 | 0.3 | 0.9 | 0.6 | 0.1 | 0.6 | 0.4 | 0.3 | 0.4 | | | | | 0.3 | | | | 0.4 | 0.3 | 0.7 | 0.6 | 0.7 | 0.1 | 0.1 | 1.1 | 0.1 | | 0.4 |
| 2009 | 0.1 | 0.5 | 0.8 | 0.7 | | 0.3 | | | | 0.6 | 0.3 | 0.4 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.7 | 0.3 | 0.4 | | 0.6 | 0.1 | 0.1 | 0.3 | 0.3 | | 0.9 | 0.3 | 0.6 | 0.6 | 1.0 | 0.6 | | 0.4 | |
| 2010 | 0.4 | 0.3 | 1.0 | 0.3 | 0.3 | 0.5 | | | 0.1 | 0.1 | 0.3 | 0.1 | 0.1 | 0.1 | 0.1 | | 0.1 | | | | 0.1 | 0.4 | 0.3 | 0.3 | 0.4 | 0.4 | 0.1 | 0.1 | 0.4 | 0.3 | 1.6 | 0.3 | 1.1 | | 0.5 | |
| 2011 | 0.3 | | 0.5 | 1.2 | 0.3 | 0.5 | 0.1 | | | 0.7 | 0.6 | 0.6 | 0.3 | 0.3 | 0.3 | 0.6 | 0.3 | 1.3 | 2.0 | 1.7 | 0.6 | 0.4 | 0.1 | 0.3 | 0.3 | 0.7 | 1.1 | 0.7 | 0.9 | 0.7 | 0.4 | 1.3 | 0.6 | | 0.6 | |
| 2012 | 0.5 | | 0.3 | | 1.2 | 0.5 | 0.3 | 0.1 | 0.3 | 0.4 | 0.4 | 0.7 | 0.3 | 0.4 | 0.9 | 0.7 | 0.5 | 0.5 | 0.8 | 0.6 | | 0.7 | 0.6 | 1.3 | 0.7 | 0.7 | 0.6 | 0.4 | 1.1 | 1.1 | 1.3 | 0.6 | 0.7 | | 0.8 | |
| 2013 | 0.1 | 0.1 | 0.4 | 0.6 | 0.6 | 0.4 | 0.1 | 0.1 | 1.0 | 0.9 | 1.1 | 2.0 | 1.1 | 0.7 | 0.1 | 0.3 | 0.8 | 0.3 | 1.0 | 0.7 | 0.4 | 0.3 | 0.4 | 0.4 | 0.7 | 1.7 | 1.1 | 2.0 | 1.0 | 1.1 | 0.4 | 1.0 | 0.9 | | 0.9 | |
| 2014 | 0.6 | 0.3 | | 0.1 | 0.2 | 0.2 | 0.5 | 0.4 | 0.1 | 1.9 | 2.0 | 1.0 | 1.4 | 0.9 | 0.6 | 0.8 | 1.0 | 0.7 | 0.3 | 0.4 | 0.4 | 0.1 | 1.0 | 1.0 | 0.7 | 0.7 | 1.3 | 1.7 | 1.4 | 1.7 | 1.4 | 3.4 | 2.1 | | 1.3 | |
| 2015 | 0.7 | 2.0 | | | 0.2 | 0.6 | 0.1 | 0.1 | 0.1 | 1.3 | 1.0 | 1.1 | 0.3 | 1.1 | 0.9 | 0.6 | 0.7 | 1.0 | 0.3 | 0.6 | 0.4 | | 0.9 | 0.7 | 1.0 | 1.1 | 0.6 | 2.0 | 1.4 | 2.6 | 1.9 | 1.6 | 1.7 | 1.3 | 1.2 | |
| 2016 | 0.8 | 0.9 | 0.08 | 0.3 | 0.5 | 0.5 | 0.1 | 0.4 | 0.4 | 1.4 | 1.9 | 1.6 | 1.4 | 1.6 | 0.9 | 0.1 | 1.0 | 0.5 | 0.5 | 0.5 | 0.7 | 0.9 | 0.9 | 0.6 | 0.9 | 1.0 | 1.3 | 1.7 | 1.7 | 1.7 | 1.3 | 1.1 | 2.0 | 1.1 | 1.2 | |
| 2017 | 0.2 | | 0.1 | 0.5 | 0.1 | 0.3 | 0.1 | 1.4 | 0.7 | 3.1 | 1.7 | 1.7 | 0.7 | 0.6 | 1.4 | 0.9 | 1.2 | 0.7 | 1.0 | 0.9 | 1.1 | 0.4 | 1.0 | 0.3 | 1.4 | 4.0 | 3.1 | 2.4 | 2.1 | 1.6 | 2.0 | 2.6 | 0.9 | 2.1 | 1.8 | |
| 2018 | 0.9 | 0.8 | 0.2 | | 0.4 | 0.4 | 0.1 | 0.1 | 0.3 | 1.3 | 1.3 | 1.6 | 1.1 | 1.0 | 1.0 | 0.1 | 0.8 | | 0.5 | 0.3 | 0.4 | 1.0 | 1.1 | 1.1 | 1.9 | 2.4 | 1.0 | 1.0 | 1.7 | 2.0 | 2.3 | 2.1 | 1.4 | 1.7 | 1.5 | |
| 2019 | 0.6 | 3.1 | 0.3 | 0.4 | 0.7 | 1.1 | | 0.3 | 0.1 | 1.0 | 2.0 | 2.3 | 0.6 | 1.1 | 1.3 | 1.0 | 1.0 | 1.3 | 1.0 | 1.1 | 1.7 | 1.6 | 2.0 | 1.4 | 1.4 | 1.6 | 2.7 | 1.3 | 2.6 | 1.0 | 1.4 | 2.3 | 1.4 | 2.4 | 1.8 | |
| Mean | 0.4 | 0.7 | 0.3 | 0.3 | 0.4 | 0.4 | 0.1 | 0.2 | 0.2 | 0.9 | 0.9 | 1.0 | 0.6 | 0.7 | 0.6 | 0.4 | 0.6 | 0.3 | 0.4 | 0.3 | 0.5 | 0.5 | 0.6 | 0.6 | 0.8 | 1.1 | 1.0 | 1.1 | 1.2 | 1.1 | 1.1 | 1.4 | 1.0 | 1.7 | 0.9 | |

Common Raven is present at MBO in all seasons, and has become substantially more regular and abundant over time. Mean daily counts tend to be somewhat higher in fall than other seasons, but overall vary relatively little. This is not surprising, as most observations likely involve local residents, though peak daily counts of 10 or more individuals in some recent fall seasons suggest there may be some dispersal or even migration occurring as well.

HOLA: Horned Lark / Alouette hausse-col (*Eremophila alpestris*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|-------|------|------|------|-------|-------|-------|-------|-------|-------|-------|
| First | | | | | 4-10 | | | | | | | | | | | 4-10 | | | | 10-23 | | 10-30 | | | | 9-27 | 10-22 | 10-26 | 10-21 | 10-31 | 10-26 | 10-22 |
| Peak | | | | | 4-10 | | | | | | | | | | | 4-10 | | | | 10-23 | | 10-30 | | | | 9-27 | 11-4 | 10-26 | 11-4 | 10-31 | 11-6 | 10-26 |
| Last | | | | | 4-10 | | | | | | | | | | | 4-10 | | | | 10-23 | | 10-30 | | | | 10-28 | 11-6 | 11-3 | 11-4 | 11-4 | 11-6 | 11-1 |
| Span | | | | | 1 | | | | | | | | | | | 1 | | | | 1 | | 1 | | | | 32 | 16 | 9 | 15 | 5 | 12 | 11 |
| # days | | | | | 1 | | | | | | | | | | | 1 | | | | 1 | | 1 | | | | 2 | 8 | 2 | 2 | 3 | 2 | 3 |
| % days | | | | | 1 | | | | | | | | | | | 1 | | | | 1 | | 1 | | | | 2 | 8 | 2 | 2 | 3 | 2 | 3 |
| High | | | | | 2 | | | | | | | | | | | 2 | | | | 20 | | 10 | | | | 2 | 58 | 1 | 8 | 4 | 3 | 13 |
| Total | | | | | 2 | | | | | | | | | | | 0 | | | | 20 | | 10 | | | | 3 | 151 | 2 | 11 | 9 | 5 | 14 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | | | |
|------|-----|------|-----|-----|------|------|----|------|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--|--|--|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | 0.08 | 0.02 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | 1.3 | 0.7 | | | | 0.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | 0.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | 0.3 | | | | 0.04 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | 0.6 | | | | | 0.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | 0.4 | | | | | 0.06 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | 0.2 | 0.07 | | | 0.01 | 0.06 | | 0.02 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Horned Lark has primarily been observed at MBO between October and December. There is only one spring record, of two individuals on 10 April 2009. In the first 9 years, there were only two fall sightings, of flocks passing by in late October in 2008 and 2010. Since 2014, Horned Lark has been seen annually in fall, benefitting from the addition of Week 14, although also observed earlier in each of those years except 2018. Numbers were especially high in 2015, including a record-high total of 58 across several flocks on 4 November. Late fall migrants have been recorded later in November or December in four years, and once, in 2006, early spring migrants were spotted in March.

BANS: Bank Swallow / Hirondelle de rivage (*Riparia riparia*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | 4-18 | | 5-1 | 5-27 | 5-13 | 5-10 | 5-12 | 4-24 | | | 5-10 | 5-18 | | | 5-8 | 5-8 | 8-9 | | | | | 8-31 | 8-1 | | 8-7 | | 8-5 | 8-5 | | 9-3 | 9-5 | 8-16 |
| Peak | 4-18 | | 5-27 | 5-27 | 5-19 | 5-18 | 6-1 | 4-24 | | | 5-10 | 5-18 | | | 5-15 | 5-14 | 8-21 | | | | | 8-31 | 8-1 | | 8-7 | | 8-12 | 8-5 | | 9-3 | 9-5 | 8-18 |
| Last | 5-17 | | 6-5 | 5-27 | 5-19 | 5-24 | 6-1 | 5-5 | | | 5-30 | 5-18 | | | 5-15 | 5-22 | 8-21 | | | | | 8-31 | 8-19 | | 8-7 | | 8-22 | 8-17 | | 9-3 | 9-5 | 8-23 |
| Span | 30 | | 36 | 1 | 7 | 15 | 21 | 12 | | | 21 | 1 | | | 8 | 15 | 13 | | | | | 1 | 19 | | 1 | | 18 | 13 | | 1 | 1 | 8 |
| # days | 2 | | 4 | 1 | 2 | 6 | 7 | 2 | | | 4 | 1 | | | 4 | 3 | 2 | | | | | 1 | 2 | | 1 | | 3 | 2 | | 1 | 1 | 2 |
| % days | 3 | | 6 | 1 | 3 | 9 | 10 | 3 | | | 6 | 1 | | | 6 | 5 | 2 | | | | | 1 | 2 | | 1 | | 3 | 2 | | 1 | 1 | 2 |
| High | 1 | | 2 | 2 | 3 | 2 | 4 | 1 | | | 2 | 1 | | | 2 | 2 | 6 | | | | | 5 | 4 | | 2 | | 2 | 1 | | 1 | 2 | 3 |
| Total | 2 | | 7 | 2 | 5 | 11 | 17 | 2 | | | 6 | 1 | | | 5 | 4 | 7 | | | | | 5 | 6 | | 2 | | 5 | 2 | | 1 | 2 | 2 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|------|------|------|-----|-----|-----|-----|------|-----|-----|----|------|------|------|------|------|------|-----|----|----|-----|-----|-----|-----|-----|------|------|--|
| 2005 | | | | | | | | | | 0.2 | | | | 0.1 | | | 0.03 | | | | | 0.1 | 0.9 | | | | | | | | | | | | 0.08 | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | 0.1 | | | | 0.6 | 0.3 | 0.1 | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | 0.3 | | 0.03 | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | 0.3 | 0.4 | | | 0.07 | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | 0.1 | 1.1 | 0.3 | | 0.2 | | | | | | | | 0.7 | | | | | | | | | | 0.05 | | |
| 2011 | | | | | | | | | | | | | 0.3 | | 1.0 | 1.1 | 0.2 | | | | 0.6 | | 0.3 | | | | | | | | | | | | 0.07 | | |
| 2012 | | | | | | | | | | 0.1 | | 0.1 | | | | | 0.03 | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | 0.3 | | | | | | | | | | | | | | | 0.02 | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | 0.3 | 0.3 | 0.1 | 0.1 | 0.09 | | | | 0.1 | 0.3 | | 0.3 | | | | | | | | | | | 0.05 | | |
| 2016 | | | | | | | | | | | | | | 0.1 | | | 0.01 | | | | 0.1 | | 0.1 | | | | | | | | | | | | 0.02 | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | | 0.01 | |
| 2019 | | | | | | | | | | | | 0.1 | 0.6 | | | | 0.07 | | | | | | | | | | 0.3 | | | | | | | | | 0.02 | |
| Mean | | | | | | | | | | 0.02 | 0.01 | 0.02 | 0.1 | 0.1 | 0.2 | 0.1 | 0.06 | | | | 0.08 | 0.03 | 0.09 | 0.02 | 0.06 | 0.02 | | | | | | | | | 0.02 | | |

Bank Swallow is a rare spring and fall migrant at MBO, with spring sightings in 10 years and fall sightings in eight years. Twice there have been early sightings in April, but otherwise all spring sightings have been in May or early June, on average peaking in mid-late May. All fall observations between 2005 and 2016 were in August, whereas the two records in 2018 and 2019 were both in the first week of September.

TRES: Tree Swallow / Hirondelle bicolore (*Tachycineta bicolor*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | 4-9 | 4-9 | 4-19 | 4-11 | 4-11 | 4-2 | 4-12 | 3-31 | 4-10 | 4-12 | 4-12 | 4-2 | 4-10 | 4-19 | 4-12 | 4-10 | 8-5 | 8-1 | 8-2 | 8-5 | 8-1 | 8-4 | 8-1 | 8-2 | 8-2 | 8-1 | 8-1 | 8-3 | 8-8 | 8-5 | 8-9 | 8-3 |
| Peak | 5-8 | 5-10 | 5-20 | 4-20 | 5-13 | 5-4 | 4-24 | 4-26 | 5-17 | 5-6 | 4-22 | 5-15 | 5-2 | 4-27 | 5-8 | 5-4 | 8-21 | 8-22 | 8-18 | 8-12 | 8-5 | 8-4 | 8-3 | 8-8 | 8-25 | 8-15 | 8-28 | 8-7 | 8-9 | 8-27 | 8-30 | 8-15 |
| Last | 6-3 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-4 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-4 | 9-30 | 10-10 | 9-19 | 8-22 | 9-11 | 9-17 | 9-27 | 8-26 | 9-9 | 9-9 | 8-31 | 9-13 | 8-31 | 8-27 | 9-5 | 9-10 |
| Span | 56 | 58 | 48 | 56 | 56 | 65 | 55 | 67 | 57 | 54 | 55 | 65 | 57 | 48 | 55 | 57 | 57 | 71 | 49 | 18 | 42 | 45 | 58 | 25 | 39 | 40 | 31 | 42 | 24 | 23 | 28 | 39 |
| # days | 55 | 58 | 47 | 53 | 55 | 62 | 51 | 57 | 53 | 50 | 55 | 55 | 54 | 47 | 53 | 54 | 20 | 17 | 16 | 11 | 8 | 9 | 21 | 12 | 10 | 18 | 19 | 18 | 7 | 9 | 6 | 13 |
| % days | 93 | 84 | 67 | 76 | 80 | 89 | 73 | 81 | 76 | 74 | 79 | 79 | 77 | 67 | 76 | 78 | 23 | 19 | 18 | 12 | 9 | 10 | 23 | 13 | 11 | 20 | 19 | 18 | 7 | 9 | 6 | 14 |
| High | 35 | 45 | 45 | 22 | 22 | 20 | 63 | 23 | 27 | 23 | 26 | 15 | 22 | 42 | 40 | 31 | 12 | 11 | 58 | 7 | 3 | 9 | 22 | 6 | 20 | 70 | 13 | 32 | 10 | 6 | 3 | 19 |
| Total | 823 | 824 | 960 | 681 | 620 | 748 | 599 | 484 | 300 | 398 | 445 | 496 | 643 | 667 | 906 | 640 | 79 | 64 | 102 | 35 | 15 | 36 | 97 | 29 | 39 | 143 | 66 | 180 | 25 | 28 | 12 | 63 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|------|-----|-----|------|------|------|------|------|------|------|------|------|-----|------|-----|-----|------|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|----|
| 2005 | | | | | | | | 2.3 | 5.3 | 12.8 | 10.3 | 19.3 | 18.7 | 20.9 | 17.7 | 17.4 | 13.9 | 8.7 | 2.1 | 5.3 | 0.1 | 2.9 | 2.4 | 1.0 | 0.6 | 1.4 | 0.4 | 2.1 | 0.3 | | | | | 0.9 | |
| 2006 | | | | | | | | 1.3 | 7.6 | 16.0 | 16.6 | 15.1 | 24.6 | 12.6 | 14.1 | 10.0 | 11.9 | 9.6 | 5.9 | 7.6 | 2.1 | 2.4 | 2.1 | 1.9 | 0.3 | | | 0.1 | | 0.1 | | | | 0.7 | |
| 2007 | | | | | | | | | | 5.7 | 16.0 | 26.6 | 27.9 | 22.4 | 22.4 | 16.1 | 13.7 | 16.1 | 5.7 | 11.3 | 0.7 | 1.1 | 10.7 | 1.3 | | | 0.6 | 0.1 | | | | | | 1.1 | |
| 2008 | | | | | | | | | 2.6 | 13.0 | 12.4 | 14.7 | 15.1 | 13.4 | 14.4 | 11.6 | 9.7 | 7.6 | 4.8 | 6.2 | 0.3 | 2.9 | 1.6 | 0.3 | | | | | | | | | | 0.4 | |
| 2009 | | | | | | | | | 1.9 | 4.9 | 13.9 | 14.7 | 17.3 | 14.0 | 12.6 | 9.4 | 9.0 | 9.3 | | 4.0 | 0.9 | | 0.3 | 0.3 | 0.3 | 0.4 | | | | | | | | 0.2 | |
| 2010 | | | | | | | 0.3 | 2.7 | 5.3 | 13.4 | 12.1 | 15.1 | 14.9 | 18.4 | 14.4 | 10.1 | 10.7 | 1.0 | | 0.3 | 2.3 | 1.6 | | 0.1 | | 0.6 | 0.6 | | | | | | | 0.4 | |
| 2011 | | | | | | | | | 1.3 | 15.0 | 12.6 | 11.1 | 9.4 | 9.1 | 20.3 | 6.7 | 8.6 | 5.0 | 3.8 | 4.3 | 3.7 | 3.0 | 0.7 | 2.9 | 1.0 | | 2.0 | 0.4 | 0.1 | | | | | 1.1 | |
| 2012 | | | | | | | 0.3 | 0.3 | 3.0 | 5.3 | 8.6 | 13.7 | 11.0 | 9.7 | 9.3 | 8.0 | 6.9 | 1.5 | | 0.8 | 1.0 | 1.9 | 0.7 | 0.6 | | | | | | | | | | 0.3 | |
| 2013 | | | | | | | | 0.3 | 2.4 | 7.0 | 5.3 | 5.7 | 5.9 | 10.0 | 3.1 | 4.3 | 1.0 | 1.5 | 1.3 | 0.4 | | 1.3 | 3.4 | 0.3 | 0.1 | | | | | | | | | 0.4 | |
| 2014 | | | | | | | | | 0.9 | 7.0 | 7.0 | 11.4 | 9.6 | 8.4 | 7.9 | 5.5 | 5.9 | 2.7 | 0.8 | 1.6 | 1.4 | 0.7 | 16.7 | 0.7 | 0.4 | 0.4 | | | | | | | | 1.6 | |
| 2015 | | | | | | | | | 6.0 | 9.6 | 12.1 | 10.6 | 7.3 | 7.0 | 6.0 | 5.0 | 6.4 | 1.7 | 1.0 | 1.3 | 1.6 | 1.0 | 1.6 | 4.0 | 1.3 | | | | | | | | | 0.7 | |
| 2016 | | | | | | | 0.3 | | 3.1 | 8.6 | 9.4 | 8.6 | 11.0 | 10.3 | 12.0 | 7.6 | 7.1 | 6.3 | 0.5 | 3.4 | 6.0 | 3.7 | 11.3 | 3.6 | 1.0 | | 0.1 | | | | | | | 1.8 | |
| 2017 | | | | | | | | 0.4 | 4.4 | 11.7 | 13.1 | 11.9 | 13.7 | 12.6 | 14.0 | 10.0 | 9.2 | 4.3 | 3.5 | 3.9 | | 2.0 | 0.4 | 0.3 | 0.9 | | | | | | | | | 0.3 | |
| 2018 | | | | | | | | | 7.0 | 17.3 | 18.1 | 15.9 | 14.6 | 12.7 | 9.7 | 9.5 | 4.0 | 0.8 | 2.1 | 0.1 | 1.0 | 0.1 | 2.7 | | | | | | | | | | | 0.3 | |
| 2019 | | | | | | | | | 2.0 | 14.0 | 19.9 | 24.0 | 18.9 | 20.0 | 18.9 | 11.9 | 12.9 | 12.0 | 2.5 | 6.6 | | 0.3 | | | 1.1 | 0.3 | | | | | | | | 0.1 | |
| Mean | | | | | | | 0.06 | 0.5 | 3.0 | 10.0 | 12.4 | 14.7 | 14.7 | 13.6 | 13.3 | 9.4 | 9.3 | 7.4 | 2.6 | 4.8 | 1.4 | 1.6 | 3.3 | 1.5 | 0.5 | 0.2 | 0.2 | 0.2 | 0.03 | 0.01 | | | | 0.7 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|------|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|
| 2005 | | | | | | | | | | 1 | | 3 | 1 | 1 | 3 | 1 | 10 | 1 | | 1 | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | 2 | | 1 | 2 | | | | 5 | 9 | | 9 | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | 2 | 1 | 1 | | 4 | 30 | 4 | 34 | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | 1 | 5 | | 3 | 1 | 2 | 4 | | 16 | 12 | 4 | 16 | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | 4 | 3 | 3 | 1 | | 11 | 24 | | 24 | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | 3 | 3 | 3 | 3 | 3 | 1 | | 2 | 15 | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | 2 | | | 1 | 1 | | | 4 | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | 1 | 2 | 4 | 3 | | | | 13 | 11 | | 11 | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | 1 | | 2 | | | 3 | 4 | | 4 | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | 1 | 5 | 2 | 1 | 1 | 10 | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | 2 | 1 | | | 3 | 8 | | 8 | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | 1 | 3 | | | 4 | 14 | | 14 | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | 1 | | 2 | 2 | 3 | | | 8 | 21 | 4 | 25 | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | 3 | 2 | 4 | 2 | | | 11 | 38 | 5 | 43 | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | 1 | 2 | 3 | 3 | 2 | 4 | | 13 | 26 | 7 | 33 | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | 0.8 | 1.0 | 1.8 | 2.0 | 1.7 | 1.1 | 0.3 | 8.7 | 13.2 | 1.6 | 14.8 | | | | | | | | | | | | | | | |

Tree Swallow is by far the most common swallow at MBO, and also present over the longest period, from early spring until mid-fall. Except for a sighting on the last day of March in 2012, when spring was exceptionally early, the first spring migrants have always been spotted in the first three weeks of April. The peak of spring migration varies between Weeks 5 and 9, tending to shift somewhat earlier over time. In summer, numbers drop off notably in July after breeding birds disperse. Fall counts are far lower, almost always peaking modestly at some point in August. Sightings extended past Week 6 in five of the first seven years, but only once since. Tree Swallow has been banded annually in spring, though commonly in larger numbers in summer when nestlings are often banded. Spring and summer numbers have recently started to rebound after a number of below-average years.

NRWS: Northern Rough-winged Swallow / Hironde à ailes hérissées (*Stelgidopteryx serripennis*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | 5-24 | 5-2 | 5-6 | 5-9 | 5-4 | 5-6 | 5-13 | 5-5 | 5-4 | 5-16 | 5-6 | 5-1 | 5-20 | 5-12 | 5-1 | 5-8 | 9-9 | | 8-18 | 8-6 | | | 8-11 | | 8-12 | 8-8 | | | 8-20 | 8-27 | 9-1 | 8-19 |
| Peak | 5-24 | 5-10 | 5-26 | 5-15 | 5-4 | 5-21 | 5-14 | 5-5 | 5-15 | 5-16 | 5-6 | 5-1 | 5-20 | 5-12 | 5-1 | 5-12 | 9-9 | | 8-18 | 8-15 | | | 8-11 | | 8-12 | 8-8 | | | 8-20 | 8-27 | 9-1 | 8-20 |
| Last | 5-24 | 5-28 | 6-1 | 5-29 | 6-5 | 5-23 | 6-3 | 5-5 | 5-31 | 5-31 | 5-9 | 5-13 | 5-30 | 5-27 | 5-26 | 5-25 | 9-9 | | 8-18 | 8-15 | | | 8-11 | | 8-25 | 8-8 | | | 8-20 | 8-27 | 9-1 | 8-21 |
| Span | 1 | 27 | 27 | 21 | 33 | 18 | 22 | 1 | 28 | 16 | 4 | 13 | 11 | 16 | 26 | 18 | 1 | | 1 | 10 | | | 1 | | 14 | 1 | | 1 | 1 | 1 | 3 | |
| # days | 1 | 18 | 12 | 9 | 2 | 4 | 8 | 1 | 4 | 4 | 3 | 2 | 3 | 2 | 4 | 5 | 1 | | 1 | 3 | | | 1 | | 2 | 1 | | 1 | 1 | 1 | 1 | |
| % days | 2 | 26 | 17 | 13 | 3 | 6 | 11 | 1 | 6 | 6 | 4 | 3 | 4 | 3 | 6 | 7 | 1 | | 1 | 3 | | | 1 | | 2 | 1 | | 1 | 1 | 1 | 1 | |
| High | 1 | 12 | 7 | 4 | 1 | 2 | 2 | 1 | 3 | 2 | 1 | 2 | 1 | 1 | 1 | 3 | 1 | | 3 | 7 | | | 2 | | 3 | 1 | | 4 | 1 | 1 | 3 | |
| Total | 1 | 61 | 24 | 20 | 2 | 5 | 12 | 1 | 7 | 7 | 3 | 3 | 3 | 2 | 4 | 10 | 1 | | 3 | 15 | | | 2 | | 4 | 1 | | 4 | 1 | 1 | 2 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|------|-----|-----|-----|-----|------|------|-----|------|-----|------|------|-----|------|------|------|----|----|----|-----|-----|-----|-----|-----|------|------|
| 2005 | | | | | | | | | | | | | | | 0.1 | | 0.02 | | 0.2 | 0.1 | | | | | | 0.1 | | | | | | | | | 0.01 | |
| 2006 | | | | | | | | | | | | 3.4 | 4.3 | 0.4 | 0.6 | | 0.9 | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | 0.1 | 0.7 | 0.3 | 1.9 | 0.4 | 0.3 | 2.4 | | 1.3 | | | 0.4 | | | | | | | | | | | | 0.03 | |
| 2008 | | | | | | | | | | | | | 1.3 | 1.4 | 0.1 | | 0.3 | | | | 1.1 | | 1.0 | | | | | | | | | | | | 0.2 | |
| 2009 | | | | | | | | | | | | 0.1 | | | | 0.1 | 0.03 | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | 0.1 | 0.1 | 0.3 | 0.1 | | 0.07 | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | 0.6 | 0.1 | 0.3 | 0.7 | 0.2 | | | | | 0.3 | | | | | | | | | | | | | 0.02 | |
| 2012 | | | | | | | | | | | | 0.1 | | | | | 0.01 | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | 0.3 | 0.4 | 0.1 | | 0.1 | 0.1 | | | | | 0.4 | | 0.1 | | | | | | | | | | | 0.04 | |
| 2014 | | | | | | | | | | | | | | 0.6 | 0.3 | 0.2 | 0.1 | | | | | 0.1 | | | | | | | | | | | | | | 0.01 |
| 2015 | | | | | | | | | | | | 0.3 | 0.1 | | | | 0.04 | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | 0.3 | | 0.1 | | | | 0.04 | 0.3 | | 0.1 | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | 0.1 | 0.1 | 0.1 | 0.04 | | | | | | 0.6 | | | | | | | | | | | | | 0.04 |
| 2018 | | | | | | | | | | | | | 0.1 | | 0.1 | 0.1 | 0.03 | | | | | | | 0.1 | | | | | | | | | | | | 0.01 |
| 2019 | | | | | | | | | | | 0.1 | | 0.1 | 0.1 | 0.1 | 0.06 | | | | | | | | | 0.1 | | | | | | | | | | | 0.01 |
| Mean | | | | | | | | | | | 0.03 | 0.3 | 0.5 | 0.2 | 0.3 | 0.1 | 0.1 | 0.2 | 0.05 | 0.1 | 0.08 | 0.06 | 0.1 | 0.02 | 0.01 | 0.01 | | | | | | | | | 0.02 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|-----|-----|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--|--|
| 2005 | | | | | | | | | | | | | | | 1 | | 1 | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | 1 | | 1 | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | 2 | | | 2 | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | 0.1 | 0.1 | | 0.3 | | | | | | | | | | | | | | | | | | | | | |

Northern Rough-winged Swallow is a migrant at MBO, observed annually in spring, but only in three years in summer and nine years in fall. Spring sightings have generally been scarce, aside from more frequent sightings and larger peak counts in 2006 to 2008. The species has never been observed before the beginning of May, and only three times have sightings lingered into early June, although there were also observations in the first half of summer in 2007 and 2016. Fall sightings have varied without much pattern, all within a span of just over one month between 6 August and 9 September. Only four individuals have been banded, all in spring.

PUMA: Purple Martin / Hirondelle noire (*Progne subis*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | 5-17 | 5-9 | 5-19 | 5-21 | 5-14 | | | | 5-21 | 5-19 | 5-31 | | | | | 5-18 | 8-7 | 8-1 | 8-15 | 8-1 | | | 8-12 | 8-5 | 8-4 | 8-6 | 8-1 | 8-3 | 8-9 | 8-5 | 8-7 | 8-5 |
| Peak | 5-17 | 5-9 | 5-19 | 5-28 | 5-14 | | | | 5-21 | 5-19 | 5-31 | | | | | 5-19 | 8-11 | 8-15 | 8-15 | 8-1 | | | 8-12 | 8-14 | 8-22 | 8-21 | 8-6 | 8-17 | 8-9 | 8-8 | 9-4 | 8-14 |
| Last | 5-25 | 5-9 | 5-31 | 5-28 | 5-14 | | | | 5-21 | 5-19 | 5-31 | | | | | 5-22 | 8-24 | 8-31 | 8-26 | 8-31 | | | 8-12 | 8-18 | 8-27 | 8-24 | 8-24 | 8-19 | 8-27 | 8-27 | 9-4 | 8-25 |
| Span | 9 | 1 | 13 | 8 | 1 | | | | 1 | 1 | 1 | | | | | 4 | 18 | 31 | 12 | 31 | | | 1 | 14 | 24 | 19 | 24 | 17 | 19 | 23 | 29 | 20 |
| # days | 3 | 1 | 2 | 2 | 1 | | | | 1 | 1 | 1 | | | | | 2 | 11 | 21 | 5 | 19 | | | 1 | 4 | 6 | 4 | 11 | 6 | 8 | 9 | 9 | 9 |
| % days | 5 | 1 | 3 | 3 | 1 | | | | 1 | 1 | 1 | | | | | 2 | 12 | 23 | 5 | 21 | | | 1 | 4 | 7 | 4 | 11 | 6 | 8 | 9 | 9 | 9 |
| High | 4 | 1 | 1 | 2 | 1 | | | | 1 | 1 | 1 | | | | | 2 | 7 | 8 | 25 | 12 | | | 1 | 8 | 5 | 6 | 4 | 5 | 10 | 8 | 28 | 10 |
| Total | 6 | 1 | 2 | 3 | 1 | | | | 1 | 1 | 1 | | | | | 1 | 32 | 73 | 38 | 54 | | | 1 | 18 | 14 | 10 | 19 | 10 | 28 | 26 | 51 | 25 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|----|----|----|----|-----|-----|-----|-----|-----|-----|------|-----|
| 2005 | | | | | | | | | | | | | | 0.7 | 0.1 | | 0.1 | | | | 0.7 | 3.0 | 0.6 | 0.3 | | | | | | | | | | 0.4 | | | |
| 2006 | | | | | | | | | | | | | 0.1 | | | | 0.01 | 0.2 | | 0.09 | 3.1 | 3.6 | 3.1 | 0.4 | 0.1 | | | | | | | | | 0.8 | | | |
| 2007 | | | | | | | | | | | | | | 0.1 | | 0.1 | 0.03 | | | | | | 5.1 | 0.3 | | | | | | | | | | | 0.4 | | |
| 2008 | | | | | | | | | | | | | | 0.1 | 0.3 | | 0.04 | | 0.2 | 0.1 | 4.9 | 1.3 | 1.4 | | 0.1 | | | | | | | | | | 0.6 | | |
| 2009 | | | | | | | | | | | | | 0.1 | | | | 0.01 | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | | | | 0.01 | |
| 2012 | | | | | | | | | | | | | | | | | | | | | 0.1 | 2.0 | 0.4 | | | | | | | | | | | | | 0.2 | |
| 2013 | | | | | | | | | | | | | | 0.1 | | | 0.01 | | | | 0.9 | | 0.3 | 0.9 | | | | | | | | | | | 0.2 | | |
| 2014 | | | | | | | | | | | | | | 0.1 | | | 0.01 | | | | 0.3 | | 1.0 | 0.1 | | | | | | | | | | | | 0.1 | |
| 2015 | | | | | | | | | | | | | | | | 0.1 | 0.01 | | | | 0.9 | 0.9 | 0.6 | 0.4 | | | | | | | | | | | | 0.2 | |
| 2016 | | | | | | | | | | | | | | | | | | | | | 0.3 | 0.1 | 1.0 | | | | | | | | | | | | | | 0.1 |
| 2017 | | | | | | | | | | | | | | | | | | | | | | 3.1 | 0.4 | 0.4 | | | | | | | | | | | | | 0.3 |
| 2018 | | | | | | | | | | | | | | | | | | | | | 0.1 | 1.3 | 0.4 | 1.9 | | | | | | | | | | | | | 0.3 |
| 2019 | | | | | | | | | | | | | | | | | | | | | 0.3 | 2.4 | 0.6 | | 4.0 | | | | | | | | | | | | 0.5 |
| Mean | | | | | | | | | | | | | 0.02 | 0.09 | 0.03 | 0.02 | 0.02 | 0.03 | 0.01 | 0.02 | 0.8 | 1.2 | 1.0 | 0.3 | 0.3 | | | | | | | | | | 0.3 | | |

Purple Martin was observed annually in spring for the first five years, then missed for the next three. Single individuals were then observed annually from 2013 through 2015, and none since. The only summer records were in 2006 and 2008. Purple Martin is the only swallow that is routinely observed in larger numbers in fall. It has been missed only twice, in 2009 and 2010; numbers were highest from 2005 to 2008, but have been steadily increasing again since 2011. Fall counts have most often peaked in the first half of August, but in the past two years numbers have been highest in late August and early September.

BARS: Barn Swallow / Hirondelle rustique (*Hirundo rustica*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | 4-19 | 4-21 | 4-24 | 4-19 | 4-15 | 4-21 | 4-24 | 4-29 | 4-29 | 5-2 | 4-19 | 4-19 | 5-3 | 4-27 | 4-19 | 4-23 | 8-9 | 8-2 | 8-1 | 8-4 | 8-1 | 8-2 | 8-3 | 8-8 | 8-7 | 8-1 | 8-2 | 8-4 | 8-6 | 8-7 | 8-3 | |
| Peak | 5-16 | 5-14 | 5-3 | 5-20 | 5-2 | 5-26 | 5-25 | 5-3 | 5-11 | 5-19 | 5-14 | 5-10 | 5-18 | 5-8 | 5-26 | 5-14 | 8-17 | 8-7 | 8-26 | 8-16 | 8-14 | 8-4 | 8-12 | 8-11 | 8-27 | 8-19 | 8-25 | 8-17 | 8-20 | 8-14 | 8-8 | 8-15 |
| Last | 5-20 | 5-26 | 6-1 | 5-30 | 5-28 | 6-5 | 6-1 | 6-1 | 5-31 | 6-1 | 5-29 | 5-30 | 5-24 | 6-1 | 6-5 | 5-30 | 9-7 | 9-5 | 8-30 | 8-18 | 8-26 | 8-15 | 8-23 | 8-11 | 8-27 | 8-27 | 9-21 | 9-13 | 8-25 | 9-4 | 9-5 | 8-29 |
| Span | 32 | 36 | 39 | 42 | 44 | 46 | 39 | 34 | 33 | 31 | 41 | 42 | 22 | 36 | 48 | 38 | 30 | 35 | 30 | 15 | 26 | 14 | 22 | 9 | 20 | 21 | 52 | 43 | 22 | 30 | 30 | 27 |
| # days | 11 | 19 | 22 | 17 | 11 | 16 | 14 | 23 | 13 | 14 | 13 | 15 | 7 | 20 | 24 | 16 | 5 | 12 | 12 | 8 | 7 | 4 | 6 | 4 | 4 | 6 | 21 | 16 | 12 | 16 | 11 | 10 |
| % days | 19 | 28 | 31 | 24 | 16 | 23 | 20 | 33 | 19 | 21 | 19 | 21 | 10 | 29 | 34 | 23 | 6 | 13 | 13 | 9 | 8 | 4 | 7 | 4 | 4 | 7 | 21 | 16 | 12 | 16 | 11 | 10 |
| High | 6 | 5 | 4 | 5 | 3 | 3 | 7 | 2 | 4 | 5 | 4 | 2 | 2 | 3 | 5 | 4 | 3 | 7 | 25 | 5 | 2 | 4 | 16 | 5 | 16 | 8 | 17 | 19 | 13 | 16 | 11 | 11 |
| Total | 27 | 37 | 45 | 31 | 16 | 24 | 33 | 31 | 24 | 26 | 21 | 17 | 8 | 28 | 48 | 28 | 10 | 31 | 69 | 18 | 8 | 7 | 44 | 9 | 21 | 19 | 101 | 74 | 48 | 85 | 41 | 39 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|-----|-----|-----|-----|-----|------|------|------|----|-----|-----|-----|-----|-----|------|
| 2005 | | | | | | | | | | 0.3 | | 0.4 | 0.6 | 2.6 | | | 0.5 | 0.06 | | 0.03 | | 0.1 | 0.6 | 0.4 | | 0.3 | | | | | | | | | 0.1 |
| 2006 | | | | | | | | | | 0.4 | 0.1 | 1.3 | 2.0 | 1.0 | 0.4 | | 0.5 | | 0.08 | 0.05 | 2.0 | 0.3 | 1.6 | | 0.1 | 0.4 | | | | | | | | | 0.3 |
| 2007 | | | | | | | | | | 0.1 | 0.4 | 1.4 | 1.7 | 1.6 | 1.0 | 0.1 | 0.6 | | | | 1.4 | 0.9 | 3.0 | 4.4 | 0.1 | | | | | | | | | | 0.8 |
| 2008 | | | | | | | | | | 0.1 | 0.3 | | 1.4 | 2.0 | 0.4 | 0.1 | 0.4 | | 0.8 | 0.4 | 0.4 | 1.1 | 1.0 | | | | | | | | | | | | 0.2 |
| 2009 | | | | | | | | | 0.1 | | | 0.4 | 0.7 | 0.3 | 0.7 | | 0.2 | | | | 0.1 | 0.3 | 0.4 | 0.3 | | | | | | | | | | | 0.09 |
| 2010 | | | | | | | | | 0.1 | | | 0.4 | 0.4 | 0.9 | 1.4 | 0.1 | 0.3 | | | | 0.7 | 0.1 | 0.1 | | | | | | | | | | | | 0.08 |
| 2011 | | | | | | | | | 0.3 | | | | 1.4 | 0.7 | 1.6 | 0.7 | 0.5 | | | | 0.3 | 4.3 | 0.7 | 1.0 | | | | | | | | | | | 0.5 |
| 2012 | | | | | | | | | | 0.3 | 1.1 | 1.1 | 0.9 | 0.9 | 0.1 | 0.4 | | | | | 0.4 | 0.9 | | | | | | | | | | | | | 0.1 |
| 2013 | | | | | | | | | | 0.3 | | 1.7 | 1.0 | 0.3 | 0.1 | 0.3 | | | | | | 0.1 | 0.3 | 2.6 | | | | | | | | | | | 0.2 |
| 2014 | | | | | | | | | | | | 0.6 | 0.3 | 1.7 | 0.4 | 0.8 | 0.4 | | | | 0.3 | 0.1 | 1.1 | 1.1 | | | | | | | | | | | 0.2 |
| 2015 | | | | | | | | | | 0.1 | | 0.4 | 1.7 | 0.4 | 0.3 | | 0.3 | | | | 1.9 | 2.7 | 2.1 | 6.9 | 0.6 | 0.1 | | 0.1 | | | | | | | 1.0 |
| 2016 | | | | | | | | | | 0.1 | | | 0.9 | 0.9 | 0.4 | 0.1 | 0.2 | | | | 2.4 | 1.4 | 4.0 | 2.0 | 0.6 | | 0.1 | | | | | | | | 0.8 |
| 2017 | | | | | | | | | | | | 0.1 | 0.3 | 0.6 | 0.1 | | 0.1 | 0.3 | 1.3 | 0.9 | 0.3 | 2.4 | 3.6 | 0.6 | | | | | | | | | | | 0.5 |
| 2018 | | | | | | | | | | 0.4 | 1.6 | 0.9 | 0.7 | 0.3 | 0.1 | 0.4 | | | | | 0.1 | 5.3 | 3.6 | 2.6 | 0.6 | | | | | | | | | | 0.9 |
| 2019 | | | | | | | | | | 0.3 | 0.3 | 1.0 | 0.9 | 1.0 | 2.4 | 1.0 | 0.7 | 0.3 | | 0.1 | 0.3 | 2.7 | 0.4 | 2.1 | | 0.3 | | | | | | | | | 0.4 |
| Mean | | | | | | | | | 0.01 | 0.1 | 0.1 | 0.6 | 1.1 | 1.1 | 0.7 | 0.2 | 0.4 | 0.04 | 0.1 | 0.08 | 0.7 | 1.5 | 1.5 | 1.6 | 0.1 | 0.08 | 0.01 | 0.01 | | | | | | | 0.4 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|------|----|----|-----|------|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | 0.07 | | | | 0.07 | | | | | | | | | | | | | | | | | | | | |

Like Tree Swallow, Barn Swallow has been observed at MBO every spring and fall, but it differs in being far less numerous in both those seasons, and generally absent in summer. Spring arrivals were somewhat later than usual from 2011 to 2013, and again in 2017 and 2018, but otherwise are typically just after mid-April. Peak counts in spring vary within May, but are most common around mid-month. Summer sightings tend to be late spring or early fall migrants. In fall, numbers tend to be highest from Weeks 2 to 4, and very scarce beyond August, with only two observations beyond the first week of September. In both spring and fall, numbers have fluctuated over the years without any overall trend.

CLSW: Cliff Swallow / Hirondelle à front blanc (*Petrochelidon pyrrhonota*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|---------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | 5-7 | 5-5 | 5-1 | 4-21 | 4-20 | 4-24 | 4-22 | 5-1 | 5-1 | 5-3 | 4-29 | 4-25 | 4-26 | 5-4 | 5-6 | 4-29 | 8-1 | | 8-15 | 8-2 | | | 8-3 | | | 8-10 | 8-24 | 8-17 | 8-20 | 8-16 | | 8-12 |
| Peak | 5-27 | 5-10 | 5-1 | 5-9 | 5-15 | 5-23 | 5-25 | 5-25 | 6-4 | 5-25 | 5-29 | 5-23 | 5-12 | 5-27 | 5-31 | 5-21 | 8-1 | | 8-15 | 8-6 | | | 8-11 | | | 8-16 | 8-24 | 8-17 | 8-25 | 8-17 | | 8-14 |
| Last | 5-27 | 6-4 | 6-4 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-3 | 6-3 | 6-4 | 6-5 | 6-5 | 6-3 | 6-3 | 9-9 | | 8-15 | 8-6 | | | 8-11 | | | 8-27 | 8-24 | 8-18 | 8-25 | 8-18 | | 8-20 |
| Span | 21 | 31 | 35 | 46 | 47 | 43 | 45 | 36 | 36 | 32 | 36 | 41 | 41 | 33 | 29 | 37 | 40 | | 1 | 5 | | | 9 | | | 18 | 1 | 2 | 6 | 3 | | 9 |
| # days | 5 | 13 | 23 | 36 | 39 | 38 | 31 | 27 | 31 | 29 | 35 | 35 | 26 | 24 | 25 | 28 | 5 | | 1 | 2 | | | 2 | | | 3 | 1 | 2 | 2 | 3 | | 2 |
| % days | 8 | 19 | 33 | 51 | 57 | 54 | 44 | 39 | 44 | 43 | 50 | 50 | 37 | 34 | 36 | 40 | 6 | | 1 | 2 | | | 2 | | | 3 | 1 | 2 | 2 | 3 | | 2 |
| High | 30 | 150 | 50 | 55 | 99 | 72 | 40 | 18 | 30 | 22 | 34 | 40 | 12 | 25 | 39 | 48 | 12 | | 22 | 14 | | | 2 | | | 5 | 2 | 3 | 4 | 10 | | 8 |
| Total | 41 | 351 | 476 | 783 | 681 | 854 | 337 | 172 | 319 | 305 | 629 | 509 | 125 | 199 | 281 | 404 | 32 | | 22 | 21 | | | 3 | | | 8 | 2 | 5 | 6 | 20 | | 8 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|-------------|-----|-----|-----|-----|-----|----|----|----|-----|-----|------|------|------|------|-----|------|-----|------|------|-----|-----|-----|------|-----|-----|-----|----|----|----|-----|-----|-----|------|------|-----|
| 2005 | | | | | | | | | | | | 1.0 | | 0.6 | 4.3 | | 0.7 | | 0.5 | 0.2 | 2.1 | 1.0 | | | | 1.4 | | | | | | | | 0.4 | |
| 2006 | | | | | | | | | | | | 1.3 | 37.4 | 6.9 | 1.7 | 2.9 | 5.1 | 5.7 | 12.2 | 9.2 | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | 7.1 | 20.7 | 13.4 | 7.6 | 13.4 | 5.7 | 6.8 | 2.7 | 1.2 | 2.0 | | | 3.1 | | | | | | | | | | | | | 0.2 |
| 2008 | | | | | | | | | 1.3 | 1.1 | 21.7 | 30.4 | 16.1 | 32.3 | 8.9 | 11.2 | 6.2 | 11.8 | 9.0 | 3.0 | | | | | | | | | | | | | | | 0.2 |
| 2009 | | | | | | | | | 2.3 | 5.0 | 4.1 | 35.3 | 22.1 | 20.6 | 7.9 | 9.9 | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | 0.7 | 3.3 | 23.0 | 18.9 | 37.6 | 33.3 | 5.3 | 12.2 | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | 0.7 | 3.4 | 8.4 | 5.1 | 6.3 | 16.1 | 8.0 | 4.8 | 4.3 | 0.5 | 2.1 | 0.1 | 0.3 | | | | | | | | | | | | | 0.03 | |
| 2012 | | | | | | | | | 0.1 | 3.7 | 5.4 | 4.7 | 6.7 | 3.9 | 2.5 | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | 0.3 | 8.4 | 3.6 | 14.7 | 6.7 | 11.9 | 4.6 | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | 6.0 | 10.7 | 8.7 | 9.9 | 9.7 | 4.5 | | | | | | | 0.3 | 0.7 | 0.1 | | | | | | | | | | 0.09 | |
| 2015 | | | | | | | | | | 4.3 | 24.6 | 13.3 | 24.3 | 15.9 | 7.6 | 9.0 | | | | | | | 0.3 | | | | | | | | | | | 0.02 | |
| 2016 | | | | | | | | | | 4.4 | 7.3 | 15.3 | 16.0 | 20.9 | 8.9 | 7.3 | | | | | | 0.7 | | | | | | | | | | | | 0.05 | |
| 2017 | | | | | | | | | | 0.6 | 1.3 | 4.1 | 4.7 | 4.7 | 2.4 | 1.8 | | | | | | 0.3 | 0.6 | | | | | | | | | | | 0.06 | |
| 2018 | | | | | | | | | | 1.9 | 5.1 | 5.9 | 9.3 | 6.3 | 2.8 | | | | | | | 2.9 | | | | | | | | | | | | 0.2 | |
| 2019 | | | | | | | | | | 2.3 | 5.4 | 7.0 | 14.4 | 11.0 | 4.0 | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 0.3 | 2.0 | 9.0 | 13.6 | 12.2 | 14.0 | 6.8 | 5.9 | 1.6 | 2.6 | 2.2 | 0.4 | 0.1 | 0.5 | 0.07 | | 0.1 | | | | | | | | 0.09 | | |

Cliff Swallow is fairly common in spring, and regular in summer in the early years, but rare at best in fall. Spring arrivals were particularly early (20 April to 24 April) from 2008 to 2011, but otherwise have been near the end of April or beginning of May. Peak numbers in spring have ranged from Week 6 to 9, most commonly toward the end of that period. Except for 2015 and 2016, counts have been below average since 2011. Across all years, spring sightings generally involve Cliff Swallows visiting MBO from the breeding colony on the nearby McGill radar tower, with observations of them often continuing into summer in the early years. The size of the nesting colony appears to have declined over time, perhaps partly at least a result of American Kestrels nesting nearby in some years. However, the scarcity of summer observations since 2009 is also a function of the base of operations for the MAPS program being at the south end of MBO, from where the colony cannot be seen; in earlier years summer observations were more broadly spread out throughout MBO. In fall, there were sightings in four of the first nine years, then annually from 2014 to 2018, before being missed again in 2019. All fall observations have been in August except for a late flock passing by on 9 September 2005.

BCCH: Black-capped Chickadee / Mésange à tête noire (*Poecile atricapillus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|------|------|
| First | 4-5 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 3-29 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 |
| Peak | 4-9 | 4-5 | 4-18 | 4-24 | 4-3 | 5-11 | 4-18 | 4-20 | 4-18 | 5-2 | 4-7 | 5-2 | 4-3 | 4-12 | 5-8 | 4-18 | 10-3 | 9-8 | 10-2 | 10-20 | 10-26 | 10-17 | 8-19 | 10-23 | 8-27 | 10-28 | 9-27 | 10-19 | 10-26 | 10-17 | 9-10 | 10-4 |
| Last | 6-3 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-4 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-4 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 11-6 | 11-6 | 11-6 | 11-6 | 11-6 | 11-1 |
| Span | 60 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 68 | 70 | 70 | 70 | 70 | 70 | 69 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 98 | 98 | 98 | 98 | 98 | 93 |
| # days | 59 | 68 | 66 | 70 | 69 | 69 | 68 | 70 | 70 | 66 | 70 | 69 | 69 | 68 | 70 | 68 | 88 | 91 | 91 | 91 | 91 | 91 | 90 | 91 | 91 | 91 | 97 | 98 | 97 | 98 | 97 | 93 |
| % days | 100 | 99 | 94 | 100 | 100 | 99 | 97 | 100 | 100 | 97 | 100 | 99 | 99 | 97 | 100 | 99 | 100 | 100 | 100 | 100 | 100 | 99 | 100 | 100 | 100 | 100 | 99 | 100 | 99 | 100 | 99 | 100 |
| High | 25 | 28 | 24 | 20 | 17 | 22 | 45 | 27 | 25 | 26 | 20 | 22 | 30 | 18 | 21 | 25 | 70 | 30 | 50 | 39 | 56 | 102 | 58 | 67 | 42 | 40 | 40 | 50 | 26 | 40 | 25 | 49 |
| Total | 460 | 640 | 599 | 557 | 566 | 685 | 840 | 914 | 810 | 676 | 673 | 709 | 668 | 630 | 660 | 672 | 2148 | 1428 | 1594 | 1494 | 1782 | 2628 | 1930 | 1904 | 1641 | 1567 | 1535 | 1649 | 1322 | 1571 | 1283 | 1698 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|------|-----|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 2005 | 12.0 | 6.5 | | 7.8 | 6.3 | 8.4 | | 13.3 | 6.3 | 8.0 | 11.6 | 10.0 | 6.3 | 4.0 | 5.1 | 5.8 | 7.8 | 3.4 | 7.6 | 5.6 | 18.1 | 18.0 | 15.3 | 18.4 | 20.9 | 26.1 | 24.6 | 21.4 | 29.3 | 45.7 | 24.8 | 24.4 | 34.0 | | 24.4 |
| 2006 | 15.4 | 15.8 | 15.3 | 11.0 | 11.8 | 14.0 | 12.9 | 16.5 | 8.7 | 7.3 | 9.4 | 10.3 | 8.6 | 7.9 | 5.6 | 6.7 | 9.3 | 5.0 | 5.6 | 5.3 | 15.4 | 15.7 | 10.7 | 11.7 | 17.4 | 21.6 | 21.0 | 16.4 | 15.7 | 16.9 | 15.9 | 11.9 | 13.7 | | 15.7 |
| 2007 | 11.5 | 8.7 | 9.5 | 7.3 | 8.8 | 9.7 | 6.4 | 8.6 | 8.9 | 14.0 | 8.4 | 10.6 | 9.0 | 9.1 | 6.4 | 4.1 | 8.6 | 3.3 | 8.3 | 5.6 | 16.4 | 14.7 | 16.7 | 16.7 | 17.4 | 14.9 | 15.0 | 18.6 | 21.9 | 25.7 | 18.4 | 15.1 | 16.1 | | 17.5 |
| 2008 | 5.9 | 12.3 | 5.6 | 7.7 | | 7.4 | 9.7 | 6.1 | 7.6 | 12.0 | 9.3 | 9.7 | 9.3 | 7.4 | 4.4 | 4.0 | 8.0 | 4.2 | 1.8 | 3.0 | 11.0 | 14.9 | 16.0 | 14.7 | 20.1 | 20.6 | 16.6 | 16.3 | 14.7 | 16.7 | 15.4 | 21.9 | 14.6 | | 16.4 |
| 2009 | 10.0 | 14.5 | 13.3 | 9.0 | 7.5 | 9.4 | 10.4 | 8.7 | 8.9 | 10.7 | 8.9 | 8.6 | 7.1 | 7.6 | 6.0 | 5.3 | 8.2 | 2.3 | 3.5 | 3.0 | 13.7 | 15.9 | 17.0 | 19.7 | 22.0 | 22.7 | 18.7 | 16.4 | 20.7 | 14.6 | 18.1 | 26.1 | 28.9 | | 19.6 |
| 2010 | 18.3 | 15.6 | 14.3 | 12.6 | 14.7 | 15.4 | 11.9 | 13.4 | 7.4 | 13.9 | 10.3 | 12.6 | 10.4 | 7.9 | 5.0 | 5.1 | 9.8 | 2.7 | 3.3 | 3.1 | 19.4 | 17.6 | 17.9 | 22.6 | 27.0 | 20.9 | 25.6 | 25.7 | 27.7 | 30.7 | 53.9 | 51.4 | 35.1 | | 28.9 |
| 2011 | 21.2 | 9.0 | 16.8 | 15.7 | 13.4 | 16.9 | 13.3 | 11.4 | 10.3 | 21.6 | 15.7 | 16.7 | 9.4 | 8.6 | 8.9 | 4.1 | 12.0 | 4.0 | 13.0 | 9.1 | 17.6 | 17.7 | 27.6 | 17.3 | 22.9 | 26.1 | 20.3 | 17.1 | 27.9 | 32.1 | 12.0 | 21.6 | 15.6 | | 21.2 |
| 2012 | 8.2 | 7.8 | 8.0 | 7.7 | 7.2 | 7.8 | 15.1 | 10.9 | 12.1 | 20.4 | 17.9 | 17.0 | 14.1 | 8.7 | 6.7 | 7.6 | 13.1 | 6.0 | 7.0 | 6.5 | 16.3 | 17.3 | 16.7 | 17.9 | 19.0 | 18.3 | 19.7 | 19.9 | 27.6 | 21.1 | 19.1 | 25.0 | 34.1 | | 20.9 |
| 2013 | 20.6 | 10.7 | 6.6 | 11.6 | 9.6 | 10.9 | 11.1 | 13.6 | 11.1 | 16.9 | 13.4 | 15.1 | 10.7 | 12.3 | 5.9 | 5.6 | 11.6 | 5.7 | 8.5 | 7.3 | 16.1 | 19.6 | 21.1 | 24.3 | 15.9 | 17.7 | 15.0 | 22.0 | 18.1 | 16.1 | 18.4 | 16.1 | 13.9 | | 18.0 |
| 2014 | 16.4 | 20.8 | 20.1 | 17.9 | 18.0 | 18.6 | 9.2 | 10.4 | 7.6 | 13.4 | 13.0 | 13.0 | 10.9 | 8.9 | 6.7 | 5.7 | 9.9 | 5.0 | 4.5 | 4.7 | 20.1 | 14.3 | 12.6 | 18.6 | 19.1 | 18.4 | 16.9 | 16.4 | 21.3 | 17.7 | 14.4 | 14.4 | 19.6 | | 17.2 |
| 2015 | 16.9 | 11.0 | 15.0 | 14.0 | 14.0 | 15.8 | 13.0 | 10.9 | 8.7 | 11.3 | 10.7 | 13.0 | 10.7 | 8.9 | 4.6 | 4.4 | 9.6 | 2.0 | 5.8 | 4.1 | 11.0 | 11.3 | 12.0 | 13.4 | 15.4 | 19.7 | 14.4 | 16.3 | 20.0 | 24.4 | 16.9 | 13.6 | 16.3 | 14.6 | 15.7 |
| 2016 | 17.1 | 16.5 | 16.4 | 11.1 | 12.2 | 14.3 | 9.0 | 9.3 | 8.3 | 11.1 | 12.1 | 12.4 | 11.6 | 11.1 | 9.9 | 6.4 | 10.1 | 9.3 | 10.3 | 9.8 | 13.9 | 10.1 | 14.3 | 14.6 | 15.6 | 15.9 | 17.0 | 16.7 | 18.3 | 16.4 | 23.1 | 20.1 | 19.3 | 20.3 | 16.8 |
| 2017 | 24.8 | 10.0 | 9.0 | 10.2 | 6.3 | 12.9 | 13.9 | 9.1 | 10.6 | 13.7 | 10.3 | 8.4 | 11.0 | 7.0 | 6.7 | 4.7 | 9.5 | 2.7 | 8.0 | 5.7 | 14.1 | 9.4 | 8.1 | 15.7 | 10.7 | 15.3 | 16.9 | 14.1 | 17.4 | 13.0 | 14.1 | 14.7 | 11.4 | 13.7 | 13.5 |
| 2018 | 15.5 | 13.3 | 10.3 | 10.0 | 6.7 | 10.9 | 9.1 | 10.4 | 8.6 | 11.7 | 10.9 | 12.1 | 9.6 | 7.6 | 6.4 | 3.6 | 9.0 | 4.0 | 4.5 | 4.3 | 7.9 | 11.3 | 14.0 | 14.4 | 16.0 | 16.0 | 16.1 | 13.9 | 15.6 | 17.6 | 19.1 | 22.1 | 17.6 | 22.9 | 16.0 |
| 2019 | 19.4 | 18.6 | 12.8 | 16.4 | 8.8 | 15.1 | 7.7 | 4.6 | 9.4 | 11.6 | 9.3 | 12.7 | 12.6 | 11.0 | 8.6 | 6.9 | 9.4 | 2.0 | 6.0 | 4.3 | 12.4 | 12.3 | 10.0 | 11.7 | 9.1 | 16.4 | 14.0 | 15.0 | 16.3 | 16.7 | 13.6 | 10.1 | 12.7 | 12.9 | 13.1 |
| Mean | 15.8 | 14.1 | 12.7 | 11.3 | 10.4 | 12.9 | 10.9 | 10.4 | 9.0 | 13.2 | 11.4 | 12.2 | 10.1 | 8.5 | 6.5 | 5.3 | 9.7 | 4.1 | 6.5 | 5.4 | 14.9 | 14.7 | 15.3 | 16.8 | 17.9 | 19.4 | 18.1 | 17.8 | 20.8 | 21.5 | 19.8 | 20.6 | 20.2 | 16.9 | 18.2 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|------|-----|-----|-----|-----|------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|-----|-------|----|
| 2005 | 7 | | | 12 | 7 | 26 | | 1 | 1 | | | | | | | 1 | 3 | | | | 9 | 2 | 5 | 4 | 9 | 5 | 5 | 8 | 38 | 54 | 15 | 37 | 31 | | 222 | |
| 2006 | 14 | 11 | 7 | 8 | 11 | 51 | | 2 | 1 | 1 | | 2 | | | | 2 | 8 | | | | 6 | 3 | 2 | | 1 | 7 | 4 | 1 | | 1 | 2 | | | | | 27 |
| 2007 | 3 | 4 | 6 | | 4 | 17 | | | | 3 | | 1 | 4 | 1 | 1 | | 10 | | | | 7 | 7 | 4 | 1 | 2 | 2 | 4 | 7 | 16 | 52 | 34 | 21 | 15 | | 172 | |
| 2008 | | | | | | | | | | | | | | | | | | | | | 9 | 7 | 5 | 4 | 6 | 2 | 1 | 4 | | 1 | | 9 | 1 | | 49 | |
| 2009 | | | | | 3 | 3 | | | | 1 | | | | 1 | | | 2 | 2 | 9 | 11 | 5 | 1 | 3 | 11 | 6 | 4 | 5 | 6 | 2 | 2 | 15 | 31 | 44 | | 135 | |
| 2010 | 12 | | 11 | 10 | 21 | 54 | | | | 2 | | | 1 | | | 3 | 5 | 9 | 14 | 13 | 5 | 4 | 4 | 2 | 6 | 8 | 17 | 15 | 8 | 139 | 132 | 87 | | 440 | | |
| 2011 | 26 | | | 2 | 5 | 33 | | | | 4 | 1 | 2 | 2 | | | 9 | 4 | 4 | 8 | 10 | 4 | 4 | 6 | 4 | 3 | 1 | 5 | 3 | 2 | 2 | 1 | 3 | | 48 | | |
| 2012 | 2 | 2 | | 7 | 1 | 12 | | | | | 3 | | | 1 | | 4 | 1 | 12 | 13 | 10 | 7 | 4 | 6 | 5 | 2 | 11 | 6 | 10 | 12 | 8 | 62 | 28 | | 171 | | |
| 2013 | 15 | 2 | | 1 | 10 | 28 | | | | 14 | | 1 | | | | 15 | | 1 | 1 | 8 | 9 | 3 | 3 | 3 | 2 | 4 | 1 | 5 | 3 | 2 | 1 | 3 | | 47 | | |
| 2014 | 1 | 5 | | | | 6 | | | | 5 | 1 | | | | 2 | | 8 | | 3 | 3 | 11 | 6 | | 3 | 2 | 7 | 1 | 3 | 5 | 6 | 8 | 14 | 7 | | 73 | |
| 2015 | 12 | | | | 7 | 19 | | | | 2 | 1 | | 1 | | | 4 | | 7 | 7 | 6 | 7 | 1 | 3 | 3 | 4 | 6 | 4 | 1 | 4 | 5 | | 3 | 3 | | 50 | |
| 2016 | 4 | 9 | 4 | | 9 | 26 | | | | | | | | | | | | 13 | 13 | 3 | 4 | | 6 | 4 | 1 | 8 | 3 | 16 | 18 | 18 | 35 | 16 | 13 | | 145 | |
| 2017 | 26 | | | | | 26 | | | | 4 | 1 | | | 1 | 1 | | 7 | 1 | 11 | 12 | 11 | 6 | 2 | 1 | 4 | 1 | 1 | 1 | 2 | 1 | 2 | 8 | 4 | | 44 | |
| 2018 | 2 | 2 | 9 | 6 | | 19 | | | | 1 | 2 | | | 2 | | 5 | | 4 | 4 | | 4 | 1 | 4 | 2 | 4 | 3 | 3 | 6 | 4 | 19 | 13 | 9 | 3 | | 75 | |
| 2019 | 18 | 6 | | | 12 | 36 | | | | | | 1 | | | | 1 | | 2 | 2 | 4 | 4 | 3 | 4 | 2 | 3 | 2 | 3 | 6 | 1 | 6 | 2 | 2 | 1 | 2 | 42 | |
| Mean | 10.1 | 3.4 | 7.4 | 6.6 | 8.2 | 25.4 | | 1.5 | 1.0 | 2.5 | 0.6 | 0.5 | 0.5 | 0.4 | 0.3 | 0.2 | 5.3 | 0.9 | 5.0 | 5.9 | 7.5 | 5.1 | 2.7 | 4.0 | 3.7 | 3.5 | 4.3 | 5.0 | 8.0 | 11.6 | 18.1 | 24.4 | 16.8 | 4.2 | 116.0 | |

Black-capped Chickadee is a common year-round resident at MBO, one of only two species to be observed annually in every time period. On average, the mean daily count drops below 10 only in Weeks 3 and 8-10 of spring, and in summer. This presumably reflects lower activity during the breeding season, with the higher numbers from Week 4 to 7 in spring perhaps reflecting a modest pulse of migration. Numbers are higher by the beginning of August, influenced by the influx of local juveniles, and remain steady for most of fall, aside from somewhat higher average counts from Week 9 to 13, when migrants sometimes pass through. Winter, spring, and summer numbers have fluctuated modestly over years; in fall, large late-season flocks of migrants have been detected in 2005, 2007, 2009, 2010, 2012, and 2016, reflected most distinctly in banding totals.

BOCH: Boreal Chickadee / Mésange à tête brune (*Poecile hudsonicus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|-------|
| First | | | | | | | | | | | | | | | | | 10-20 | | | | | | | | | | | | | 10-24 | | 10-22 |
| Peak | | | | | | | | | | | | | | | | | 10-20 | | | | | | | | | | | | | 10-24 | | 10-22 |
| Last | | | | | | | | | | | | | | | | | 10-20 | | | | | | | | | | | | | 10-24 | | 10-22 |
| Span | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | 1 | | 1 | |
| # days | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | 1 | | 1 | |
| % days | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | 1 | | 1 | |
| High | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | 1 | | 1 | |
| Total | | | | | | | | | | | | | | | | | 0 | 1 | | | | | | | | | | | 1 | | 0 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|------|------|--------|------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | 0.01 | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | 0.01 |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.01 | 0.01 | <0.005 | |

Boreal Chickadee is a very rare late fall migrant at MBO, with only two late October sightings on 20 October 2005 and 24 October 2018.

TUTI: Tufted Titmouse / Mésange bicolor (*Baeolophus bicolor*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| First | | | | | | | | 6-3 | | 3-29 | | | | | | 5-1 | | | | | | | | | | | | | | | | |
| Peak | | | | | | | | 6-3 | | 3-29 | | | | | | 5-1 | | | | | | | | | | | | | | | | |
| Last | | | | | | | | 6-3 | | 4-10 | | | | | | 5-7 | | | | | | | | | | | | | | | | |
| Span | | | | | | | | 1 | | 13 | | | | | | 7 | | | | | | | | | | | | | | | | |
| # days | | | | | | | | 1 | | 2 | | | | | | 2 | | | | | | | | | | | | | | | | |
| % days | | | | | | | | 1 | | 3 | | | | | | 2 | | | | | | | | | | | | | | | | |
| High | | | | | | | | 1 | | 1 | | | | | | 1 | | | | | | | | | | | | | | | | |
| Total | | | | | | | | 1 | | 2 | | | | | | 0 | | | | | | | | | | | | | | | | 0 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|------|-----|-----|------|------|------|------|------|----|----|----|----|----|----|----|------|--------|------|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | 0.1 | 0.01 | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | 1.0 | 0.6 | 0.4 | 0.2 | 0.1 | | | | | | | | | 0.03 | | | | | | | | | | | | | | | | | | | | |
| 2015 | 0.06 | | | | | 0.04 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | 0.1 | | | | | 0.02 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | 0.09 | 0.02 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | 0.01 | | | 0.07 | 0.03 | 0.02 | 0.01 | 0.01 | | | | | | | | 0.01 | <0.005 | | | | | | | | | | | | | | | | | | | | |

MBO is at the northern fringe of Tufted Titmouse range, and there have been only very rare sightings. The first observation was in the final week of spring in 2012. Two years later, an individual was first seen in February, and observed periodically until 10 April. Since then, there have been only scattered sightings in November 2014, November 2017, and March 2019.

RBNU: Red-breasted Nuthatch / Sittelle à poitrine rousse (*Sitta canadensis*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|------|------|-------|------|------|-------|
| First | | 4-2 | 5-7 | 4-22 | 5-13 | 4-5 | 5-6 | 4-3 | 4-6 | 5-2 | 4-21 | 4-14 | 5-12 | 3-29 | 4-19 | 4-20 | 8-12 | 8-5 | 8-2 | 8-7 | 8-7 | 8-12 | 8-13 | 8-12 | 8-1 | 8-10 | 8-8 | 8-1 | 8-7 | 8-5 | 8-5 | 8-7 |
| Peak | | 5-4 | 5-7 | 4-28 | 5-13 | 4-5 | 5-12 | 4-3 | 5-25 | 5-2 | 4-21 | 4-18 | 5-13 | 4-11 | 5-21 | 4-30 | 8-21 | 9-8 | 8-5 | 8-20 | 8-22 | 10-3 | 8-13 | 8-17 | 8-7 | 8-10 | 8-18 | 9-22 | 9-29 | 10-9 | 8-29 | 8-29 |
| Last | | 5-26 | 5-7 | 6-5 | 5-27 | 5-7 | 5-28 | 5-31 | 5-27 | 5-21 | 5-31 | 4-25 | 5-30 | 5-12 | 5-30 | 5-22 | 10-28 | 10-14 | 10-24 | 10-17 | 10-29 | 10-28 | 10-4 | 10-30 | 10-19 | 10-10 | 11-5 | 11-6 | 10-28 | 11-6 | 11-1 | 10-24 |
| Span | | 55 | 1 | 45 | 15 | 33 | 23 | 59 | 52 | 20 | 41 | 12 | 19 | 45 | 42 | 33 | 78 | 71 | 84 | 72 | 84 | 78 | 53 | 80 | 80 | 62 | 90 | 98 | 83 | 94 | 89 | 80 |
| # days | | 6 | 1 | 9 | 2 | 3 | 5 | 6 | 5 | 3 | 7 | 4 | 11 | 11 | 17 | 6 | 37 | 9 | 21 | 23 | 22 | 15 | 7 | 40 | 20 | 14 | 70 | 40 | 40 | 35 | 15 | 27 |
| % days | | 9 | 1 | 13 | 3 | 4 | 7 | 9 | 7 | 4 | 10 | 6 | 16 | 16 | 24 | 9 | 42 | 10 | 23 | 25 | 24 | 16 | 8 | 44 | 22 | 15 | 71 | 41 | 41 | 36 | 15 | 29 |
| High | | 2 | 1 | 2 | 2 | 1 | 2 | 1 | 3 | 1 | 1 | 2 | 4 | 2 | 5 | 2 | 3 | 2 | 2 | 4 | 2 | 5 | 1 | 5 | 2 | 3 | 5 | 3 | 4 | 6 | 4 | 3 |
| Total | | 7 | 1 | 12 | 3 | 3 | 7 | 6 | 7 | 3 | 7 | 5 | 21 | 13 | 28 | 8 | 49 | 10 | 24 | 37 | 25 | 19 | 7 | 61 | 26 | 18 | 131 | 51 | 54 | 53 | 20 | 39 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|------|------|-----|------|------|------|------|------|------|-----|------|-----|-----|-----|-----|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | 0.1 | 1.3 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.5 | 1.0 | 0.5 | 0.6 | 0.4 | | 0.6 |
| 2006 | | 0.07 | 0.4 | 0.4 | 0.3 | 0.2 | 0.1 | | | | | 0.3 | | 0.3 | 0.3 | | 0.1 | | | | 0.1 | 0.4 | 0.1 | 0.1 | 0.1 | 0.3 | | | | 0.1 | | | | | 0.1 |
| 2007 | | | | | | | | | | | | 0.1 | | | | | 0.01 | | 0.2 | 0.08 | 0.4 | 0.1 | 0.9 | 0.1 | 0.4 | 0.3 | | 0.3 | | 0.6 | 0.1 | | 0.1 | | 0.3 |
| 2008 | | | | | | | | | 0.1 | 0.3 | | | 0.7 | | 0.4 | 0.1 | 0.2 | | 0.2 | 0.1 | 0.1 | 0.6 | 0.1 | 0.6 | 0.3 | 0.7 | 1.1 | 0.4 | 0.9 | 0.3 | 0.1 | | | | 0.4 |
| 2009 | | | | | 0.07 | 0.03 | | | | | | | 0.3 | | 0.1 | | 0.04 | | | | 0.1 | 0.3 | | 0.6 | 0.1 | 0.6 | | 0.3 | 0.1 | 0.4 | 0.4 | 0.3 | 0.3 | | 0.3 |
| 2010 | 0.1 | | | | | 0.03 | | | | 0.1 | | 0.1 | | | | 0.04 | | | | | 0.3 | 0.1 | | 0.1 | 0.3 | 0.1 | 0.6 | 0.1 | 0.9 | | | 0.1 | | | 0.2 |
| 2011 | | | | | | | | | | | | 0.1 | 0.3 | 0.1 | 0.4 | | 0.1 | | | | | 0.1 | 0.3 | 0.1 | 0.1 | | 0.1 | | | 0.1 | | | | | 0.08 |
| 2012 | | | | | | | 0.1 | | | 0.3 | | | | | 0.1 | | 0.09 | 0.3 | 0.8 | 0.5 | | 0.3 | 1.1 | 0.4 | 0.3 | 0.7 | 1.4 | 0.6 | 1.3 | 0.6 | 0.3 | 0.9 | 0.9 | | 0.7 |
| 2013 | 0.1 | 0.1 | 0.2 | 0.2 | 0.3 | 0.2 | | 0.3 | | | 0.1 | | | | | 0.1 | | | | 0.4 | | 1.0 | 0.1 | 0.3 | 0.7 | 0.4 | 0.1 | 0.4 | 0.1 | 0.4 | 0.1 | | | | 0.3 |
| 2014 | 0.2 | | 0.3 | | | 0.1 | | | | | | 0.1 | | 0.3 | | 0.04 | | | | | | 1.0 | 0.1 | 0.1 | 0.1 | | 0.4 | 0.1 | 0.1 | 0.3 | 0.1 | | | | 0.2 |
| 2015 | 0.2 | | | | | 0.1 | | | 0.1 | | | 0.4 | | 0.3 | | 0.1 | 0.1 | | | | | 0.9 | 3.3 | 2.9 | 1.9 | 2.0 | 1.6 | 1.0 | 1.1 | 1.1 | 0.9 | 0.3 | 0.9 | 1.0 | 1.3 |
| 2016 | | 0.5 | 0.5 | | 0.2 | 0.2 | | | 0.1 | 0.4 | 0.1 | | | | | 0.07 | | 0.8 | 0.4 | 0.4 | 0.3 | 0.6 | 0.6 | 1.0 | 0.4 | 0.6 | 1.3 | 0.7 | 0.1 | 0.3 | 0.3 | 0.3 | 0.4 | | 0.5 |
| 2017 | 0.1 | | | 0.1 | | 0.06 | | | | | | | 0.9 | 0.6 | 1.4 | 0.1 | 0.3 | | | | 0.1 | 0.6 | 1.0 | 0.9 | 0.9 | 0.6 | 0.4 | 0.9 | 1.3 | 0.6 | 0.1 | 0.1 | 0.3 | | 0.6 |
| 2018 | 0.1 | | | | | 0.02 | 0.1 | 0.1 | 0.3 | 0.1 | 0.1 | 0.7 | 0.3 | | | 0.2 | | | | 0.3 | 0.1 | 0.1 | 0.9 | 0.4 | 0.6 | 0.3 | 0.4 | 0.4 | 1.7 | 1.3 | 0.3 | 0.1 | 0.6 | | 0.5 |
| 2019 | | | | | | | | | 0.1 | 0.4 | 0.3 | 0.6 | 1.9 | 0.6 | 0.1 | 0.4 | | | | 0.1 | 0.1 | | 0.1 | 0.9 | 0.1 | 0.3 | 0.1 | 0.3 | 0.3 | 0.1 | | 0.1 | 0.1 | | 0.2 |
| Mean | 0.06 | 0.07 | 0.1 | 0.06 | 0.08 | 0.08 | 0.03 | 0.04 | 0.03 | 0.1 | 0.09 | 0.2 | 0.2 | 0.2 | 0.3 | 0.05 | 0.1 | 0.01 | 0.09 | 0.06 | 0.2 | 0.3 | 0.6 | 0.5 | 0.6 | 0.5 | 0.5 | 0.5 | 0.6 | 0.3 | 0.2 | 0.2 | 0.4 | | 0.4 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | | |
|------|-----|-----|-----|-----|-----|------|----|----|----|----|----|----|-----|-----|----|-----|----|-----|-----|----|-----|-----|----|----|----|-----|------|-----|-----|------|-----|-----|-----|-----|----|-----|---|---|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | 1 | | |
| 2006 | | | 1 | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | 1 | 1 | 1 | | | | | | | 4 | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | 1 | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | 2 | 2 | | | | | | | | 1 | | | | | | | | | 1 | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | 1 | 2 | | | | | | | | | | | | | | 3 | |
| 2016 | | | | | | | | | | | | | | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | 1 | | | | 1 | | | | | | 1 | | | | | 1 | | | | | | | | | 2 | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | | | | | | | | | 2 |
| 2019 | | | | | | | | | | | | | 1 | 2 | | | 3 | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | 0.2 | | | 0.07 | | | | | | | 0.1 | 0.1 | | 0.3 | | 0.2 | 0.2 | | 0.1 | 0.3 | | | | 0.1 | 0.07 | 0.1 | 0.1 | 0.07 | | | | | | 0.9 | | |

Red-breasted Nuthatch is an uncommon and somewhat irregular migrant at MBO, with summer and winter records in some years. There have been observations throughout spring, but tend to be somewhat more frequent in May. In fall, there is sometimes an early pulse of movement from mid-August to early September, and also (or instead) a small later wave in late September and early October. Spring numbers have generally been small, but have been substantially above average for the past three years. In fall, numbers have fluctuated over time without any clear pattern; 2015 was exceptional in terms of the number of days with observations and total number counted. Red-breasted Nuthatch has been banded in small numbers in all seasons.

WBNU: White-breasted Nuthatch / Sittelle à poitrine blanche (*Sitta carolinensis*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|-------|-----|
| First | 4-5 | 3-30 | 3-28 | 4-6 | 4-4 | 4-2 | 3-29 | 4-2 | 3-31 | 3-29 | 3-29 | 3-28 | 3-28 | 3-28 | 3-31 | 3-31 | 8-2 | 8-1 | 8-1 | 8-1 | 8-1 | 8-2 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 |
| Peak | 4-12 | 4-27 | 4-7 | 5-14 | 4-4 | 4-19 | 4-18 | 4-12 | 4-28 | 3-29 | 5-4 | 4-21 | 3-30 | 3-30 | 4-2 | 4-14 | 8-27 | 8-22 | 8-9 | 9-24 | 8-22 | 9-20 | 9-8 | 9-12 | 8-27 | 8-10 | 8-13 | 8-24 | 8-22 | 10-1 | 8-24 | 8-30 | |
| Last | 5-27 | 6-5 | 6-1 | 5-30 | 6-1 | 5-24 | 5-31 | 5-27 | 5-31 | 6-4 | 6-4 | 6-5 | 6-5 | 6-2 | 6-3 | 5-31 | 10-30 | 10-30 | 10-25 | 10-25 | 10-30 | 10-30 | 10-28 | 10-30 | 10-30 | 10-30 | 11-6 | 11-6 | 11-6 | 11-6 | 11-6 | 10-31 | |
| Span | 53 | 68 | 66 | 55 | 59 | 53 | 64 | 56 | 62 | 68 | 68 | 70 | 70 | 67 | 65 | 63 | 90 | 91 | 86 | 86 | 91 | 90 | 89 | 91 | 91 | 91 | 98 | 98 | 98 | 98 | 98 | 92 | |
| # days | 42 | 40 | 26 | 19 | 14 | 21 | 11 | 32 | 34 | 28 | 34 | 54 | 55 | 48 | 40 | 33 | 54 | 72 | 55 | 34 | 49 | 53 | 66 | 76 | 79 | 68 | 89 | 92 | 85 | 91 | 86 | 70 | |
| % days | 71 | 58 | 37 | 27 | 20 | 30 | 16 | 46 | 49 | 41 | 49 | 77 | 79 | 69 | 57 | 48 | 61 | 79 | 60 | 37 | 54 | 58 | 73 | 84 | 87 | 75 | 91 | 94 | 87 | 93 | 88 | 75 | |
| High | 3 | 3 | 4 | 3 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 5 | 5 | 4 | 5 | 3 | 6 | 9 | 8 | 3 | 7 | 6 | 5 | 8 | 6 | 9 | 6 | 8 | 5 | 7 | 10 | 7 | |
| Total | 54 | 53 | 37 | 23 | 15 | 23 | 14 | 39 | 48 | 40 | 53 | 104 | 119 | 80 | 73 | 52 | 107 | 164 | 87 | 49 | 78 | 87 | 125 | 178 | 194 | 138 | 243 | 272 | 195 | 239 | 277 | 162 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2005 | 0.5 | | | 0.5 | 0.3 | 0.4 | | 0.8 | 1.6 | 1.3 | 0.6 | 1.3 | 1.0 | 0.9 | 0.6 | | 0.9 | 0.06 | 0.3 | 0.2 | 1.3 | 1.7 | 1.3 | 1.4 | 1.1 | 0.9 | 1.0 | 2.1 | 0.8 | 1.7 | 0.8 | 0.4 | 1.1 | | 1.2 |
| 2006 | 0.4 | 0.4 | 0.6 | 0.6 | 0.2 | 0.4 | 0.4 | 0.3 | 0.6 | 0.7 | 0.9 | 0.9 | 0.4 | 1.4 | 1.3 | 0.7 | 0.8 | 0.6 | 1.4 | 1.0 | 1.9 | 2.0 | 2.9 | 3.1 | 1.1 | 1.7 | 1.6 | 1.4 | 1.3 | 1.1 | 1.7 | 2.1 | 1.4 | | 1.8 |
| 2007 | 0.9 | 0.9 | 0.5 | | 0.6 | 0.7 | 0.6 | 1.0 | 0.1 | 0.6 | 0.4 | 1.0 | 0.9 | 0.4 | 0.1 | 0.1 | 0.5 | 0.1 | 0.5 | 0.3 | 0.7 | 1.9 | 1.6 | 1.3 | 1.1 | 1.3 | 0.7 | 0.6 | 0.9 | 0.7 | 0.6 | 0.9 | 0.3 | | 1.0 |
| 2008 | 0.3 | 0.3 | 0.4 | 1.3 | | 0.6 | | 0.1 | 0.1 | 0.3 | 1.1 | 0.4 | 0.7 | 0.1 | 0.1 | 0.1 | 0.3 | | | | 0.1 | 0.3 | 0.4 | 0.1 | 0.1 | 0.3 | 0.3 | 1.0 | 0.9 | 1.1 | 1.3 | 0.7 | 0.3 | | 0.5 |
| 2009 | 0.4 | 0.5 | | 0.3 | 0.5 | 0.4 | | 0.7 | 0.1 | 0.1 | 0.6 | 0.1 | 0.3 | | 0.1 | 0.1 | 0.2 | 0.3 | | 0.1 | 1.3 | 1.3 | 0.9 | 1.7 | 1.0 | 0.9 | 0.1 | 0.4 | 0.6 | 0.4 | 0.4 | 0.9 | 1.3 | | 0.9 |
| 2010 | 0.6 | | 0.2 | 0.4 | 0.4 | 0.4 | 0.1 | 0.7 | 0.1 | 0.9 | 0.3 | 0.1 | 0.3 | 0.6 | 0.1 | | 0.3 | | 0.2 | 0.1 | 0.6 | 0.9 | 1.4 | 0.9 | 1.1 | 0.7 | 0.4 | 1.9 | 0.7 | 1.7 | 0.4 | 0.7 | 1.0 | | 1.0 |
| 2011 | 0.2 | 1.0 | 0.4 | 0.8 | 0.3 | 0.4 | 0.1 | | | 0.4 | 0.1 | 0.1 | 0.3 | 0.6 | 0.1 | 0.1 | 0.2 | | 0.8 | 0.4 | 1.6 | 1.6 | 2.4 | 1.6 | 1.9 | 2.3 | 0.7 | 1.0 | 0.6 | 1.3 | 0.9 | 1.6 | 0.6 | | 1.4 |
| 2012 | 0.2 | | | | 0.6 | 0.2 | 0.3 | 0.7 | 0.9 | 1.0 | 0.4 | 1.0 | 0.7 | 0.4 | 0.1 | | 0.6 | | | 1.0 | 0.5 | 2.1 | 2.6 | 2.3 | 3.1 | 1.9 | 1.9 | 2.6 | 1.9 | 1.1 | 1.9 | 0.9 | 1.1 | 2.1 | 2.0 |
| 2013 | 0.6 | 0.1 | 0.5 | 0.4 | 0.6 | 0.5 | 0.3 | 0.6 | 0.6 | 1.0 | 1.0 | 1.3 | 0.6 | 0.4 | 0.9 | 0.3 | 0.7 | 0.3 | 1.5 | 1.0 | 2.1 | 1.9 | 2.0 | 3.4 | 3.4 | 1.1 | 1.1 | 2.3 | 2.7 | 2.1 | 2.3 | 1.4 | 1.7 | | 2.1 |
| 2014 | 2.4 | 1.0 | 0.9 | 0.6 | 0.6 | 1.0 | 1.3 | 0.6 | 0.1 | 1.1 | 0.1 | 0.6 | 0.7 | 0.1 | 0.6 | 0.7 | 0.6 | 1.0 | 1.3 | 1.1 | 1.6 | 3.4 | 2.0 | 1.0 | 2.4 | 1.7 | 1.3 | 1.4 | 0.7 | 0.6 | 1.1 | 0.7 | 1.7 | | 1.5 |
| 2015 | 1.4 | | | | 1.4 | 1.2 | 1.0 | 0.7 | 1.0 | 1.0 | 0.6 | 1.6 | 0.3 | 0.4 | 0.6 | 0.4 | 0.8 | 0.7 | 2.0 | 1.4 | 3.0 | 2.6 | 2.0 | 3.6 | 2.7 | 3.0 | 1.4 | 1.6 | 2.3 | 2.7 | 2.6 | 1.4 | 2.1 | 3.7 | 2.5 |
| 2016 | 1.9 | 1.4 | 1.7 | 1.8 | 2.2 | 1.8 | 0.4 | 1.0 | 1.3 | 2.4 | 2.9 | 1.3 | 2.0 | 1.6 | 1.3 | 0.7 | 1.5 | 1.3 | 2.0 | 1.6 | 3.7 | 2.4 | 3.9 | 4.6 | 4.0 | 2.6 | 2.4 | 2.1 | 2.3 | 2.1 | 2.3 | 1.1 | 2.4 | 2.9 | 2.8 |
| 2017 | 1.7 | | 1.9 | 0.6 | 0.7 | 1.1 | 1.7 | 0.7 | 1.7 | 2.0 | 2.0 | 0.6 | 1.4 | 2.4 | 2.7 | 1.7 | 1.7 | 0.7 | 2.3 | 1.6 | 2.7 | 2.4 | 2.1 | 3.1 | 2.1 | 2.1 | 1.7 | 1.6 | 2.0 | 2.1 | 1.7 | 2.4 | 0.1 | 1.4 | 2.0 |
| 2018 | 0.6 | 0.7 | 0.7 | 0.7 | 0.6 | 0.6 | 1.7 | 0.7 | 1.1 | 1.9 | 1.3 | 1.6 | 1.0 | 1.3 | 0.6 | 0.3 | 1.1 | 2.3 | 1.8 | 2.0 | 2.4 | 2.9 | 3.4 | 2.4 | 2.3 | 2.0 | 2.4 | 1.4 | 2.7 | 2.7 | 2.1 | 2.4 | 2.4 | 2.4 | 2.4 |
| 2019 | 0.6 | 1.1 | 0.4 | 1.8 | 1.3 | 0.9 | 1.1 | 0.6 | 1.3 | 1.7 | 0.9 | 1.6 | 1.1 | 0.9 | 0.6 | 0.7 | 1.0 | 0.3 | 2.0 | 1.3 | 2.1 | 1.4 | 2.6 | 4.9 | 2.1 | 3.0 | 3.3 | 3.7 | 1.3 | 2.1 | 2.7 | 2.7 | 3.6 | 4.0 | 2.8 |
| Mean | 0.8 | 0.6 | 0.7 | 0.7 | 0.8 | 0.7 | 0.6 | 0.6 | 0.7 | 1.1 | 0.9 | 0.9 | 0.8 | 0.8 | 0.7 | 0.4 | 0.7 | 0.4 | 1.0 | 0.7 | 1.8 | 1.9 | 2.1 | 2.4 | 1.9 | 1.7 | 1.4 | 1.6 | 1.4 | 1.6 | 1.5 | 1.4 | 1.5 | 2.9 | 1.7 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | | |
|------|-----|------|-----|-----|-----|-----|----|----|----|------|------|----|------|-----|----|-----|-----|-----|-----|-----|-----|-----|----|------|-----|-----|----|------|----|------|-----|-----|------|-----|----|-----|---|---|
| 2005 | | | | | | | | | | | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | | 1 | | 1 | |
| 2006 | | | | | | | | | | | 1 | | | | | | 1 | | | | | | | 1 | | | | | | | | | | | | | 1 | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | 1 | | | | 1 | | | | | 3 | | | | | | | | | | | | | | | 5 | |
| 2014 | 3 | | | | | 3 | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | 3 | |
| 2015 | 2 | | | | | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | 1 | 1 | 1 | | 3 | 6 | | | | 1 | | | | 1 | | | 2 | | | | | 2 | | 1 | | 1 | | | | | | | 1 | | | | 5 | |
| 2017 | 2 | | | | | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | 3 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | 0.6 | 0.08 | 0.2 | | 0.5 | 1.1 | | | | 0.07 | 0.07 | | 0.07 | 0.1 | | | 0.3 | | | 0.1 | 0.1 | 0.5 | | 0.07 | 0.1 | 0.1 | | 0.07 | | 0.07 | 0.1 | 0.3 | 0.07 | 0.3 | | 1.7 | | |

White-breasted Nuthatch is a year-round resident at MBO. Mean daily counts for most of the year are between 0.6 and 1.7. The only period with a lower count is June at 0.4. Average numbers are higher during the first five weeks of fall (ranging from 1.8 to 2.4), likely reflecting the presence of locally-fledged juveniles. However, the highest mean-daily count is during Week 14, suggesting there may be some late fall dispersal occurring at that time. White-breasted Nuthatch has been banded infrequently in all seasons. Both observations and banding totals have been above average in all seasons for most of the past 5-6 years.

BRCR: Brown Creeper / Grimpereau brun (*Certhia americana*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|------|------|-------|
| First | 4-7 | 3-31 | 4-9 | 4-20 | 4-2 | 4-1 | 3-31 | 4-7 | 4-11 | 4-7 | 3-29 | 3-28 | 4-3 | 3-30 | 4-11 | 4-4 | 9-5 | 9-22 | 8-2 | 9-1 | 8-8 | 9-10 | 8-12 | 9-17 | 9-15 | 9-20 | 8-6 | 9-1 | 9-15 | 9-18 | 8-15 | 8-31 |
| Peak | 4-16 | 4-22 | 4-9 | 4-22 | 4-24 | 4-1 | 4-19 | 4-7 | 4-11 | 4-14 | 6-3 | 3-31 | 4-15 | 4-17 | 4-21 | 4-17 | 10-6 | 10-6 | 9-16 | 9-26 | 9-19 | 9-21 | 10-7 | 10-12 | 10-30 | 9-23 | 10-14 | 10-2 | 10-4 | 10-6 | 9-11 | 10-1 |
| Last | 4-28 | 5-1 | 5-22 | 4-27 | 4-27 | 4-21 | 4-22 | 4-29 | 5-15 | 5-22 | 6-3 | 5-2 | 4-26 | 5-21 | 5-12 | 5-6 | 10-29 | 10-29 | 10-3 | 10-24 | 10-21 | 10-29 | 10-30 | 10-24 | 10-30 | 10-28 | 11-6 | 11-3 | 10-27 | 11-6 | 11-6 | 10-27 |
| Span | 22 | 32 | 44 | 8 | 26 | 21 | 23 | 23 | 35 | 46 | 67 | 36 | 24 | 53 | 32 | 33 | 55 | 38 | 63 | 54 | 75 | 50 | 80 | 38 | 46 | 39 | 93 | 64 | 43 | 50 | 84 | 58 |
| # days | 5 | 10 | 3 | 3 | 4 | 4 | 4 | 5 | 6 | 15 | 17 | 15 | 7 | 11 | 14 | 8 | 16 | 10 | 9 | 9 | 16 | 16 | 20 | 19 | 14 | 13 | 25 | 17 | 18 | 29 | 23 | 17 |
| % days | 8 | 14 | 4 | 4 | 6 | 6 | 6 | 7 | 9 | 22 | 24 | 21 | 10 | 16 | 20 | 12 | 18 | 11 | 10 | 10 | 18 | 18 | 22 | 21 | 15 | 14 | 26 | 17 | 18 | 30 | 23 | 18 |
| High | 2 | 5 | 1 | 3 | 2 | 1 | 4 | 2 | 2 | 3 | 4 | 2 | 2 | 3 | 5 | 3 | 3 | 2 | 2 | 3 | 2 | 3 | 3 | 8 | 2 | 2 | 2 | 5 | 4 | 4 | 2 | 3 |
| Total | 6 | 16 | 3 | 5 | 5 | 4 | 8 | 6 | 7 | 23 | 28 | 19 | 10 | 18 | 32 | 13 | 21 | 11 | 10 | 12 | 18 | 19 | 28 | 40 | 15 | 16 | 29 | 28 | 27 | 52 | 27 | 24 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|------|------|------|------|------|------|-----|-----|-----|------|------|------|-----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2005 | | | | 0.3 | | 0.07 | | 0.2 | 0.4 | 0.2 | 0.1 | | | | | | 0.1 | | | | | | | | 0.4 | 0.1 | 0.3 | 0.2 | 1.0 | 1.0 | 0.3 | | 0.2 | | |
| 2006 | | 0.07 | 0.08 | | | 0.03 | 0.6 | 0.3 | 0.3 | 0.7 | 0.4 | | | | | | 0.2 | | | | | | | | | | 0.1 | | 0.7 | 0.1 | 0.1 | 0.4 | | 0.1 | |
| 2007 | 0.3 | | | | | 0.1 | | 0.1 | | 0.1 | | | 0.1 | | | | 0.04 | | | 0.1 | | 0.1 | | | 0.1 | 0.1 | 0.3 | 0.3 | 0.1 | | | | 0.1 | | |
| 2008 | | 0.3 | | | | 0.04 | | | 0.6 | 0.1 | | | | | | | 0.07 | | | | | | | 0.1 | 0.1 | 0.3 | 0.1 | 0.4 | 0.3 | 0.1 | | 0.1 | | 0.1 | |
| 2009 | | | | 0.7 | 0.07 | 0.2 | 0.1 | | 0.4 | 0.1 | | | | | | | 0.07 | | | | 0.1 | | | 0.1 | | 0.3 | 0.9 | 0.4 | 0.4 | 0.1 | 0.1 | | | 0.2 | |
| 2010 | 0.2 | | | 0.08 | 0.2 | 0.1 | 0.1 | | 0.1 | 0.3 | | | | | | | 0.06 | | | | | | | | 0.1 | 0.1 | 0.6 | 0.1 | 0.4 | 0.9 | 0.1 | 0.3 | | 0.2 | |
| 2011 | 0.3 | | 0.08 | | 0.1 | 0.1 | 0.1 | | 1.0 | | | | | | | | 0.1 | | | | 0.1 | 0.1 | | | | 0.4 | 0.9 | 0.6 | 1.1 | | 0.1 | 0.6 | | 0.3 | |
| 2012 | | | | 0.2 | 0.04 | | 0.3 | | 0.3 | 0.3 | | | | | | | 0.09 | | | | | | | | | 0.1 | 1.4 | 0.4 | 0.9 | 2.1 | 0.6 | 0.1 | | 0.4 | |
| 2013 | | | | 0.07 | 0.02 | | | 0.3 | 0.3 | 0.1 | 0.1 | 0.1 | | | | | 0.1 | | | | | | | | 0.3 | 0.6 | 0.3 | 0.1 | 0.1 | 0.3 | 0.4 | | 0.2 | | |
| 2014 | | | | | | | 0.3 | 1.0 | 1.0 | 0.9 | | | 0.1 | | | | 0.3 | | | | | | | | | | 0.4 | 0.3 | 0.6 | 0.3 | 0.6 | 0.1 | | 0.2 | |
| 2015 | | | | | | | 0.1 | 0.1 | 0.6 | 1.1 | 1.1 | 0.1 | | | 0.1 | 0.6 | 0.4 | | | | 0.3 | 0.1 | | | | 0.1 | 0.3 | 0.4 | 0.3 | 1.0 | 0.3 | 0.6 | 0.7 | 0.3 | |
| 2016 | | | 0.08 | | 0.3 | 0.09 | 0.6 | 0.3 | 0.3 | 0.6 | 0.9 | 0.1 | | | | | 0.3 | | | | | | | 0.3 | | | 0.1 | 0.9 | 0.7 | 0.1 | 0.9 | 0.4 | 0.6 | 0.3 | |
| 2017 | | | | 0.1 | 0.03 | 0.1 | | 0.4 | 0.7 | 0.1 | | | | | | | 0.1 | | | | | | | | | | 0.1 | 0.7 | 0.6 | 1.3 | | 0.7 | 0.4 | | 0.3 |
| 2018 | | | | | | 0.1 | | 0.4 | 1.4 | 0.1 | 0.3 | | 0.1 | | | | 0.3 | | | | | | | | | 0.3 | 0.1 | 1.0 | 1.7 | 1.6 | 0.9 | 0.7 | 1.1 | 0.5 | |
| 2019 | 0.09 | | | | | 0.02 | | | 0.1 | 2.3 | 1.4 | 0.6 | 0.1 | | | | 0.5 | | | | | 0.3 | | 0.1 | 0.3 | 0.6 | 0.1 | 0.3 | 0.3 | 0.7 | 0.1 | 0.6 | 0.4 | 0.3 | |
| Mean | 0.08 | 0.02 | 0.03 | 0.07 | 0.08 | 0.06 | 0.1 | 0.1 | 0.3 | 0.7 | 0.4 | 0.09 | 0.02 | 0.03 | 0.01 | 0.04 | 0.2 | | | | 0.03 | 0.03 | 0.04 | | 0.05 | 0.08 | 0.2 | 0.5 | 0.4 | 0.7 | 0.5 | 0.3 | 0.3 | 0.6 | 0.3 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|------|-----|-----|-----|-----|------|----|-----|-----|-----|-----|----|----|----|----|-----|-----|-----|-----|----|----|-----|----|----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 2005 | | | | | | | | | | | 1 | | | | | | 1 | | | | | | | | | 2 | 1 | 2 | | 4 | 2 | | 1 | | 12 |
| 2006 | | | | | | | | 1 | | | | | | | | | 1 | | | | | | | | | | | | 3 | 1 | | | | | 4 |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | 1 | 1 | 1 | | | | | | 6 |
| 2008 | | | | | | | | | 1 | | | | | | | | 1 | | | | | | | 1 | 1 | 1 | 1 | 1 | 1 | 2 | | 1 | | | 8 |
| 2009 | | | | | | | | | 2 | | | | | | | | 2 | | | | | 1 | | | 1 | 2 | 2 | 2 | | | 1 | | | | 7 |
| 2010 | | | | | | | | | 1 | | | | | | | | 1 | | | | | | | | | 1 | 4 | 1 | 2 | 2 | | 1 | | | 11 |
| 2011 | 1 | | | | | 1 | | | 1 | | | | | | | | 1 | | | | 1 | | | | | 1 | 3 | | 7 | | | 2 | | 14 | |
| 2012 | | | | | | | | | 1 | | | | | | | | 1 | | | | | | | | | 1 | 5 | 3 | 6 | 5 | | 1 | | | 21 |
| 2013 | | | | | | | | | 1 | | | | | | | | 1 | | | | | | | | | 2 | 2 | 2 | 1 | 1 | 1 | 1 | | | 10 |
| 2014 | | | | | | | | | 1 | 3 | | | | | | | 4 | | | | | | | | | | 2 | 2 | 1 | 1 | 2 | 1 | | | 9 |
| 2015 | | | | | | | | | 3 | 1 | | | | | | | 4 | | | | | | | | | 1 | 2 | 2 | 1 | 4 | 2 | 2 | 2 | | 16 |
| 2016 | | | | | | | | | 3 | 1 | | | | | | | 4 | | | | | | | | | | 1 | 3 | 3 | 5 | | 2 | 2 | 2 | 13 |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 3 | 3 | 5 | | 1 | 1 | | | 14 |
| 2018 | | | | | | | | | 1 | | | 1 | | | | | 2 | | | | | | | | | 1 | | 4 | 7 | 3 | 1 | 2 | 3 | | 21 |
| 2019 | | | | | | | | | 8 | 2 | 1 | | | | | | 11 | | | | | | | | | 1 | 1 | 1 | 4 | | 2 | | | 9 | |
| Mean | 0.07 | | | | | 0.07 | | 0.5 | 1.5 | 0.5 | 0.1 | | | | | | 2.3 | | | | | 0.1 | | | 0.07 | 0.3 | 0.9 | 2.0 | 1.7 | 2.9 | 1.5 | 0.7 | 1.1 | 1.4 | 11.7 |

Brown Creeper is largely an early-mid spring and mid-late fall migrant at MBO, with small numbers also observed in most winters. Spring migrants sometimes arrive as early as March, but on average are back by the first week of April. The peak of spring migration is most frequently in Week 4, but especially since 2014 numbers have often remained quite high in the following week as well. In the first eight years, there was only one observation in the second half of spring, but since then there have been sightings during that period annually except 2017, extending as late as 3 June in 2016. In fall, there have been scattered sightings over the first six weeks of the season, but arrivals more typically begin in Week 7, with numbers peaking between Week 8 and 11. In both spring and fall, numbers have fluctuated somewhat, but with a slight overall positive trend.

HOWR: House Wren / Troglodyte familier (*Troglodytes aedon*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|------|-------|------|-------|------|------|-------|-------|------|------|------|------|------|-----|
| First | 5-17 | 5-4 | 5-11 | 4-24 | 4-28 | 4-24 | 4-30 | 4-20 | 4-22 | 4-21 | 5-1 | 4-29 | 4-20 | 4-25 | 4-22 | 4-27 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 |
| Peak | 5-24 | 5-4 | 5-13 | 6-2 | 5-8 | 5-5 | 5-19 | 5-10 | 5-2 | 6-4 | 5-26 | 5-17 | 5-12 | 5-9 | 5-29 | 5-16 | 8-15 | 8-2 | 8-9 | 8-5 | 8-6 | 8-16 | 8-5 | 9-12 | 8-3 | 8-10 | 8-1 | 8-7 | 8-1 | 8-6 | 8-3 | 8-8 | |
| Last | 6-3 | 5-31 | 6-5 | 6-5 | 6-5 | 6-4 | 6-5 | 6-5 | 6-5 | 6-4 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-4 | 10-4 | 10-21 | 10-14 | 10-4 | 10-12 | 9-26 | 10-21 | 10-8 | 10-5 | 10-11 | 10-26 | 10-4 | 10-3 | 10-7 | 10-9 | 10-9 | |
| Span | 18 | 28 | 26 | 43 | 39 | 42 | 37 | 47 | 45 | 45 | 36 | 38 | 47 | 42 | 45 | 39 | 65 | 82 | 75 | 65 | 73 | 57 | 82 | 69 | 66 | 72 | 87 | 65 | 64 | 68 | 70 | 71 | |
| # days | 15 | 3 | 20 | 37 | 38 | 35 | 37 | 46 | 43 | 30 | 36 | 37 | 42 | 40 | 44 | 34 | 37 | 45 | 63 | 55 | 63 | 32 | 43 | 55 | 55 | 66 | 68 | 55 | 60 | 64 | 63 | 55 | |
| % days | 25 | 4 | 29 | 53 | 55 | 50 | 53 | 66 | 61 | 44 | 51 | 53 | 60 | 57 | 63 | 49 | 42 | 49 | 69 | 60 | 69 | 35 | 47 | 60 | 60 | 73 | 69 | 56 | 61 | 65 | 64 | 59 | |
| High | 2 | 1 | 3 | 7 | 6 | 9 | 12 | 9 | 8 | 10 | 9 | 8 | 10 | 9 | 11 | 8 | 3 | 8 | 13 | 9 | 12 | 6 | 7 | 4 | 7 | 8 | 6 | 11 | 10 | 13 | 14 | 9 | |
| Total | 21 | 3 | 28 | 136 | 126 | 155 | 172 | 238 | 145 | 105 | 138 | 137 | 216 | 177 | 260 | 137 | 51 | 97 | 255 | 176 | 298 | 69 | 102 | 104 | 132 | 201 | 154 | 188 | 168 | 279 | 331 | 174 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|-----|-----|-----|-----|
| 2005 | | | | | | | | | | | | | | 0.9 | 1.0 | 1.6 | 0.4 | 0.6 | 0.6 | 0.6 | 0.7 | 0.6 | 0.9 | 0.9 | 0.6 | 0.9 | 0.9 | 1.1 | 0.8 | 0.2 | | | | 0.6 | | |
| 2006 | | | | | | | | | | | | 0.1 | | 0.1 | | 0.1 | 0.04 | | 0.4 | 0.2 | 2.7 | 1.9 | 2.0 | 0.6 | 1.6 | 1.1 | 1.9 | 0.9 | 0.6 | 0.6 | | 0.1 | | 1.1 | | |
| 2007 | | | | | | | | | | | | 1.4 | 1.0 | 0.7 | 0.9 | 0.4 | 2.0 | 2.8 | 2.4 | 6.0 | 6.0 | 5.9 | 6.0 | 2.9 | 3.0 | 2.4 | 1.7 | 2.0 | 0.1 | 0.4 | | | | 2.8 | | |
| 2008 | | | | | | | | | 0.1 | 0.6 | 2.4 | 3.9 | 4.6 | 3.7 | 4.1 | 1.9 | 4.6 | 3.2 | 3.9 | 5.1 | 4.7 | 3.9 | 3.4 | 2.3 | 1.6 | 1.7 | 0.7 | 1.3 | 0.4 | | | | | 1.9 | | |
| 2009 | | | | | | | | | 1.1 | 3.7 | 3.9 | 3.1 | 3.1 | 3.0 | 1.8 | 2.0 | 0.8 | 1.3 | 8.3 | 8.4 | 7.6 | 4.4 | 3.3 | 3.6 | 2.0 | 2.1 | 2.0 | 0.6 | 0.3 | | | | | 3.3 | | |
| 2010 | | | | | | | | | 0.1 | | 3.3 | 3.6 | 4.4 | 6.0 | 4.7 | 2.2 | 0.7 | 2.3 | 1.8 | 3.4 | 1.3 | 1.9 | 1.3 | 0.6 | 0.6 | 0.7 | | 0.1 | | | | | | 0.8 | | |
| 2011 | | | | | | | | | 0.7 | 2.1 | 3.6 | 5.6 | 7.0 | 5.6 | 2.5 | 1.0 | 3.0 | 2.1 | 4.3 | 2.9 | 2.3 | 0.7 | 0.1 | 1.0 | 1.1 | 1.1 | 0.6 | 0.3 | | 0.1 | | | | 1.1 | | |
| 2012 | | | | | | | | | 0.9 | 3.1 | 4.4 | 7.4 | 6.3 | 5.9 | 6.0 | 3.4 | 1.0 | 1.3 | 1.1 | 2.0 | 1.9 | 1.7 | 1.7 | 0.9 | 1.0 | 2.3 | 1.9 | 1.4 | 0.1 | | | | | 1.1 | | |
| 2013 | | | | | | | | | 0.4 | 1.7 | 5.1 | 3.9 | 4.7 | 2.4 | 2.4 | 2.1 | 1.7 | 2.8 | 2.3 | 5.6 | 3.7 | 2.1 | 1.0 | 1.0 | 1.0 | 2.1 | 1.0 | 1.0 | 0.3 | | | | | | 1.5 | |
| 2014 | | | | | | | | | 0.1 | | 0.9 | 3.4 | 2.9 | 3.3 | 5.2 | 1.5 | 2.7 | 1.0 | 1.7 | 3.3 | 4.0 | 4.1 | 4.4 | 3.4 | 2.4 | 2.1 | 2.3 | 1.6 | 0.6 | 0.4 | | | | | 2.2 | |
| 2015 | | | | | | | | | 0.1 | 3.9 | 3.1 | 3.9 | 5.3 | 3.4 | 2.0 | 2.3 | 2.5 | 2.4 | 4.3 | 2.4 | 2.4 | 2.0 | 2.4 | 2.0 | 1.9 | 1.4 | 1.9 | 1.0 | 0.1 | | 0.1 | | | | 1.6 | |
| 2016 | | | | | | | | | 0.3 | 2.6 | 4.6 | 4.9 | 4.1 | 3.1 | 2.0 | 3.0 | 4.0 | 3.5 | 6.7 | 5.3 | 5.4 | 3.0 | 1.6 | 0.7 | 1.7 | 1.1 | 1.0 | 0.3 | | | | | | | 1.9 | |
| 2017 | | | | | | | | | 0.3 | 1.7 | 3.6 | 7.7 | 5.7 | 6.0 | 5.9 | 3.1 | 2.3 | 1.8 | 2.0 | 6.0 | 4.3 | 3.4 | 3.1 | 1.0 | 2.0 | 1.1 | 1.3 | 1.6 | 0.1 | | | | | | 1.7 | |
| 2018 | | | | | | | | | 2.7 | 4.3 | 6.6 | 4.3 | 4.4 | 3.0 | 2.5 | 2.3 | 3.3 | 2.9 | 6.6 | 6.3 | 4.6 | 6.1 | 4.1 | 3.7 | 3.0 | 1.6 | 3.0 | 0.9 | | | | | | | 2.8 | |
| 2019 | | | | | | | | | 0.7 | 2.0 | 6.0 | 6.6 | 7.4 | 7.9 | 6.6 | 3.7 | 2.3 | 1.8 | 2.0 | 9.9 | 8.6 | 6.9 | 6.9 | 4.1 | 3.6 | 3.1 | 2.0 | 1.3 | 1.0 | | | | | | | 3.4 |
| Mean | | | | | | | | | 0.2 | 0.9 | 2.8 | 4.0 | 4.0 | 4.1 | 3.7 | 2.0 | 1.6 | 1.8 | 1.7 | 5.0 | 4.1 | 3.7 | 3.0 | 2.0 | 1.9 | 1.9 | 1.4 | 1.3 | 0.4 | 0.09 | 0.02 | 0.01 | | | 1.9 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|----|
| 2005 | | | | | | | | | | | | | | | | | | | | 2 | | 1 | 2 | 1 | 1 | 2 | 3 | 1 | 1 | | | | | | 14 | |
| 2006 | | | | | | | | | | | | | | | | | | | 1 | 1 | 4 | 2 | 4 | 1 | | 1 | 3 | 1 | | | | | | | | 16 |
| 2007 | | | | | | | | | | | | | 1 | | | | 1 | 6 | 6 | 11 | 3 | 4 | 5 | 6 | 3 | | 1 | 2 | | 1 | | | | | 36 | |
| 2008 | | | | | | | | | | | | | 1 | 3 | | | 4 | | 5 | 3 | 2 | | 2 | 2 | 3 | 1 | | 2 | | | | | | | 15 | |
| 2009 | | | | | | | | | | | | | | 1 | 1 | 1 | 3 | | 2 | 2 | 13 | 4 | 4 | | 4 | 1 | 1 | 3 | 1 | | 1 | | | | 32 | |
| 2010 | | | | | | | | | | | | | 2 | | | 1 | 3 | | 1 | 1 | 5 | 2 | | | | | 1 | | | | | | | | | 8 |
| 2011 | | | | | | | | | | | | 2 | 1 | 1 | 1 | | 5 | | 3 | 3 | 5 | 1 | 2 | | | | | 1 | | | | | | | | 9 |
| 2012 | | | | | | | | | | 1 | | 5 | 3 | | | 9 | | 5 | 5 | | | | | | 2 | 4 | 2 | 1 | | | | | | | | 9 |
| 2013 | | | | | | | | | | 1 | 3 | 1 | 2 | | | 7 | | 2 | 2 | 2 | 3 | 1 | | | | 1 | 2 | 1 | 1 | | | | | | | 11 |
| 2014 | | | | | | | | | | | | 1 | 1 | 1 | 1 | 1 | 4 | 1 | | 1 | 1 | | | 5 | 2 | 3 | | 1 | 2 | | | | | | | 14 |
| 2015 | | | | | | | | | | | | 3 | 3 | | | 6 | 1 | 1 | 2 | 3 | 1 | 2 | 1 | 2 | 3 | 3 | 1 | | | | | | | | | 16 |
| 2016 | | | | | | | | | | | | | 2 | 2 | | 4 | | 5 | 5 | 6 | 4 | 4 | 3 | 1 | | | | | | | | | | | | 18 |
| 2017 | | | | | | | | | | 1 | | 2 | 3 | 1 | | 7 | | 1 | 1 | 9 | | | 1 | 1 | 2 | 1 | 4 | 1 | | | | | | | | 19 |
| 2018 | | | | | | | | | | | | 5 | 3 | | | 8 | | 5 | 5 | 9 | 4 | 6 | 2 | | 2 | 1 | 1 | 1 | | | | | | | | 26 |
| 2019 | | | | | | | | | | 1 | 3 | 3 | 2 | 1 | | 10 | | 1 | 1 | 10 | 2 | 1 | 4 | 1 | 2 | 2 | 2 | 1 | 1 | | | | | | | 26 |
| Mean | | | | | | | | | | 0.3 | 0.5 | 1.7 | 1.4 | 0.7 | 0.2 | 4.7 | | 0.5 | 2.1 | 2.7 | 5.5 | 1.9 | 1.9 | 1.7 | 1.3 | 1.6 | 1.4 | 1.4 | 0.9 | 0.1 | 0.1 | | | | 17.9 | |

House Wren is a regular breeder at MBO; many of the observations involve the local pairs and their offspring, but peak counts suggest that at least some migrants passing through are counted as well. Spring arrival was not until early to mid-May in the first three years, but ever since has typically been in the final third of April. Peak counts have ranged throughout the second half of spring; overall, numbers tend to be highest from Week 7 to Week 9. In fall, numbers observed and banded are most commonly highest in the first week of August and taper off steadily through to Week 9, after which there is a sharp drop off; there have been sightings past mid-October in just three years. In all seasons there has been some fluctuation over time, but an overall increasing trend.

WIWR: Winter Wren / Troglodyte des forêts (*Troglodytes hiemalis*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| First | | 4-2 | 4-23 | | 3-28 | 5-5 | 4-18 | 4-1 | 4-17 | 4-10 | 4-16 | 4-1 | 4-14 | | 4-1 | 4-11 | 9-4 | 9-5 | 9-13 | 8-16 | 9-20 | 8-9 | 9-2 | 9-15 | 8-18 | 9-7 | 8-22 | 9-18 | 9-10 | 9-24 | 8-5 | 9-2 |
| Peak | | 4-2 | 4-23 | | 3-28 | 5-5 | 4-27 | 4-1 | 4-26 | 4-18 | 4-16 | 4-1 | 4-14 | | 4-21 | 4-15 | 10-8 | 10-5 | 9-24 | 10-22 | 10-2 | 10-2 | 9-28 | 10-3 | 9-14 | 10-20 | 10-6 | 10-12 | 9-28 | 9-29 | 10-25 | 10-5 |
| Last | | 5-26 | 5-17 | | 4-22 | 5-5 | 5-22 | 5-5 | 5-17 | 5-8 | 5-17 | 5-21 | 5-18 | | 5-1 | 5-12 | 10-30 | 10-27 | 10-24 | 10-22 | 10-12 | 10-29 | 10-26 | 10-21 | 10-29 | 10-28 | 10-28 | 11-6 | 10-27 | 10-31 | 10-25 | 10-26 |
| Span | | 55 | 25 | | 26 | 1 | 35 | 35 | 31 | 29 | 32 | 51 | 35 | | 31 | 32 | 57 | 53 | 42 | 68 | 23 | 82 | 55 | 37 | 73 | 52 | 68 | 50 | 48 | 38 | 82 | 55 |
| # days | | 5 | 2 | | 2 | 1 | 5 | 5 | 8 | 12 | 2 | 10 | 4 | | 11 | 6 | 21 | 22 | 12 | 11 | 9 | 18 | 6 | 19 | 13 | 24 | 13 | 20 | 13 | 21 | 18 | 16 |
| % days | | 7 | 3 | | 3 | 1 | 7 | 7 | 11 | 18 | 3 | 14 | 6 | | 16 | 8 | 24 | 24 | 13 | 12 | 10 | 20 | 7 | 21 | 14 | 26 | 13 | 20 | 13 | 21 | 18 | 17 |
| High | | 1 | 1 | | 2 | 1 | 2 | 1 | 2 | 3 | 1 | 1 | 1 | | 2 | 2 | 4 | 6 | 4 | 2 | 2 | 8 | 2 | 3 | 2 | 12 | 5 | 4 | 3 | 3 | 6 | 4 |
| Total | | 5 | 2 | | 3 | 1 | 6 | 5 | 9 | 17 | 2 | 10 | 4 | | 12 | 5 | 29 | 41 | 19 | 12 | 11 | 35 | 9 | 25 | 16 | 63 | 19 | 28 | 18 | 30 | 26 | 25 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|------|-----|-----|-----|-----|--------|------|------|-----|-----|-----|------|------|------|------|-----|------|-----|-----|----|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | 0.1 | 0.4 | 0.3 | 1.7 | 0.7 | 0.6 | 0.6 | | 0.3 | |
| 2006 | 0.07 | | | | | 0.02 | 0.1 | | 0.1 | 0.1 | 0.1 | | | | 0.1 | | 0.07 | | | | | | | | | 0.1 | 0.3 | 0.7 | 0.3 | 1.9 | 0.9 | 1.1 | 0.6 | | 0.5 |
| 2007 | 0.06 | | | | | 0.02 | | | | 0.1 | | | | 0.1 | | | 0.03 | | | | | | | | | | 0.1 | 0.9 | 0.1 | 1.1 | | 0.3 | 0.1 | | 0.2 |
| 2008 | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | 0.1 | 0.3 | 0.4 | 0.4 | | 0.3 | | | 0.1 |
| 2009 | | | | | | | 0.3 | | | 0.1 | | | | | | | 0.04 | | | | | | | | | | 0.3 | 0.3 | 0.6 | 0.4 | | | | | 0.1 |
| 2010 | | | | | | | | | | | | 0.1 | | | | | 0.01 | | | | 0.1 | | | | 0.1 | 0.4 | 0.3 | 1.1 | 0.7 | 1.4 | 0.6 | 0.1 | | 0.4 | |
| 2011 | | | | | | | | | | 0.3 | 0.3 | 0.1 | | 0.1 | | | 0.09 | | | | | | | 0.1 | | | 0.3 | 0.6 | 0.1 | 0.1 | | 0.1 | | 0.1 | |
| 2012 | | | | | | | 0.3 | | | 0.1 | 0.3 | 0.7 | 0.3 | | 0.1 | | 0.07 | | | | | | | | | 0.3 | 0.6 | 0.6 | 0.9 | 1.0 | 0.3 | | | 0.3 | |
| 2013 | | | | | | | | | 0.1 | 0.3 | 0.7 | 0.3 | 0.1 | | 0.1 | | 0.1 | | | | 0.1 | | | | | 0.4 | 0.1 | 0.4 | 0.1 | 0.4 | 0.6 | | | 0.2 | |
| 2014 | | | | | | | | 0.1 | 0.7 | 1.1 | 0.3 | 0.1 | | | | | 0.2 | | | | | | | | 0.1 | 0.1 | 0.7 | 0.3 | 0.6 | 1.4 | 4.0 | 1.7 | | 0.7 | |
| 2015 | 0.1 | | | | | 0.08 | | | 0.1 | | | | | 0.1 | | | 0.03 | | | | | | 0.1 | | | | 0.3 | 1.1 | 0.3 | 0.6 | 0.3 | | | 0.2 | |
| 2016 | | | | | | | 0.1 | 0.4 | 0.4 | | 0.1 | | 0.1 | 0.1 | | | 0.1 | | | | | | | | | 0.1 | 0.1 | 0.1 | 0.6 | 1.3 | 0.3 | 0.6 | 1.0 | 0.3 | |
| 2017 | | | | | | | | | 0.1 | 0.1 | | | | 0.3 | | | 0.06 | | | | | | | | | 0.4 | 0.1 | 0.1 | 0.7 | 0.4 | 0.3 | 0.1 | 0.1 | 0.2 | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | 0.1 | 0.7 | 0.7 | 1.0 | 0.1 | 0.1 | 0.3 | |
| 2019 | | | | | | | 0.3 | 0.1 | 0.4 | 0.7 | 0.1 | | | | | | 0.2 | | | | 0.1 | | | | | | 0.1 | 0.1 | 0.9 | 0.9 | 0.4 | 0.3 | 0.9 | 0.3 | |
| Mean | 0.03 | | | | | <0.005 | 0.08 | 0.05 | 0.1 | 0.2 | 0.1 | 0.05 | 0.01 | 0.07 | 0.01 | | 0.07 | | | | 0.01 | 0.01 | 0.02 | 0.01 | 0.02 | 0.06 | 0.2 | 0.3 | 0.5 | 0.8 | 0.6 | 0.7 | 0.4 | 0.2 | 0.3 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|------|----|------|----|----|----|-----|-----|-----|-----|----|----|----|----|----|----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 1 | 2 | 1 | | | | 6 |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 2 | | 6 | | | | | 10 |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | | 2 | | | | | 4 |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | 1 | | | | | | 2 |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | | | | | | | 2 |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | 2 | | 1 | | | | | 5 |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | 1 | | | | | 2 |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2 | 2 | | | | 5 |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | 1 | | | | 3 |
| 2014 | | | | | | | | | | 1 | | 1 | | | | | 2 | | | | | | | | | 1 | | | 4 | 9 | 1 | | | | 15 |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | | 3 | 1 | | | 6 |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | 4 | | 1 | 1 | | | | 9 |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | | 4 | 1 | | 1 | | | | 8 |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | 1 | 1 | 1 | 1 | | | 6 |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 4 | | 2 | | | | 7 |
| Mean | | | | | | | | | | 0.07 | | 0.07 | | | | | 0.1 | | | | | | | | | 0.07 | 0.5 | 0.5 | 0.7 | 1.7 | 0.9 | 1.1 | 0.4 | 0.2 | 6.0 |

Winter Wren is a rare early to mid-spring migrant and uncommon mid- to late fall migrant at MBO, with small numbers lingering into November in 2005, 2006, and 2014. Spring arrivals have been as early as 1 April in three years, but the majority of individuals are typically observed between Week 3 and Week 5. There have been late migrants in Week 8 or 9 in seven years, the latest of them being on 26 May in 2006. In fall, there have been scattered sightings over the first six weeks, but Winter Wren does not routinely appear until Week 7. Numbers peak between late September and mid-October in most years, but not until later in October in 2013 and 2014. Numbers have fluctuated somewhat over the years, but overall appear to be relatively steady.

SEWR: Sedge Wren / Troglodyte à bec court (*Cistothorus platensis*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| First | | | | 5-16 | | | | | | | | | | | | 5-16 | | 8-9 | | | | | | | | | | | | | 8-9 | |
| Peak | | | | 5-27 | | | | | | | | | | | | 5-27 | | 8-9 | | | | | | | | | | | | | 8-9 | |
| Last | | | | 6-5 | | | | | | | | | | | | 6-5 | | 9-5 | | | | | | | | | | | | | 9-5 | |
| Span | | | | 21 | | | | | | | | | | | | 21 | | 28 | | | | | | | | | | | | | 28 | |
| # days | | | | 13 | | | | | | | | | | | | 13 | | 3 | | | | | | | | | | | | | 3 | |
| % days | | | | 19 | | | | | | | | | | | | 19 | | 3 | | | | | | | | | | | | | 3 | |
| High | | | | 2 | | | | | | | | | | | | 2 | | 1 | | | | | | | | | | | | 1 | | |
| Total | | | | 16 | | | | | | | | | | | | 1 | | 3 | | | | | | | | | | | | | 0 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|------|------|------|------|------|-----|------|-----|------|------|-----|----|------|-----|----|----|-----|-----|-----|-----|--------|----|------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | 0.1 | 0.1 | | | 0.1 | | | | | | | | | 0.03 |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | 0.3 | 0.9 | 1.1 | 0.2 | 0.6 | | 0.3 | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | 0.02 | 0.06 | 0.08 | 0.02 | 0.04 | | 0.02 | | 0.01 | 0.01 | | | 0.01 | | | | | | | | <0.005 | | |

Sedge Wren is very rare at MBO, with all sightings to date occurring in 2006 and 2008. Three sightings over the course of 28 days in early-mid fall 2006 may represent a lone individual staying at MBO over that period, potentially moulting. In 2008, Sedge Wren observations were regular from 16 May into June, involving two territorial males.

MAWR: Marsh Wren / Troglodyte des marais (*Cistothorus palustris*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | 5-28 | | | | | 5-21 | 5-1 | 5-28 | | | 4-29 | 5-11 | | 5-25 | 5-11 | 5-15 | 8-5 | 8-7 | 8-9 | | 8-11 | 9-11 | 9-30 | 9-11 | | | | | 9-4 | | | 8-26 |
| Peak | 5-28 | | | | | 5-21 | 5-1 | 5-28 | | | 4-29 | 5-11 | | 5-25 | 5-11 | 5-15 | 8-23 | 8-7 | 8-9 | | 8-11 | 9-11 | 9-30 | 9-11 | | | | | 9-4 | | | 8-28 |
| Last | 5-28 | | | | | 5-21 | 5-1 | 5-28 | | | 4-29 | 5-21 | | 5-25 | 5-26 | 5-18 | 10-6 | 8-7 | 8-9 | | 8-11 | 9-11 | 10-5 | 9-28 | | | | | 9-30 | | | 9-9 |
| Span | 1 | | | | | 1 | 1 | 1 | | | 1 | 11 | | 1 | 16 | 4 | 63 | 1 | 1 | | 1 | 1 | 6 | 18 | | | | 27 | | | 15 | |
| # days | 1 | | | | | 1 | 1 | 1 | | | 1 | 2 | | 1 | 4 | 2 | 5 | 1 | 1 | | 1 | 1 | 5 | 3 | | | | 2 | | | 2 | |
| % days | 2 | | | | | 1 | 1 | 1 | | | 1 | 3 | | 1 | 6 | 2 | 6 | 1 | 1 | | 1 | 1 | 5 | 3 | | | | 2 | | | 3 | |
| High | 2 | | | | | 1 | 1 | 1 | | | 1 | 1 | | 1 | 1 | 1 | 2 | 1 | 1 | | 1 | 1 | 1 | 1 | | | | 1 | | | 1 | |
| Total | 2 | | | | | 1 | 1 | 1 | | | 1 | 2 | | 1 | 4 | 1 | 6 | 1 | 1 | | 1 | 1 | 5 | 3 | | | | 2 | | | 1 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|------|----|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|-----|------|------|-----|-----|-----|-----|-----|------|------|------|
| 2005 | | | | | | | | | | | | | | | 0.3 | | 0.03 | | | | 0.1 | | | 0.3 | | | | | 0.3 | 0.2 | | | | | 0.07 | |
| 2006 | | | | | | | | | | | | | | | | | | | 0.08 | 0.05 | 0.1 | | | | | | | | | | | | | | | 0.01 |
| 2007 | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | | | | | 0.01 |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.01 |
| 2009 | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | | | | | 0.01 |
| 2010 | | | | | | | | | | | | | | 0.1 | | | 0.01 | | | | | | | | | 0.1 | | | | | | | | | 0.01 | |
| 2011 | | | | | | | | | | 0.1 | | | | | | 0.01 | | 0.5 | 0.3 | | | | | | | | 0.3 | 0.4 | | | | | | | 0.05 | |
| 2012 | | | | | | | | | | | | | | | 0.1 | | 0.01 | | 0.3 | 0.1 | | | | | | 0.1 | 0.1 | 0.1 | | | | | | | 0.03 | |
| 2013 | | | | | | | | | | | | | | | | | | | 0.3 | 0.1 | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | 0.3 | 0.1 | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | 0.1 | | | | | | 0.01 | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | 0.1 | 0.1 | | | 0.03 | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | 0.1 | | | | | | | 0.02 | |
| 2018 | | | | | | | | | | | | | | | 0.1 | 0.01 | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | 0.4 | | 0.1 | 0.06 | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | 0.02 | | 0.04 | 0.02 | 0.05 | 0.01 | | 0.06 | 0.03 | 0.02 | 0.02 | | 0.02 | 0.01 | 0.02 | 0.01 | | 0.06 | 0.04 | | | | | | 0.01 | | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|------|------|----|-----|-----|----|----|------|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|------|---|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | 1 |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | 0.07 | 0.07 | | | | | | 0.07 | | | | | | | | | | | | | 0.07 | |

Marsh Wren is an irregular species at MBO, with at least one sighting in every year except 2008 and 2014, but often only in one or two seasons. There were relatively early spring sightings (29 April and 1 May) in 2011 and 2015, but otherwise spring records have been between 11 May and 28 May. Summer observations have been recorded in four years between 2006 and 2013, always in July; they may have been early fall migrants. Fall sightings have been widely scattered, between 5 August and 6 October. Only two Marsh Wrens have been banded, one in May 2012 and the other in August 2007.

CARW: Carolina Wren / Troglodyte de Caroline (*Thryothorus ludovicianus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|------|------|------|------|------|
| First | | | | | 6-2 | | 5-29 | | 5-4 | | | | | 5-5 | | 5-17 | | | | | | | | | | | | | 8-26 | 8-10 | 8-1 | 8-10 |
| Peak | | | | | 6-2 | | 5-29 | | 5-4 | | | | | 5-5 | | 5-17 | | | | | | | | | | | | | 8-26 | 8-14 | 8-1 | 8-11 |
| Last | | | | | 6-2 | | 5-29 | | 5-4 | | | | | 6-1 | | 5-24 | | | | | | | | | 10-21 | | | | 8-26 | 8-14 | 11-4 | 9-23 |
| Span | | | | | 1 | | 1 | | 1 | | | | | 28 | | 8 | | | | | | | | | | | | | 1 | 5 | 96 | 46 |
| # days | | | | | 1 | | 1 | | 1 | | | | | 2 | | 1 | | | | | | | | | | | | | 1 | 2 | 2 | 2 |
| % days | | | | | 1 | | 1 | | 1 | | | | | 3 | | 2 | | | | | | | | | | | | | 1 | 2 | 2 | 2 |
| High | | | | | 1 | | 1 | | 1 | | | | | 1 | | 1 | | | | | | | | | | | | | 1 | 2 | 1 | 1 |
| Total | | | | | 1 | | 1 | | 1 | | | | | 2 | | 0 | | | | | | | | | | | | | 1 | 3 | 2 | 1 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|------|-----|-----|-----|-----|--------|----|----|----|----|----|------|----|----|------|------|--------|-----|-----|----|------|------|-----|------|-----|----|----|----|----|-----|------|------|-----|--------|------|------|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | 0.1 | 0.01 | | | | | | | | | | | | | | | | | | | | |
| 2010 | 0.05 | | | | | 0.02 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | 0.1 | 0.01 | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | 0.1 | | | | | 0.01 | | | | | 0.1 | | | | | | | | | 0.1 | | | | 0.02 | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.01 | |
| 2018 | | | | | | | | | | | | 0.1 | | | | 0.1 | 0.03 | | | | | | 0.4 | | 0.1 | | | | | | | | | | 0.03 | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | 0.02 | |
| Mean | 0.01 | | | | | <0.005 | | | | | | 0.02 | | | 0.01 | 0.02 | <0.005 | | | | 0.02 | 0.03 | | 0.01 | | | | | | | 0.01 | 0.03 | | <0.005 | | | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|-----|------|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|---|---|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | 1 | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Mean | | | | | | | | | | | | | | | | | | | | | | 0.1 | 0.07 | | | | | | | | | | | | 0.2 | | | |

MBO is near the northern limit of Carolina Wren range. Single individuals were observed in spring in 2009, 2011, and 2013, and there were two records in spring 2018. In fall, there were no observations until 2013, when MBO's first Carolina Wren was banded in early August and another was observed in late October. Over the past three years there have been annual sightings in fall, but no more than three times per season. There has been only one winter observation to date, in November 2009.

BGGN: Blue-gray Gnatcatcher / Gobemoucheron gris-bleu (*Polioptila caerulea*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| First | | | | 6-1 | | | | | | | | | | | 5-8 | 5-20 | | | | | | | | | | | | | | | | 9-2 |
| Peak | | | | 6-1 | | | | | | | | | | | 5-8 | 5-20 | | | | | | | | | | | | | | | | 9-2 |
| Last | | | | 6-1 | | | | | | | | | | | 5-8 | 5-20 | | | | | | | | | | | | | | | | 9-2 |
| Span | | | | 1 | | | | | | | | | | | 1 | 1 | | | | | | | | | | | | | | | 1 | |
| # days | | | | 1 | | | | | | | | | | | 1 | 1 | | | | | | | | | | | | | | | 1 | |
| % days | | | | 1 | | | | | | | | | | | 1 | 1 | | | | | | | | | | | | | | | 1 | |
| High | | | | 1 | | | | | | | | | | | 1 | 1 | | | | | | | | | | | | | | | 1 | |
| Total | | | | 1 | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | 0 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|------|----|----|----|------|--------|------|-----|----|----|----|------|----|----|----|------|----|----|-----|-----|-----|-----|-----|--------|------|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | 0.1 | 0.01 | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.01 | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | | | 0.01 | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | 0.1 | 0.01 | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | 0.01 | | | | 0.01 | <0.005 | | | | | | 0.01 | | | | 0.01 | | | | | | | | <0.005 | | |

MBO is beyond the northern limits of Blue-gray Gnatcatcher breeding range, but there have been two sightings in each of spring and fall. The two spring records in 2008 and 2019 were almost one month apart, in early May and early June. The fall observations were in consecutive years, 2012 and 2013, but exactly one month apart on 18 August and 18 September.

GCKI: Golden-crowned Kinglet / Roitelet à couronne dorée (*Regulus satrapa*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|-------|-------|
| First | 4-7 | 3-31 | 4-3 | 4-8 | 4-2 | 4-6 | 4-7 | 4-5 | 4-9 | 4-2 | 4-13 | 3-29 | 4-4 | 4-11 | 3-31 | 4-5 | 9-10 | 9-20 | 9-25 | 8-1 | 8-19 | 9-15 | 9-17 | 9-5 | 8-16 | 8-24 | 9-16 | 9-15 | 9-21 | 9-27 | 9-18 | 9-8 |
| Peak | 4-7 | 4-2 | 4-6 | 4-9 | 4-9 | 4-17 | 4-16 | 4-17 | 4-18 | 4-18 | 4-20 | 4-5 | 4-11 | 4-24 | 4-21 | 4-13 | 10-9 | 10-10 | 10-6 | 9-22 | 10-23 | 10-6 | 10-4 | 10-18 | 10-5 | 9-24 | 9-21 | 10-1 | 9-29 | 10-8 | 10-24 | 10-6 |
| Last | 4-27 | 4-29 | 4-27 | 4-27 | 5-3 | 5-1 | 5-13 | 5-17 | 5-10 | 5-2 | 4-28 | 4-27 | 4-27 | 5-27 | 5-6 | 5-4 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-27 | 10-28 | 10-30 | 10-30 | 10-30 | 11-6 | 11-6 | 11-5 | 11-6 | 11-4 | 10-31 |
| Span | 21 | 30 | 25 | 20 | 32 | 26 | 37 | 43 | 32 | 31 | 16 | 30 | 24 | 47 | 37 | 30 | 51 | 41 | 36 | 91 | 73 | 43 | 42 | 56 | 76 | 68 | 52 | 53 | 46 | 41 | 48 | 54 |
| # days | 11 | 24 | 11 | 10 | 14 | 5 | 7 | 7 | 13 | 15 | 9 | 21 | 20 | 13 | 27 | 14 | 34 | 35 | 26 | 22 | 27 | 38 | 30 | 49 | 44 | 36 | 44 | 46 | 37 | 39 | 38 | 36 |
| % days | 19 | 35 | 16 | 14 | 20 | 7 | 10 | 10 | 19 | 22 | 13 | 30 | 29 | 19 | 39 | 20 | 39 | 38 | 29 | 24 | 30 | 42 | 33 | 54 | 48 | 40 | 45 | 47 | 38 | 40 | 39 | 39 |
| High | 30 | 22 | 11 | 4 | 8 | 3 | 3 | 3 | 11 | 26 | 6 | 36 | 35 | 12 | 28 | 16 | 130 | 35 | 30 | 12 | 13 | 85 | 25 | 35 | 42 | 22 | 20 | 55 | 35 | 43 | 41 | 42 |
| Total | 60 | 93 | 36 | 17 | 42 | 9 | 10 | 13 | 55 | 115 | 20 | 115 | 115 | 34 | 158 | 59 | 482 | 362 | 127 | 65 | 94 | 353 | 176 | 389 | 444 | 260 | 318 | 433 | 293 | 301 | 316 | 294 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|------|-----|------|------|-----|-----|-----|------|-----|-----|------|------|------|-----|-----|-----|-----|----|------|----|------|------|-----|------|-----|------|------|------|------|-----|-----|-----|-----|
| 2005 | 0.5 | | | | | 0.1 | | 5.8 | 2.0 | 1.2 | 0.6 | | | | | | 1.0 | | | | | | | | 0.3 | | 8.0 | 4.8 | 34.7 | 23.2 | 3.1 | 3.7 | | 5.5 | |
| 2006 | 0.1 | | | | | 0.03 | 4.1 | 4.0 | 3.4 | 1.0 | 1.3 | | | | | | 1.3 | | | | | | | | | | 2.6 | 10.0 | 2.9 | 17.4 | 12.1 | 6.7 | | 4.0 | |
| 2007 | 1.0 | | | | | 0.4 | 0.1 | 2.6 | 1.4 | 0.4 | 0.6 | | | | | | 0.5 | | | | | | | | | | 0.7 | 3.7 | 6.3 | 2.9 | 3.0 | 1.6 | | 1.4 | |
| 2008 | | | | | | | | 1.0 | 0.7 | 0.4 | 0.3 | | | | | | 0.2 | | | | 0.3 | | | | | | 2.6 | 2.3 | 2.9 | 0.3 | 0.9 | 0.1 | | 0.7 | |
| 2009 | 0.4 | | | | | 0.08 | 0.6 | 2.8 | 0.7 | 2.0 | 0.1 | 0.1 | | | | | 0.6 | | | | | | 0.3 | | | | 1.1 | 0.9 | 5.0 | 1.1 | 3.1 | 1.9 | | 1.0 | |
| 2010 | | | | | | | | 0.1 | 0.4 | 0.4 | 0.3 | | | | | | 0.1 | | | | | | | | | 2.9 | 2.4 | 7.4 | 26.9 | 8.7 | 1.4 | 0.7 | | 3.9 | |
| 2011 | | | 0.08 | | | 0.03 | | 0.1 | 0.6 | 0.3 | 0.1 | 0.1 | 0.1 | | | | 0.1 | | | | | | | | | 0.3 | 1.1 | 7.1 | 7.4 | 2.0 | 5.9 | 1.3 | | 1.9 | |
| 2012 | | | | | 0.2 | 0.04 | | 0.3 | 0.6 | 0.9 | | | | 0.1 | 0.1 | | 0.2 | | | | | | | | 1.0 | 2.7 | 5.9 | 12.3 | 14.1 | 4.7 | 8.0 | 6.9 | | 4.3 | |
| 2013 | | | | | | | | 0.6 | 1.9 | 4.6 | 0.6 | 0.1 | 0.1 | | | | 0.8 | | | | | | 0.1 | 0.1 | | 3.3 | 8.9 | 5.7 | 15.9 | 16.1 | 10.6 | 2.7 | | 4.9 | |
| 2014 | | | | | | | 0.2 | | 5.6 | 10.4 | 0.1 | 0.1 | | | | | 1.7 | | | | | | | | | | 5.3 | 9.7 | 4.7 | 5.6 | 7.3 | 4.4 | | 2.9 | |
| 2015 | 1.1 | | | | | 0.8 | | | 0.6 | 1.9 | 0.4 | | | | | | 0.3 | | | | | | | | | 0.4 | 8.9 | 10.0 | 8.3 | 5.1 | 9.3 | 1.4 | 2.0 | 3.2 | |
| 2016 | | | | | | | 2.9 | 8.0 | 2.3 | 2.4 | 0.9 | | | | | | 1.6 | | | | | | | | | 0.6 | 7.6 | 22.1 | 9.7 | 3.9 | 5.9 | 5.4 | 6.7 | 4.4 | |
| 2017 | 0.1 | | | | | 0.03 | | 1.3 | 7.6 | 7.1 | 0.4 | | | | | | 1.6 | | | | | | | | | | 2.0 | 15.1 | 9.7 | 3.6 | 6.1 | 3.9 | 1.4 | 3.0 | |
| 2018 | | | | | | | | | 0.4 | 2.4 | 0.9 | 1.0 | | | 0.1 | | 0.5 | | | | | | | | | | | 5.0 | 18.7 | 7.3 | 5.9 | 1.6 | 4.6 | 3.1 | |
| 2019 | 0.2 | | | | | 0.04 | 1.7 | 1.6 | 3.9 | 11.0 | 3.4 | 1.0 | | | | | 2.3 | | | | | | | | | 0.1 | 0.1 | 9.1 | 9.3 | 11.6 | 3.9 | 8.7 | 2.3 | 3.2 | |
| Mean | 0.3 | | 0.01 | | 0.01 | 0.08 | 0.7 | 1.8 | 2.1 | 3.1 | 0.7 | 0.2 | 0.02 | 0.01 | 0.01 | | 0.9 | | | | 0.02 | | 0.03 | 0.02 | | 0.09 | 0.7 | 3.8 | 8.4 | 11.5 | 7.4 | 5.8 | 3.4 | 3.4 | 3.2 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|------|-----|-----|-----|-----|------|----|-----|-----|-----|-----|-----|----|------|----|-----|-----|-----|-----|----|-----|----|----|------|----|-----|-----|-----|------|------|------|------|-----|-----|------|
| 2005 | | | | | | | | | | 1 | | | | | | | 1 | | | | | | | | | 2 | | 12 | 11 | 14 | 7 | 2 | 6 | | 54 |
| 2006 | | | | | | | | 2 | 5 | | | | | | | | 7 | | | | | | | | | | 4 | 17 | 7 | 15 | 28 | 2 | | 73 | |
| 2007 | | | | | | | | | | 2 | | | | | | | 2 | | | | | | | | | | 3 | 3 | 6 | 3 | 5 | 2 | | 22 | |
| 2008 | | | | | | | | | | 1 | | | | | | | 1 | | | | | 2 | | | | | 8 | 8 | 14 | 2 | 1 | 1 | | 36 | |
| 2009 | | | | | | | | | | 2 | 1 | | | | | | 3 | | | | | | | | | | 3 | 3 | 10 | | 6 | 3 | | 25 | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | 5 | 15 | 10 | 33 | 23 | 2 | 2 | | 90 | |
| 2011 | | | | | | | | | | 1 | | 1 | | | | | 2 | | | | | | | | | 2 | 4 | 20 | 24 | 1 | 15 | 4 | | 70 | |
| 2012 | | | | | | | | | | 1 | | | | 1 | | | 2 | | | | | | | | | 2 | 7 | 5 | 14 | 21 | 8 | 15 | 19 | | 91 |
| 2013 | | | | | | | | | | 1 | 1 | | | | | | 2 | | | | | | | 1 | | 7 | 14 | 9 | 25 | 30 | 12 | 3 | | 101 | |
| 2014 | | | | | | | | | | 13 | | | | | | | 13 | | | | | | | | | | 14 | 32 | 6 | 10 | 12 | 8 | | 82 | |
| 2015 | 1 | | | | | 1 | | | | 4 | | | | | | | 4 | | | | | | | | | | 18 | 7 | 10 | 8 | 12 | 1 | 7 | 63 | |
| 2016 | | | | | | | | | | 6 | | | | | | | 6 | | | | | | | | | 2 | 18 | 63 | 14 | 4 | 8 | 11 | 18 | 138 | |
| 2017 | | | | | | | | | | 15 | | | | | | | 15 | | | | | | | | | | 4 | 23 | 24 | 1 | 19 | 10 | 4 | 85 | |
| 2018 | | | | | | | | | | 5 | | 1 | | | | | 6 | | | | | | | | | | | 7 | 24 | 15 | 9 | 4 | 10 | 69 | |
| 2019 | | | | | | | | | | 16 | 2 | | | | | | 18 | | | | | | | | | | | 11 | 13 | 28 | 4 | 39 | 5 | 100 | |
| Mean | 0.07 | | | | | 0.07 | | 1.0 | 2.5 | 4.5 | 0.3 | 0.1 | | 0.07 | | | 5.5 | | | | 0.1 | | | 0.07 | | 0.3 | 1.5 | 8.1 | 15.9 | 16.3 | 10.3 | 10.0 | 7.7 | 8.8 | 73.3 |

Golden-crowned Kinglet is a common early-mid spring and mid-late fall migrant at MBO, with migrants often lingering into November and one mid-winter record in January 2011. Spring arrivals can be as early as late March, but more typically early April. Peak migration was in Week 1 or 2 from 2005 to 2009, in Week 3 in 2010 and 2011, and in Week 4 in six of eight years since 2012. In all years, the species has been scarce beyond the end of April. There have been only a few scattered records over the first six weeks of fall; generally numbers build strongly in late September, peaking either in Week 9 (2014 to 2017) or Week 10 (8 of 11 other years). Spring numbers have been substantially above average in four of the past six years; fall counts have fluctuated more unpredictably.

RCKI: Ruby-crowned Kinglet / Roitelet à couronne rubis (*Regulus calendula*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|-------|------|
| First | 4-17 | 4-12 | 4-23 | 4-17 | 4-20 | 4-17 | 4-22 | 4-18 | 4-16 | 4-14 | 4-18 | 4-18 | 4-11 | 4-24 | 4-2 | 4-16 | 8-17 | 8-11 | 9-10 | 8-19 | 9-5 | 9-12 | 9-16 | 8-29 | 9-1 | 8-24 | 9-15 | 9-14 | 9-5 | 9-10 | 9-5 | 9-3 |
| Peak | 4-28 | 5-2 | 5-6 | 4-21 | 4-27 | 5-2 | 5-3 | 4-21 | 4-23 | 4-22 | 4-29 | 4-27 | 4-26 | 5-3 | 4-28 | 4-27 | 10-9 | 10-4 | 10-10 | 10-10 | 10-8 | 10-1 | 10-4 | 10-5 | 10-3 | 10-10 | 10-5 | 10-1 | 9-30 | 10-3 | 10-18 | 10-6 |
| Last | 5-21 | 5-30 | 5-21 | 5-31 | 5-16 | 5-18 | 5-26 | 5-13 | 5-28 | 5-18 | 5-31 | 5-26 | 5-29 | 5-28 | 5-31 | 5-24 | 10-30 | 10-30 | 10-30 | 10-30 | 10-29 | 10-30 | 10-30 | 10-30 | 10-26 | 10-30 | 11-6 | 11-6 | 11-6 | 11-6 | 11-6 | 11-1 |
| Span | 35 | 49 | 29 | 45 | 27 | 32 | 35 | 26 | 43 | 35 | 44 | 39 | 49 | 35 | 60 | 39 | 75 | 81 | 51 | 73 | 55 | 49 | 45 | 63 | 56 | 68 | 53 | 54 | 63 | 58 | 63 | 60 |
| # days | 30 | 33 | 25 | 29 | 21 | 29 | 25 | 25 | 28 | 31 | 31 | 33 | 38 | 23 | 39 | 29 | 44 | 59 | 42 | 49 | 43 | 48 | 40 | 54 | 47 | 49 | 49 | 47 | 55 | 47 | 49 | 48 |
| % days | 51 | 48 | 36 | 41 | 30 | 41 | 36 | 36 | 40 | 46 | 44 | 47 | 54 | 33 | 56 | 43 | 50 | 65 | 46 | 54 | 47 | 53 | 44 | 59 | 52 | 54 | 50 | 48 | 56 | 48 | 50 | 52 |
| High | 10 | 45 | 30 | 51 | 28 | 22 | 78 | 30 | 24 | 24 | 32 | 37 | 82 | 43 | 42 | 39 | 200 | 120 | 116 | 70 | 100 | 89 | 50 | 97 | 95 | 79 | 75 | 135 | 80 | 80 | 127 | 101 |
| Total | 105 | 277 | 266 | 376 | 165 | 141 | 298 | 298 | 194 | 312 | 241 | 398 | 576 | 267 | 452 | 291 | 1006 | 1453 | 770 | 876 | 558 | 864 | 474 | 847 | 928 | 820 | 810 | 733 | 762 | 881 | 738 | 835 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|------|-----|-----|-----|-----|------|------|------|-----|------|------|------|------|-----|-----|------|-----|-----|-----|----|----|-----|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|
| 2005 | | | | | | | | | 0.1 | 3.2 | 4.6 | 4.0 | 2.9 | 0.7 | | | 1.8 | | | | | | 0.1 | | 0.4 | 3.1 | 14.0 | 27.7 | 69.2 | 43.5 | 4.3 | 1.4 | | | 11.4 | |
| 2006 | | | | | | | | | 1.1 | 6.3 | 13.6 | 16.3 | 0.3 | 1.9 | | 0.1 | 4.0 | | | | | 0.1 | 0.3 | 0.1 | 0.1 | 1.3 | 14.0 | 30.3 | 42.0 | 49.1 | 41.3 | 21.3 | 7.6 | | 16.0 | |
| 2007 | 0.4 | | | | | 0.1 | | | | 3.1 | 11.6 | 17.7 | 4.1 | 1.4 | | | 3.8 | | | | | | | | 0.1 | 0.3 | 4.4 | 14.9 | 29.6 | 38.1 | 20.4 | 2.1 | | | 8.5 | |
| 2008 | | | | | | | | | 0.3 | 28.0 | 10.7 | 6.7 | 7.9 | | | 0.1 | 5.4 | | | | | | 0.1 | | | 0.9 | 1.7 | 9.4 | 33.1 | 48.7 | 21.4 | 6.0 | 3.7 | | | 9.6 |
| 2009 | | | | | | | | | | 2.1 | 17.4 | 2.0 | 1.9 | 0.1 | | | 2.4 | | | | | | | | | 0.1 | 1.1 | 4.0 | 16.6 | 37.4 | 15.0 | 4.0 | 1.4 | | | 6.1 |
| 2010 | | | | | | | | | 0.3 | 4.9 | 5.3 | 5.3 | 3.9 | 0.6 | | | 2.0 | | | | | | | | | 4.1 | 8.6 | 39.7 | 47.4 | 10.3 | 9.6 | 3.7 | | | 9.5 | |
| 2011 | 0.1 | | | | | 0.03 | | | | 0.1 | 7.9 | 27.4 | 6.4 | 0.3 | 0.4 | | 4.3 | | | | | | | | | 0.6 | 5.9 | 23.9 | 23.3 | 5.1 | 6.6 | 2.4 | | | 5.2 | |
| 2012 | | | | | | | | | | 12.4 | 13.1 | 13.7 | 3.3 | | | | 4.3 | | | | | | | | | 0.4 | 0.6 | 2.4 | 5.3 | 19.4 | 55.4 | 19.7 | 14.1 | 3.6 | | 9.3 |
| 2013 | | | | | | | | | 0.1 | 10.7 | 10.1 | 4.9 | 0.7 | 1.0 | 0.1 | | 2.8 | | | | | | | | 0.3 | 0.3 | 3.0 | 9.6 | 26.3 | 53.9 | 22.0 | 15.9 | 1.4 | | | 10.2 |
| 2014 | | | | | | | | | 1.3 | 12.3 | 11.6 | 11.0 | 8.3 | 0.1 | | | 4.6 | | | | | | | | 0.1 | 0.3 | 0.1 | 1.1 | 11.9 | 16.3 | 31.4 | 32.3 | 17.3 | 6.3 | | 9.0 |
| 2015 | 0.06 | | | | | 0.04 | | | | 6.6 | 12.9 | 9.6 | 4.3 | 1.0 | | 0.1 | 3.4 | | | | | | | | | | 3.4 | 5.1 | 11.4 | 45.4 | 35.9 | 10.6 | 2.7 | 1.1 | 8.3 | |
| 2016 | | | | | | | | | | 7.6 | 26.4 | 11.4 | 8.7 | 2.4 | 0.3 | | 5.7 | | | | | | | | | | 0.9 | 6.9 | 52.7 | 19.7 | 10.9 | 8.0 | 3.7 | 2.0 | 7.5 | |
| 2017 | | | | | | | | | 2.4 | 19.7 | 31.6 | 14.6 | 12.4 | 1.3 | 0.3 | | 8.2 | | | | | | | | | 0.3 | 1.3 | 5.0 | 24.3 | 34.4 | 22.7 | 12.6 | 4.9 | 3.4 | 7.8 | |
| 2018 | | | | | | | | | | 1.6 | 9.1 | 23.1 | 3.7 | 0.3 | 0.3 | | 3.8 | | | | | | | | | 0.1 | | 4.1 | 33.6 | 40.3 | 23.1 | 16.4 | 3.7 | 4.4 | 9.0 | |
| 2019 | 0.2 | | | | | 0.04 | 0.1 | 0.1 | 0.1 | 8.7 | 25.1 | 17.0 | 7.3 | 5.4 | 0.4 | 0.1 | 6.5 | | | | | | | | | 0.6 | 1.4 | 1.7 | 14.6 | 20.4 | 27.9 | 29.3 | 7.9 | 1.7 | 7.5 | |
| Mean | 0.06 | | | | | 0.02 | 0.01 | 0.01 | 0.4 | 8.5 | 14.1 | 12.3 | 5.1 | 1.1 | 0.1 | 0.04 | 4.2 | | | | | | 0.01 | 0.04 | 0.02 | 0.08 | 0.3 | 2.6 | 8.4 | 26.4 | 40.1 | 24.4 | 13.1 | 3.8 | 2.5 | 9.0 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|-----|----|----|-----|------|------|------|------|-----|------|-----|------|-----|-----|----|----|----|------|----|-----|-----|-----|------|------|-------|------|------|-----|-----|-------|
| 2005 | | | | | | | | | | 6 | 8 | | 2 | 4 | | | 20 | | | | | | | | | | 12 | 46 | 89 | 66 | 26 | 4 | 2 | | 245 |
| 2006 | | | | | | | | | 4 | 15 | 3 | 32 | 1 | 3 | | | 58 | | | | | 1 | | | | 2 | 19 | 42 | 114 | 115 | 71 | 66 | 14 | | 444 |
| 2007 | | | | | | | | | | 6 | | 31 | 10 | 5 | | | 52 | | | | | | | | | 1 | | 13 | 45 | 98 | 145 | 73 | 1 | | 376 |
| 2008 | | | | | | | | | | 56 | 6 | 10 | 20 | | | | 92 | | | | | | | | | 2 | 8 | 24 | 111 | 126 | 34 | 5 | 9 | | 319 |
| 2009 | | | | | | | | | | 5 | 53 | 7 | 7 | 1 | | | 73 | | | | | | | | | | 2 | 6 | 45 | 159 | 33 | 8 | 4 | | 257 |
| 2010 | | | | | | | | | | 6 | 8 | 14 | 6 | 2 | | | 36 | | | | | | | | | | 7 | 20 | 82 | 96 | 32 | 25 | 9 | | 271 |
| 2011 | 1 | | | | | 1 | | | | 1 | 6 | 30 | 5 | | 1 | | 43 | | | | | | | | | | | 18 | 67 | 59 | 11 | 18 | 7 | | 180 |
| 2012 | | | | | | | | | | 20 | 4 | 20 | 10 | | | | 54 | | | | | | | | 1 | 1 | 3 | 15 | 67 | 165 | 56 | 41 | 4 | | 353 |
| 2013 | | | | | | | | | | 13 | 10 | 12 | 2 | 2 | | | 39 | | | | | | | | 2 | | 3 | 12 | 54 | 185 | 61 | 28 | 2 | | 347 |
| 2014 | | | | | | | | | | 28 | 5 | 14 | 24 | | | | 71 | | | | | | | | 1 | | 2 | 21 | 45 | 81 | 95 | 65 | 17 | | 327 |
| 2015 | 1 | | | | | 1 | | | | 16 | 13 | 24 | 13 | 2 | | | 68 | | | | | | | | | | 7 | 10 | 14 | 116 | 85 | 17 | 6 | 2 | 257 |
| 2016 | | | | | | | | | | 14 | 38 | 12 | 25 | 8 | | | 97 | | | | | | | | | | 1 | 12 | 187 | 65 | 32 | 28 | 11 | 5 | 341 |
| 2017 | | | | | | | | | | 56 | 51 | 20 | 16 | 4 | | | 147 | | | | | | | | | 1 | 2 | 13 | 76 | 83 | 70 | 37 | 13 | 6 | 301 |
| 2018 | | | | | | | | | | 6 | 11 | 43 | 4 | 1 | | | 65 | | | | | | | | | | | 9 | 75 | 107 | 69 | 30 | 9 | 10 | 309 |
| 2019 | | | | | | | | | | 19 | 46 | 11 | 12 | 19 | | | 107 | | | | | | | | | | | 1 | 30 | 34 | 83 | 77 | 23 | 3 | 251 |
| Mean | 0.1 | | | | | 0.1 | | | 2.0 | 17.8 | 17.5 | 18.7 | 10.5 | 3.4 | 0.07 | | 68.1 | | | | | | 0.07 | | 0.3 | 0.5 | 4.4 | 17.5 | 73.4 | 103.7 | 60.2 | 34.8 | 8.7 | 5.2 | 305.2 |

Ruby-crowned Kinglet is among the most abundant songbird migrants at MBO in both spring and fall. The earliest spring arrivals are generally between 11 April and 20 April, with the peak always occurring between Week 4 and 6. There have been only a handful of records beyond Week 8, more frequently over the past five years. In fall, there have been only scattered records over the first five weeks, all in 2015 or earlier. Numbers build rapidly in mid-late September, peaking in Week 10 in two-thirds of years. Numbers decline sharply in late October, but observations have been regular in Week 14 since it was added in 2015. Numbers have fluctuated in both seasons, but with more of an underlying increasing trend in spring.

EABL: Eastern Bluebird / Merlebleu de l'Est (*Sialia sialis*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|------|-------|-------|------|-------|
| First | 4-19 | 4-5 | | 4-24 | 4-8 | 5-13 | 5-8 | 5-12 | 5-7 | 5-12 | 5-3 | | 4-29 | 4-26 | 5-9 | 4-29 | 9-25 | 10-6 | 9-18 | 10-17 | | 10-5 | 10-27 | 9-28 | 8-1 | 9-30 | 10-6 | 8-2 | 8-5 | 9-15 | 8-13 | 9-16 |
| Peak | 4-19 | 4-5 | | 4-25 | 4-8 | 5-13 | 6-4 | 5-12 | 5-7 | 5-12 | 5-6 | | 4-29 | 4-26 | 5-29 | 5-3 | 10-24 | 10-21 | 9-29 | 10-19 | | 10-10 | 10-27 | 10-20 | 10-23 | 10-24 | 10-20 | 10-7 | 10-11 | 10-23 | 11-4 | 10-18 |
| Last | 4-19 | 4-5 | | 5-22 | 5-9 | 5-13 | 6-5 | 5-21 | 6-1 | 5-12 | 5-6 | | 5-18 | 5-5 | 5-29 | 5-12 | 10-24 | 10-30 | 10-30 | 10-19 | | 10-20 | 10-30 | 10-23 | 10-30 | 10-29 | 11-5 | 11-6 | 11-4 | 11-5 | 11-6 | 10-29 |
| Span | 1 | 1 | | 29 | 32 | 1 | 29 | 10 | 26 | 1 | 4 | | 20 | 10 | 21 | 14 | 30 | 25 | 43 | 3 | | 16 | 4 | 26 | 91 | 30 | 31 | 97 | 92 | 52 | 86 | 45 |
| # days | 1 | 1 | | 13 | 3 | 1 | 17 | 2 | 6 | 1 | 3 | | 2 | 2 | 3 | 4 | 4 | 6 | 18 | 2 | | 4 | 2 | 11 | 12 | 18 | 9 | 32 | 11 | 22 | 18 | 12 |
| % days | 2 | 1 | | 19 | 4 | 1 | 24 | 3 | 9 | 1 | 4 | | 3 | 3 | 4 | 6 | 5 | 7 | 20 | 2 | | 4 | 2 | 12 | 13 | 20 | 9 | 33 | 11 | 22 | 18 | 13 |
| High | 1 | 1 | | 3 | 1 | 1 | 3 | 2 | 3 | 1 | 3 | | 1 | 1 | 2 | 2 | 3 | 6 | 8 | 3 | | 7 | 1 | 11 | 14 | 20 | 6 | 27 | 24 | 17 | 41 | 13 |
| Total | 1 | 1 | | 24 | 3 | 1 | 31 | 3 | 12 | 1 | 5 | | 2 | 2 | 4 | 6 | 6 | 16 | 45 | 4 | | 18 | 2 | 33 | 33 | 133 | 17 | 141 | 49 | 123 | 129 | 50 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|------|-----|-----|------|------|----|------|----|------|-----|-----|------|------|-----|------|------|------|------|------|------|------|------|------|------|-----|------|-----|-----|-----|-----|-----|-----|------|------|
| 2005 | 3.5 | | | | | 1.0 | | | | 0.2 | | | | | | | 0.02 | | | | | | | | | | | 0.1 | | 0.2 | | 0.1 | 0.4 | | 0.07 |
| 2006 | | | | | | | | 0.2 | | | | | | | | | 0.01 | | | | | | | | | | | | 0.1 | | 1.3 | 0.9 | | 0.2 | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | 2.4 | 0.9 | 0.7 | 0.3 | 2.0 | | 0.5 |
| 2008 | 0.1 | | | | | 0.04 | | | | 0.1 | 2.0 | 1.1 | | 0.1 | | | 0.3 | | | | | | | | | | | | | | 0.6 | | | 0.04 | |
| 2009 | | | | | 0.2 | 0.08 | | 0.2 | | 0.1 | | | 0.1 | | | | 0.04 | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | 0.1 | | | | 0.01 | | | | | | | | | | | 0.4 | 2.0 | 0.1 | | | | 0.2 | |
| 2011 | | | | | | | | | | | | 0.1 | | 0.4 | 1.9 | 2.0 | 0.4 | 1.3 | 0.3 | 0.7 | | | | | | | | | | | | 0.3 | | 0.02 | |
| 2012 | | | | | | | | | | | | | 0.3 | 0.1 | | | 0.04 | | | 0.1 | | | | | | | | 0.3 | 0.4 | 0.7 | 3.3 | | 0.4 | | |
| 2013 | 0.4 | | | | | 0.06 | | | | 0.7 | | | | 0.6 | 0.4 | | 0.01 | | | | 0.4 | 0.1 | 0.1 | | | | | | 0.6 | 2.4 | 1.0 | | 0.4 | | |
| 2014 | | | | | | | | | | 0.1 | | | | | | | 0.01 | | | | | | | | | | | 0.7 | | 3.9 | 6.4 | 8.0 | | 1.5 | |
| 2015 | 0.6 | | | | | 0.4 | | | | 0.7 | | | | | | | 0.07 | | | | | | | | | | | 0.1 | 0.1 | 1.0 | 0.9 | 0.3 | 0.2 | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | 0.6 | 0.3 | | 0.9 | 0.3 | | 0.1 | 0.7 | 0.1 | 4.6 | 6.9 | 1.3 | 3.9 | 0.6 | 1.4 |
| 2017 | | | | | | | | | | 0.1 | | | | 0.1 | | | 0.03 | | | | 0.1 | | | 0.1 | | | | 0.9 | | 3.4 | 1.3 | 0.7 | 0.4 | 0.5 | |
| 2018 | | | | | | | | | | 0.1 | 0.1 | | | | | | 0.03 | | | | | | | | | 0.3 | | | 2.4 | 6.6 | 4.7 | 1.9 | 1.7 | 1.3 | |
| 2019 | | 0.2 | | | | 0.04 | | | | | | 0.1 | 0.1 | 0.3 | | 0.06 | | | | | 0.1 | | | | | 0.3 | 0.9 | 0.3 | 2.4 | 0.7 | 3.1 | 1.6 | 9.0 | 1.3 | |
| Mean | 0.2 | 0.02 | | | 0.02 | 0.05 | | 0.02 | | 0.03 | 0.2 | 0.2 | 0.06 | 0.07 | 0.2 | 0.2 | 0.09 | 0.05 | 0.02 | 0.04 | 0.08 | 0.04 | 0.01 | 0.07 | 0.02 | | 0.06 | 0.2 | 0.3 | 0.8 | 1.7 | 1.7 | 1.4 | 2.4 | 0.5 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|------|----|----|----|----|------|----|-----|-----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|----|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | 4 | 4 | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | 0.07 | | | | | 0.07 | | 0.3 | 0.3 | | | | | | | | | | 0.1 | | | | | 0.1 | |

Eastern Bluebird has been observed at MBO in all seasons, but is most regular in fall. In spring there have been sightings prior to mid-April in just two years, 2006 and 2009. More commonly, spring migrants peak in late April or early May; 2011 was a notable exception, with numbers peaking toward the end of the season and carrying over into summer, marking the only year that the species nested at MBO. In fall, there were no observations prior to mid-September until 2013, but there have been August sightings in four of the past seven years. The fall peak is almost always toward the end of the season, most commonly in Weeks 11 to 13; sightings occasionally carry over into November. The species is rarely banded, limited to three during migration, and four nestlings in 2011.

TOSO: Townsend's Solitaire / Solitaire de Townsend (*Myadestes townsendi*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|-------|------|------|------|------|------|------|------|------|------|-------|-----|
| First | | | | | | | | | | | | | | | | | | | | | 10-30 | | | | | | | | | | 10-30 | |
| Peak | | | | | | | | | | | | | | | | | | | | | 10-30 | | | | | | | | | | 10-30 | |
| Last | | | | | | | | | | | | | | | | | | | | | 10-30 | | | | | | | | | | 10-30 | |
| Span | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | 1 | |
| # days | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | 1 | |
| % days | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | 1 | |
| High | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | 1 | |
| Total | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | 0 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|------|-----|-----|-----|-----|--------|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | 0.1 | | | | | 0.03 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | 0.01 | | | | | <0.005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Only one Townsend's Solitaire has been observed at MBO, discovered on the final day of fall in 2009, and spotted again the following week in early winter.

VEER: Veery / Grive fauve (*Catharus fuscescens*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|-------|------|-------|------|------|------|
| First | 5-14 | 5-18 | 5-18 | 5-11 | 5-8 | 5-7 | 5-9 | 5-9 | 5-11 | 5-10 | 5-12 | 5-12 | 5-12 | 5-10 | 5-12 | 5-11 | 8-3 | 8-1 | 8-3 | 8-1 | 8-1 | 8-2 | 8-3 | 8-1 | 8-1 | 8-3 | 8-1 | 8-1 | 8-6 | 8-1 | 8-1 | 8-1 |
| Peak | 6-1 | 5-29 | 5-27 | 5-30 | 5-12 | 5-18 | 5-12 | 5-21 | 5-25 | 5-24 | 6-2 | 5-20 | 5-15 | 5-22 | 5-21 | 5-22 | 8-6 | 8-27 | 8-8 | 8-1 | 8-1 | 8-12 | 8-20 | 8-12 | 8-24 | 8-16 | 8-31 | 8-28 | 8-25 | 8-1 | 8-1 | 8-14 |
| Last | 6-3 | 6-5 | 6-1 | 6-4 | 5-31 | 6-5 | 5-22 | 5-31 | 5-27 | 6-2 | 6-2 | 6-5 | 6-5 | 6-2 | 6-1 | 6-1 | 9-23 | 9-18 | 9-7 | 9-22 | 10-9 | 9-11 | 10-5 | 10-20 | 9-21 | 9-18 | 10-17 | 9-25 | 10-11 | 9-25 | 9-22 | 9-26 |
| Span | 21 | 19 | 15 | 25 | 24 | 30 | 14 | 23 | 17 | 24 | 22 | 25 | 25 | 24 | 21 | 22 | 52 | 49 | 36 | 53 | 70 | 41 | 64 | 81 | 52 | 47 | 78 | 56 | 67 | 56 | 53 | 57 |
| # days | 11 | 15 | 9 | 12 | 17 | 23 | 7 | 9 | 5 | 18 | 7 | 20 | 17 | 21 | 9 | 13 | 20 | 35 | 15 | 27 | 22 | 18 | 20 | 36 | 29 | 25 | 44 | 41 | 36 | 46 | 34 | 30 |
| % days | 19 | 22 | 13 | 17 | 25 | 33 | 10 | 13 | 7 | 26 | 10 | 29 | 24 | 30 | 13 | 19 | 23 | 38 | 16 | 30 | 24 | 20 | 22 | 40 | 32 | 27 | 45 | 42 | 37 | 47 | 35 | 32 |
| High | 4 | 4 | 4 | 2 | 4 | 3 | 2 | 2 | 2 | 5 | 3 | 3 | 3 | 4 | 3 | 3 | 2 | 5 | 3 | 3 | 6 | 4 | 2 | 5 | 5 | 4 | 6 | 8 | 6 | 4 | 5 | 5 |
| Total | 16 | 34 | 18 | 13 | 31 | 40 | 10 | 10 | 6 | 35 | 11 | 31 | 28 | 44 | 15 | 23 | 27 | 69 | 23 | 38 | 38 | 25 | 21 | 67 | 55 | 44 | 99 | 82 | 74 | 92 | 69 | 55 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|------|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|-----|-----|----|
| 2005 | | | | | | | | | | | | 0.1 | 0.3 | 0.4 | 2.0 | 0.3 | 1.1 | 1.2 | 1.1 | 0.6 | 0.3 | 0.6 | 1.0 | 0.6 | 0.1 | 0.4 | 0.3 | | | | | | | 0.3 | |
| 2006 | | | | | | | | | | | | | | 0.3 | 2.1 | 2.4 | 0.5 | 1.9 | 2.9 | 2.5 | 2.1 | 1.4 | 1.4 | 2.7 | 1.4 | 0.6 | 0.1 | | | | | | | 0.8 | |
| 2007 | | | | | | | | | | | | | | 0.1 | 1.7 | 0.7 | 0.3 | 0.6 | 1.5 | 1.0 | 0.9 | 0.7 | 0.6 | 0.4 | 0.6 | 0.1 | | | | | | | | 0.3 | |
| 2008 | | | | | | | | | | | | 0.3 | 0.4 | 0.4 | 0.7 | 0.2 | 0.8 | 0.6 | 0.7 | 1.3 | 1.1 | 0.9 | 0.7 | 0.4 | 0.4 | 0.3 | 0.3 | | | | | | | 0.4 | |
| 2009 | | | | | | | | | | | | 0.1 | 1.3 | 1.9 | 0.9 | 0.3 | 0.4 | 0.7 | 1.3 | 1.0 | 2.4 | 0.6 | 0.7 | 1.0 | 0.6 | | | | 0.1 | | | | | 0.4 | |
| 2010 | | | | | | | | | | | | 0.1 | 0.3 | 1.6 | 2.3 | 1.4 | 0.6 | 1.3 | 0.7 | 0.9 | 0.7 | 1.0 | 0.1 | 0.1 | 0.6 | 1.0 | | | | | | | | 0.3 | |
| 2011 | | | | | | | | | | | | | 0.9 | 0.6 | | | 0.1 | 0.7 | 1.0 | 0.9 | 0.4 | 0.6 | 0.6 | 0.4 | 0.3 | 0.3 | | 0.1 | 0.1 | 0.1 | | | | 0.2 | |
| 2012 | | | | | | | | | | | | 0.1 | 0.9 | 0.3 | 0.1 | 0.1 | 0.3 | 1.0 | 0.6 | 1.7 | 2.7 | 1.7 | 1.9 | 0.3 | 0.3 | 0.4 | 0.1 | 0.3 | | 0.1 | | | | 0.7 | |
| 2013 | | | | | | | | | | | | 0.1 | | 0.7 | | 0.09 | 0.3 | 2.8 | 1.7 | 2.0 | 1.0 | 1.4 | 1.6 | 1.0 | 0.6 | 0.3 | | | | | | | | 0.6 | |
| 2014 | | | | | | | | | | | | 0.6 | 1.3 | 2.6 | 0.7 | 0.5 | 1.0 | 2.3 | 1.7 | 0.6 | 1.3 | 1.3 | 0.6 | 1.6 | 0.9 | 0.1 | | | | | | | | 0.5 | |
| 2015 | | | | | | | | | | | | 0.9 | | | 0.7 | 0.2 | 1.0 | 2.3 | 1.7 | 2.3 | 1.0 | 1.3 | 3.0 | 3.3 | 1.7 | 0.7 | 0.3 | 0.4 | | 0.1 | | | | 1.0 | |
| 2016 | | | | | | | | | | | | 0.4 | 1.4 | 1.3 | 1.3 | 0.4 | | 0.8 | 0.4 | 1.3 | 1.1 | 1.6 | 3.9 | 1.7 | 1.0 | 0.7 | 0.4 | | | | | | | 0.8 | |
| 2017 | | | | | | | | | | | | 0.9 | 1.7 | 0.9 | 0.6 | 0.4 | | 2.8 | 1.6 | 0.4 | 1.0 | 1.1 | 3.0 | 2.0 | 1.4 | 0.6 | 0.3 | 0.4 | | 0.3 | | | | 0.8 | |
| 2018 | | | | | | | | | | | | 0.6 | 1.9 | 2.6 | 1.3 | 0.6 | 0.7 | 1.0 | 0.9 | 2.0 | 2.7 | 2.4 | 2.6 | 1.6 | 1.0 | 0.6 | 0.3 | | | | | | | 0.9 | |
| 2019 | | | | | | | | | | | | 0.1 | 1.3 | 0.6 | 0.1 | 0.2 | 0.7 | 1.5 | 1.1 | 2.3 | 1.7 | 2.6 | 1.3 | 0.9 | 0.3 | 0.4 | 0.4 | | | | | | | 0.7 | |
| Mean | | | | | | | | | | | | 0.02 | 0.4 | 0.9 | 1.1 | 0.8 | 0.3 | 0.9 | 1.6 | 1.3 | 1.4 | 1.2 | 1.2 | 1.6 | 1.1 | 0.6 | 0.3 | 0.2 | 0.09 | 0.02 | 0.02 | 0.02 | | 0.6 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|------|----|
| 2005 | | | | | | | | | | | | | | | 1 | | 1 | | 4 | 4 | 1 | 1 | 2 | 3 | 3 | | 2 | | | | | | | 12 | |
| 2006 | | | | | | | | | | | | | | | 1 | | 1 | | | 2 | 2 | 1 | 1 | | | | | | | | | | | | 6 |
| 2007 | | | | | | | | | | | | | | | 1 | | 1 | | | 1 | | | 2 | | | | | | | | | | | | 3 |
| 2008 | | | | | | | | | | | | 1 | | | | | 1 | | | 3 | 3 | 1 | 5 | 1 | 2 | 2 | | | | | | | | | 17 |
| 2009 | | | | | | | | | | | | | 2 | 2 | | 4 | | 4 | 4 | 8 | 1 | 3 | 5 | 2 | | | | | | | | | | | 19 |
| 2010 | | | | | | | | | | | | | 3 | | | 3 | | 3 | 1 | 4 | 1 | 5 | | 1 | 2 | 4 | | | | | | | | | 13 |
| 2011 | | | | | | | | | | | | | | | | | | | | 2 | 1 | 1 | 1 | 2 | 1 | | 1 | | | | | | | | 9 |
| 2012 | | | | | | | | | | | | 1 | | | | 1 | 2 | 1 | 1 | 2 | 3 | 7 | 4 | 5 | 1 | 1 | 1 | | 1 | | | | | | 23 |
| 2013 | | | | | | | | | | | | 1 | | 1 | | 2 | | 8 | 8 | 5 | 1 | 2 | 3 | 3 | | 2 | 1 | | | | | | | | 17 |
| 2014 | | | | | | | | | | | | | 3 | 2 | | 5 | | 4 | 4 | 1 | 5 | 4 | 4 | 7 | 3 | 1 | | | | | | | | | 25 |
| 2015 | | | | | | | | | | | | 4 | | | | 4 | 1 | 2 | 3 | 7 | 3 | 4 | 6 | 7 | 4 | 3 | | | | | | | | | 34 |
| 2016 | | | | | | | | | | | | 2 | 1 | 2 | | 5 | | 2 | 2 | 5 | 1 | 3 | 15 | 1 | 2 | 3 | 1 | | | | | | | | 31 |
| 2017 | | | | | | | | | | | | 3 | 2 | 1 | | 6 | | 6 | 6 | 1 | 3 | 6 | 10 | 6 | 4 | 2 | | 2 | | | | | | | 34 |
| 2018 | | | | | | | | | | | | 1 | 2 | 1 | 1 | 5 | | 2 | 2 | 5 | 9 | 2 | 4 | 4 | 1 | 2 | | | | | | | | | 27 |
| 2019 | | | | | | | | | | | | | | | | | 1 | 3 | 4 | 7 | 3 | 6 | 3 | 4 | 4 | 2 | | | | | | | | | 25 |
| Mean | | | | | | | | | | | | 0.9 | 0.9 | 0.8 | 0.1 | 2.7 | 0.4 | 2.5 | 2.9 | 3.5 | 3.0 | 2.6 | 4.5 | 2.9 | 1.5 | 1.3 | 0.2 | 0.2 | | | | | | 19.7 | |

Veery is a regular but relatively uncommon migrant and breeder at MBO. From 2005 through 2007, the first spring arrivals were between 14 May and 18 May, but ever since, they have consistently been between 7 May and 12 May. There is usually only a modest peak to spring migration, and it varies among the final four weeks of the season. Veery breeds at MBO annually, with local juveniles boosting the mean daily count in July and August. There is generally a small boost in numbers in Week 4, presumably representing the passage of migrants in addition to the local birds. Numbers drop off significantly after mid-September, with October records in just five years. Spring and summer numbers have fluctuated over time, whereas in fall there has been an increasing trend.

GCTH: Gray-cheeked Thrush / Grive à joues grises (*Catharus minimus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|------|------|-------|------|------|
| First | 5-30 | 5-28 | | | 5-18 | 5-22 | | 5-29 | 5-27 | | 5-22 | | 5-24 | 5-26 | 5-21 | 5-24 | 9-16 | 9-18 | 9-23 | 9-30 | 9-20 | | 9-21 | 9-14 | 9-8 | 9-16 | 9-15 | 9-17 | 9-14 | 9-13 | 9-22 | 9-17 |
| Peak | 5-30 | 5-28 | | | 5-18 | 5-22 | | 5-29 | 5-27 | | 5-22 | | 5-24 | 5-26 | 5-21 | 5-24 | 9-21 | 9-25 | 9-24 | 9-30 | 9-21 | | 9-21 | 9-19 | 9-8 | 9-16 | 9-19 | 9-24 | 9-29 | 9-30 | 9-24 | 9-22 |
| Last | 5-30 | 5-28 | | | 5-24 | 5-22 | | 5-29 | 5-27 | | 5-23 | | 5-30 | 5-26 | 5-25 | 5-26 | 10-3 | 9-30 | 10-6 | 9-30 | 10-2 | | 9-27 | 10-5 | 10-10 | 9-29 | 11-3 | 10-7 | 10-3 | 10-14 | 9-28 | 10-5 |
| Span | 1 | 1 | | | 7 | 1 | | 1 | 1 | | 2 | | 7 | 1 | 5 | 3 | 18 | 13 | 14 | 1 | 13 | | 7 | 22 | 33 | 14 | 50 | 21 | 20 | 32 | 7 | 19 |
| # days | 1 | 1 | | | 2 | 1 | | 1 | 1 | | 2 | | 4 | 1 | 3 | 2 | 10 | 4 | 7 | 1 | 5 | | 3 | 15 | 4 | 3 | 12 | 18 | 7 | 16 | 5 | 8 |
| % days | 2 | 1 | | | 3 | 1 | | 1 | 1 | | 3 | | 6 | 1 | 4 | 2 | 11 | 4 | 8 | 1 | 5 | | 3 | 16 | 4 | 3 | 12 | 18 | 7 | 16 | 5 | 8 |
| High | 1 | 1 | | | 1 | 1 | | 1 | 1 | | 1 | | 1 | 1 | 1 | 1 | 3 | 2 | 2 | 1 | 2 | | 1 | 3 | 1 | 2 | 8 | 9 | 2 | 3 | 2 | 3 |
| Total | 1 | 1 | | | 2 | 1 | | 1 | 1 | | 2 | | 4 | 1 | 3 | 1 | 18 | 5 | 8 | 1 | 7 | | 3 | 23 | 4 | 4 | 23 | 47 | 10 | 22 | 7 | 12 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|------|-----|------|------|-----|-----|----|----|----|----|----|----|-----|------|-----|-----|-----|-----|------|------|------|------|------|
| 2005 | | | | | | | | | | | | | | | | 0.2 | 0.02 | | | | | | | | | | 0.1 | 1.3 | 0.8 | 0.5 | | | | | 0.2 | |
| 2006 | | | | | | | | | | | | | | | 0.1 | | 0.01 | | | | | | | | | | 0.1 | 0.4 | 0.1 | | | | | | 0.05 | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.4 | 0.4 | 0.3 | | | | | | 0.09 |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | 0.01 |
| 2009 | | | | | | | | | | | | | | 0.1 | 0.1 | | 0.03 | | | | | | | | | | 0.4 | 0.6 | | | | | | | 0.08 | |
| 2010 | | | | | | | | | | | | | | 0.1 | | | 0.01 | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.3 | 0.1 | | | | | | | 0.03 |
| 2012 | | | | | | | | | | | | | | | 0.1 | | 0.01 | | | | | | | | | | 0.3 | 1.9 | 0.9 | 0.3 | | | | | 0.3 | |
| 2013 | | | | | | | | | | | | | | | 0.1 | | 0.01 | | | | | | | | | 0.1 | | 0.3 | | 0.1 | | | | | 0.04 | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.3 | | 0.3 | | | | | | | 0.04 |
| 2015 | | | | | | | | | | | | | | 0.1 | 0.1 | | 0.03 | | | | | | | | | | 0.4 | 1.7 | 0.1 | | | 0.4 | 0.3 | 0.3 | 0.2 | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.6 | 3.3 | 2.6 | 0.3 | | | | | | 0.5 |
| 2017 | | | | | | | | | | | | | | | 0.4 | 0.1 | 0.06 | | | | | | | | | | 0.3 | 0.1 | 0.7 | 0.3 | | | | | 0.1 | |
| 2018 | | | | | | | | | | | | | | | 0.1 | | 0.01 | | | | | | | | | | 0.3 | 0.4 | 1.1 | 0.9 | 0.4 | | | | | 0.2 |
| 2019 | | | | | | | | | | | | | | 0.1 | 0.3 | | 0.04 | | | | | | | | | | | 0.7 | 0.3 | | | | | | | 0.07 |
| Mean | | | | | | | | | | | | | | 0.04 | 0.1 | 0.02 | 0.02 | | | | | | | | | | 0.01 | 0.2 | 0.7 | 0.6 | 0.2 | 0.04 | 0.03 | 0.02 | 0.06 | 0.1 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|-----|-----|------|-----|-----|-----|----|----|----|----|----|----|----|------|-----|-----|-----|-----|-----|-----|------|----|-----|
| 2005 | | | | | | | | | | | | | | | | 1 | 1 | | | | | | | | | | 1 | 6 | 4 | | | | | | 11 | |
| 2006 | | | | | | | | | | | | | | | 1 | | 1 | | | | | | | | | | 1 | 1 | 1 | | | | | | 3 | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | 1 | 2 | | | | | | 6 |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | 1 |
| 2009 | | | | | | | | | | | | | | | 1 | | 1 | | | | | | | | | | | 3 | 3 | | | | | | | 6 |
| 2010 | | | | | | | | | | | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 1 | | | | | | | 3 |
| 2012 | | | | | | | | | | | | | | | 1 | | 1 | | | | | | | | | | 2 | 10 | 4 | 1 | | | | | | 17 |
| 2013 | | | | | | | | | | | | | | | 1 | | 1 | | | | | | | | | 1 | | | | 1 | | | | | | 4 |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | 2 | | | | | | | 4 |
| 2015 | | | | | | | | | | | | | | 1 | | | 1 | | | | | | | | | | 3 | 7 | 1 | | | | 1 | | | 12 |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | 16 | 9 | 1 | | | | | | 29 |
| 2017 | | | | | | | | | | | | | | | 3 | | 3 | | | | | | | | | | 2 | 1 | 2 | | | | | | 5 | |
| 2018 | | | | | | | | | | | | | | | 1 | | 1 | | | | | | | | | | 2 | 3 | 6 | 6 | 2 | | | | | 19 |
| 2019 | | | | | | | | | | | | | | | 1 | | 1 | | | | | | | | | | | 3 | | | | | | | | 3 |
| Mean | | | | | | | | | | | | | | 0.1 | 0.6 | 0.07 | 0.8 | | | | | | | | | | 0.07 | 1.1 | 3.7 | 2.5 | 0.7 | 0.2 | | 0.07 | | 8.2 |

Gray-cheeked Thrush is a very rare spring and rare fall migrant at MBO. There have been spring records in ten years, always within the remarkably narrow window of 18 May to 30 May. In fall, Gray-cheeked Thrush was missed only in 2010. Migration is again quite focused, with most records coming between Weeks 7 and 10, but generally ranging between 8 September and 14 October, except for several later records in 2015, extending until 3 November. Except for a low count in 2019, fall numbers have tended to increase over time in fall; in spring the counts are too small to identify any trend.

BITH: Bicknell's Thrush / Grive de Bicknell (*Catharus bicknelli*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|------|------|------|
| First | 5-27 | | | | | | | | | | | | | | | 5-27 | | | | 10-6 | | | 9-26 | 9-29 | | | 10-10 | | | 9-30 | | 10-2 |
| Peak | 5-27 | | | | | | | | | | | | | | | 5-27 | | | | 10-6 | | | 9-26 | 9-29 | | | 10-10 | | | 9-30 | | 10-2 |
| Last | 5-27 | | | | | | | | | | | | | | | 5-27 | | | | 10-6 | | | 9-26 | 10-2 | | | 10-14 | | | 9-30 | | 10-3 |
| Span | 1 | | | | | | | | | | | | | | | 1 | | | | 1 | | | 1 | 4 | | | 5 | | | 1 | | 2 |
| # days | 1 | | | | | | | | | | | | | | | 1 | | | | 1 | | | 1 | 2 | | | 2 | | | 1 | | 1 |
| % days | 2 | | | | | | | | | | | | | | | 2 | | | | 1 | | | 1 | 2 | | | 2 | | | 1 | | 1 |
| High | 1 | | | | | | | | | | | | | | | 1 | | | | 1 | | | 1 | 1 | | | 1 | | | 1 | | 1 |
| Total | 1 | | | | | | | | | | | | | | | 0 | | | | 1 | | | 1 | 2 | | | 2 | | | 1 | | 0 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|------|-----|--------|-----|-----|----|----|----|----|----|----|----|----|------|------|------|-----|-----|-----|-----|----|--------|------|
| 2005 | | | | | | | | | | | | | | | 0.1 | | 0.02 | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | 0.01 | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | 0.01 | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.3 | | | | | | | 0.02 | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | 0.01 |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | 0.01 | | <0.005 | | | | | | | | | | | 0.04 | 0.01 | 0.02 | | | | | | <0.005 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|------|-----|------|-----|-----|----|----|----|----|----|----|----|----|----|-----|------|------|-----|-----|-----|----|--|-----|---|
| 2005 | | | | | | | | | | | | | | | 1 | | 1 | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | 1 | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | 1 | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | | | | | | | 2 | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | 1 |
| Mean | | | | | | | | | | | | | | | 0.07 | | 0.07 | | | | | | | | | | | | 0.3 | 0.07 | 0.07 | | | | | | 0.4 | |

Bicknell's Thrush is a very rare migrant at MBO. Because it is a Threatened species in Canada with only a small breeding population in Quebec, only individuals that have been captured, measured, and closely examined have been recorded as Bicknell's Thrush. Only one individual has been recorded in spring, in 2005. There have been somewhat more records in fall, with a total of six individuals between 2008 and 2018, including one in 2015 that was recaptured four days after being banded. Fall observations have all occurred between 26 September and 14 October.

SWTH: Swainson's Thrush / Grive à dos olive (*Catharus ustulatus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|------|-------|-------|------|-------|-------|-------|-------|------|-------|------|-------|-------|
| First | 5-30 | 5-19 | 5-23 | 5-16 | 5-24 | 5-23 | 5-15 | 5-31 | 5-23 | 5-11 | 5-9 | 5-14 | 5-16 | 5-11 | 5-11 | 5-18 | 8-19 | 9-4 | 8-15 | 8-7 | 8-6 | 8-1 | 8-2 | 8-2 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-2 | 8-6 | |
| Peak | 5-30 | 5-19 | 5-23 | 5-27 | 5-24 | 5-23 | 5-15 | 5-31 | 5-26 | 5-14 | 5-14 | 6-4 | 5-20 | 5-21 | 5-24 | 5-23 | 9-18 | 9-4 | 9-18 | 10-3 | 10-3 | 9-16 | 9-25 | 9-13 | 9-14 | 9-24 | 9-18 | 9-22 | 8-24 | 9-30 | 9-17 | 9-18 |
| Last | 5-30 | 5-25 | 6-1 | 5-28 | 5-24 | 5-23 | 5-15 | 5-31 | 5-26 | 6-1 | 5-24 | 6-4 | 5-28 | 6-1 | 6-1 | 5-27 | 10-9 | 10-12 | 10-21 | 10-6 | 10-12 | 10-16 | 10-6 | 10-22 | 10-10 | 10-22 | 10-15 | 11-5 | 10-16 | 11-5 | 10-11 | 10-16 |
| Span | 1 | 7 | 10 | 13 | 1 | 1 | 1 | 1 | 4 | 22 | 16 | 22 | 13 | 22 | 22 | 10 | 52 | 39 | 68 | 61 | 68 | 77 | 66 | 82 | 71 | 82 | 76 | 97 | 77 | 97 | 71 | 72 |
| # days | 1 | 3 | 3 | 3 | 1 | 1 | 1 | 1 | 2 | 5 | 7 | 7 | 6 | 15 | 16 | 5 | 23 | 10 | 19 | 11 | 13 | 25 | 20 | 59 | 33 | 33 | 64 | 66 | 67 | 84 | 49 | 38 |
| % days | 2 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 3 | 7 | 10 | 10 | 9 | 21 | 23 | 7 | 26 | 11 | 21 | 12 | 14 | 27 | 22 | 65 | 36 | 36 | 65 | 67 | 68 | 86 | 50 | 41 |
| High | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 2 | 3 | 4 | 3 | 3 | 5 | 15 | 3 | 7 | 1 | 2 | 5 | 2 | 4 | 4 | 28 | 11 | 11 | 32 | 20 | 11 | 58 | 4 | 13 |
| Total | 1 | 3 | 3 | 5 | 1 | 1 | 1 | 1 | 3 | 9 | 11 | 9 | 8 | 40 | 85 | 12 | 45 | 10 | 23 | 19 | 16 | 35 | 30 | 292 | 82 | 63 | 340 | 309 | 231 | 555 | 94 | 143 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|-----|-----|-----|------|------|-----|-----|------|-----|-----|-----|-----|-----|-----|------|------|------|------|-----|-----|------|------|-----|
| 2005 | | | | | | | | | | | | | | | | 0.2 | 0.02 | | | | | | 0.1 | | 0.6 | 0.3 | 2.4 | 1.9 | 0.8 | 0.5 | | | | | 0.5 |
| 2006 | | | | | | | | | | | | | | 0.3 | 0.1 | | 0.04 | | | | | | | | 0.1 | 0.1 | 0.3 | 0.3 | 0.4 | | 0.1 | | | | 0.1 |
| 2007 | | | | | | | | | | | | | | | 0.3 | 0.1 | 0.04 | | | | | | 0.6 | 0.1 | 0.3 | 0.4 | 0.6 | 0.6 | 0.4 | 0.1 | 0.1 | | | | 0.3 |
| 2008 | | | | | | | | | | | | | | 0.1 | 0.6 | | 0.07 | | | | 0.1 | 0.1 | | | | 0.1 | 0.7 | 0.4 | 1.1 | | | | | | 0.2 |
| 2009 | | | | | | | | | | | | | | | 0.1 | | 0.01 | | | | 0.1 | 0.1 | | | 0.1 | | 0.3 | 0.1 | 0.3 | 1.0 | 0.1 | | | | 0.2 |
| 2010 | | | | | | | | | | | | | | | 0.1 | | 0.01 | | | | 0.1 | | | | | 1.1 | 1.3 | 1.3 | 0.4 | 0.3 | 0.4 | | | | 0.4 |
| 2011 | | | | | | | | | | | | | 0.1 | | | | 0.01 | | | | 0.3 | | 0.1 | | 0.3 | 0.4 | 0.7 | 1.1 | 0.9 | 0.4 | | | | | 0.3 |
| 2012 | | | | | | | | | | | | | | | 0.4 | 0.1 | 0.01 | | | | 0.4 | 1.7 | 1.1 | 0.1 | 1.0 | 4.9 | 16.4 | 5.7 | 5.1 | 4.0 | 0.6 | 0.6 | | | 3.2 |
| 2013 | | | | | | | | | | | | | | | 0.4 | 0.04 | | | | 0.6 | 0.3 | 0.4 | 0.1 | | 1.4 | 4.7 | 2.1 | 1.7 | 0.1 | 0.1 | | | | 0.9 | |
| 2014 | | | | | | | | | | | | | 0.9 | 0.3 | | 0.2 | 0.1 | | | | 0.1 | 0.1 | 0.1 | 0.3 | 0.1 | 0.7 | 1.4 | 3.3 | 1.7 | 0.4 | 0.4 | 0.1 | | 0.7 | |
| 2015 | | | | | | | | | | | | | 1.1 | 0.3 | 0.1 | | 0.2 | | | | 1.4 | 3.0 | 1.6 | 2.3 | 4.0 | 6.6 | 10.7 | 13.3 | 4.0 | 1.4 | 0.3 | | | 3.5 | |
| 2016 | | | | | | | | | | | | | 0.1 | 0.3 | 0.4 | 0.4 | 0.1 | | 0.3 | 0.1 | 1.1 | 0.4 | 2.9 | 1.1 | 2.1 | 3.9 | 6.3 | 11.7 | 8.1 | 4.7 | 1.0 | 0.1 | 0.4 | 0.1 | 3.2 |
| 2017 | | | | | | | | | | | | | | 0.9 | 0.3 | | 0.1 | | 1.8 | 1.0 | 1.9 | 1.9 | 1.4 | 3.7 | 2.9 | 4.3 | 5.7 | 3.1 | 5.7 | 2.0 | 0.4 | | | 2.4 | |
| 2018 | | | | | | | | | | | | | 0.4 | 3.0 | 1.9 | 0.4 | 0.6 | | 1.0 | 0.6 | 2.0 | 3.1 | 3.6 | 4.3 | 4.6 | 6.3 | 7.6 | 8.1 | 25.1 | 11.4 | 1.6 | 0.9 | 0.6 | 0.1 | 5.7 |
| 2019 | | | | | | | | | | | | | 0.6 | 2.4 | 7.4 | 1.7 | 1.2 | | 0.5 | 0.3 | 1.0 | 0.9 | 1.1 | 0.6 | 0.3 | 1.0 | 2.1 | 2.3 | 1.7 | 2.3 | 0.1 | | | 1.0 | |
| Mean | | | | | | | | | | | | | 0.2 | 0.5 | 0.8 | 0.2 | 0.2 | | 0.2 | 0.09 | 0.6 | 0.8 | 0.9 | 0.8 | 1.1 | 2.1 | 4.0 | 3.7 | 3.8 | 2.0 | 0.4 | 0.1 | 0.07 | 0.06 | 1.5 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|-----|-----|-----|-----|-----|------|
| 2005 | | | | | | | | | | | | | | | | 1 | 1 | | | | | | 1 | | 3 | 2 | 13 | 10 | 5 | 2 | | | | | 36 |
| 2006 | | | | | | | | | | | | | | 1 | | | 1 | | | | | | | | 1 | | 2 | 2 | 2 | | | | | | 7 |
| 2007 | | | | | | | | | | | | | | | 2 | | 2 | | | | | | 4 | | 2 | 2 | 1 | 3 | 2 | 1 | | | | | 15 |
| 2008 | | | | | | | | | | | | | | | 1 | | 1 | | | | 1 | 1 | | | | 1 | 4 | 3 | 5 | | | | | | 15 |
| 2009 | | | | | | | | | | | | | | | 1 | | 1 | | | | 1 | 1 | | | 1 | | 2 | | 2 | 7 | | | | | 14 |
| 2010 | | | | | | | | | | | | | | | 1 | | 1 | | | | 1 | | | | | 7 | 9 | 7 | 1 | 1 | 1 | | | | 27 |
| 2011 | | | | | | | | | | | | | | | | | 1 | | | | 2 | | 1 | | 2 | 3 | 1 | 6 | 5 | 1 | | | | | 21 |
| 2012 | | | | | | | | | | | | | | | 1 | | 1 | | | | 3 | 9 | 5 | 1 | 7 | 24 | 66 | 20 | 21 | 17 | 1 | 2 | | | 176 |
| 2013 | | | | | | | | | | | | | | | 1 | | 1 | | | | 2 | | | 1 | | 2 | 12 | 4 | 4 | | | | | | 25 |
| 2014 | | | | | | | | | | | | | 2 | 1 | | 1 | 4 | | | | 1 | | 1 | 2 | 1 | 5 | 6 | 16 | 9 | 2 | 2 | 1 | | | 46 |
| 2015 | | | | | | | | | | | | | 4 | | | | 4 | | | | 5 | 14 | 5 | 3 | 7 | 25 | 41 | 56 | 9 | 6 | | | | | 171 |
| 2016 | | | | | | | | | | | | | 1 | 1 | 1 | | 3 | | 1 | 1 | 6 | | 12 | 4 | 9 | 10 | 31 | 48 | 30 | 16 | 3 | | 1 | | 170 |
| 2017 | | | | | | | | | | | | | | 2 | 1 | | 3 | | 4 | 4 | 5 | 8 | 4 | 1 | 5 | 21 | 24 | 8 | 21 | 2 | | | | | 99 |
| 2018 | | | | | | | | | | | | | 3 | 13 | 3 | | 19 | | 2 | 2 | 6 | 11 | 12 | 1 | 11 | 15 | 20 | 30 | 67 | 30 | 2 | 2 | 1 | | 208 |
| 2019 | | | | | | | | | | | | | 7 | 25 | 6 | 38 | | 1 | 1 | 1 | 1 | 1 | 1 | 2 | | 2 | 7 | 6 | 7 | 6 | | | | | 33 |
| Mean | | | | | | | | | | | | | 0.7 | 1.7 | 2.4 | 0.6 | 5.3 | | 0.5 | 0.5 | 2.3 | 3.0 | 3.1 | 1.0 | 3.3 | 7.8 | 15.7 | 14.5 | 12.6 | 6.5 | 0.7 | 0.3 | 0.1 | | 70.9 |

Swainson's Thrush is a spring and fall migrant at MBO. The vast majority of spring observations are over the final three weeks of May, with a few lingering into June in three of the past four years, and five years overall. Fall migrants did not arrive until mid-August or later from 2005 to 2007, but were recorded beginning in the first week of August from 2008 to 2015, and already in late July annually since 2016. The peak of fall migration is generally from Week 7 to 9, on average dropping off sharply in Week 11. Observations in Weeks 13 and 14 have occurred only in 2016 and 2018. Spring numbers have been significantly higher since 2014, reaching record levels in 2019. Fall numbers first spiked in 2012, and were again far above average from 2015 through 2018.

HETH: Hermit Thrush / Grive solitaire (*Catharus guttatus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| First | 4-27 | 4-28 | 4-29 | 4-18 | 4-27 | 5-13 | 4-27 | 4-18 | 4-17 | 4-16 | 4-24 | 4-12 | 4-19 | 4-27 | 4-18 | 4-23 | 9-25 | 9-30 | 8-9 | 8-9 | 8-7 | 9-16 | 8-26 | 9-16 | 8-16 | 8-14 | 9-27 | 9-3 | 8-20 | 8-5 | 8-11 | 8-28 |
| Peak | 4-27 | 4-28 | 4-29 | 4-18 | 4-27 | 5-13 | 4-30 | 4-27 | 4-17 | 5-20 | 4-24 | 4-26 | 4-25 | 4-27 | 4-28 | 4-28 | 10-11 | 10-16 | 10-14 | 10-8 | 10-10 | 10-14 | 10-6 | 10-13 | 10-19 | 10-11 | 10-15 | 10-19 | 10-21 | 10-19 | 10-19 | 10-14 |
| Last | 5-6 | 5-17 | 5-24 | 5-14 | 5-18 | 5-13 | 5-30 | 6-1 | 4-17 | 5-24 | 5-7 | 6-3 | 5-4 | 5-14 | 5-27 | 5-16 | 10-28 | 10-26 | 10-25 | 10-30 | 10-29 | 10-30 | 10-29 | 10-25 | 10-30 | 10-30 | 11-5 | 11-6 | 11-3 | 11-6 | 11-6 | 10-30 |
| Span | 10 | 20 | 26 | 27 | 22 | 1 | 34 | 45 | 1 | 39 | 14 | 53 | 16 | 18 | 40 | 24 | 34 | 27 | 78 | 83 | 84 | 45 | 65 | 40 | 76 | 78 | 40 | 65 | 76 | 94 | 88 | 65 |
| # days | 2 | 2 | 5 | 3 | 2 | 1 | 4 | 13 | 1 | 11 | 3 | 14 | 8 | 9 | 20 | 7 | 22 | 22 | 26 | 25 | 22 | 29 | 23 | 35 | 33 | 38 | 29 | 42 | 36 | 36 | 33 | 30 |
| % days | 3 | 3 | 7 | 4 | 3 | 1 | 6 | 19 | 1 | 16 | 4 | 20 | 11 | 13 | 29 | 9 | 25 | 24 | 29 | 27 | 24 | 32 | 25 | 38 | 36 | 42 | 30 | 43 | 37 | 37 | 34 | 32 |
| High | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 5 | 1 | 6 | 1 | 2 | 2 | 1 | 3 | 2 | 7 | 12 | 8 | 6 | 22 | 16 | 10 | 22 | 12 | 19 | 8 | 8 | 13 | 22 | 15 | 13 |
| Total | 2 | 2 | 5 | 3 | 2 | 1 | 6 | 28 | 1 | 22 | 3 | 17 | 9 | 9 | 27 | 9 | 64 | 68 | 78 | 56 | 148 | 168 | 48 | 225 | 90 | 182 | 80 | 107 | 85 | 198 | 172 | 118 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|------|------|-----|-----|-----|------|----|----|------|-----|-----|-----|-----|-----|------|------|------|-----|------|--------|------|------|------|-----|------|------|-----|-----|-----|------|------|-----|-----|-----|-----|-----|
| 2005 | | | | | | | | | | | 0.1 | 0.1 | | | | | 0.03 | | | | | | | | | | | | | | | | | | | 0.7 |
| 2006 | | | | | | | | | | | 0.1 | | | 0.1 | | | 0.03 | | | | | | | | | | | | | | | | | | | 0.7 |
| 2007 | 0.2 | | | | | 0.07 | | | | | 0.1 | | | 0.4 | 0.1 | | 0.07 | | | | | | 0.1 | 0.3 | | | 0.1 | 0.3 | 0.3 | 0.6 | 2.0 | 4.4 | 2.4 | 0.6 | 0.9 | |
| 2008 | | | | | | | | | | 0.1 | | 0.1 | 0.1 | | | | 0.04 | | | | | | 0.3 | | 0.3 | | 0.3 | 0.4 | 2.7 | 3.1 | 0.4 | 0.4 | | | 0.6 | |
| 2009 | | | | | | | | | | | 0.1 | | | 0.1 | | | 0.03 | | | | 0.1 | | 0.1 | | | | | | 1.4 | 7.1 | 10.1 | 2.0 | 0.1 | | 1.6 | |
| 2010 | | | | | | | | | | | | | 0.1 | | | | 0.01 | | | | | | | | | 0.1 | 0.3 | 0.7 | 4.0 | 9.6 | 7.0 | 2.3 | | | 1.8 | |
| 2011 | | | | | | | | | | | 0.4 | 0.3 | | | | 0.1 | 0.09 | | | | | | | 0.1 | | | | 0.3 | 2.7 | 1.7 | 1.1 | 0.9 | | | 0.5 | |
| 2012 | | | | | | | | | 0.9 | 3.0 | | | | | | 0.1 | 0.4 | | | | | | | | | 0.6 | 0.6 | 1.6 | 8.4 | 14.3 | 6.4 | 0.3 | | | 2.5 | |
| 2013 | | | | | | | | | 0.1 | | | | | | | | 0.01 | | | | | | 0.1 | 0.1 | | | 0.6 | 1.3 | 3.4 | 2.6 | 3.0 | 1.7 | | | 1.0 | |
| 2014 | | | | | | | | | 0.7 | 0.7 | 0.4 | 0.1 | | 0.9 | 0.3 | | 0.3 | | | | | 0.1 | 0.1 | | 0.1 | | 0.4 | 2.0 | 1.7 | 8.7 | 6.7 | 6.0 | | | 2.0 | |
| 2015 | 0.6 | | | | | 0.4 | | | | 0.1 | 0.1 | 0.1 | | | | | 0.04 | | | | | | | | | | | 0.7 | 1.3 | 2.6 | 3.0 | 3.3 | 0.6 | | 0.8 | |
| 2016 | | 0.3 | | | | 0.04 | | | 0.3 | | 1.1 | 0.6 | 0.3 | | | 0.1 | 0.2 | | | | | | | | 0.1 | 0.3 | 0.3 | 0.3 | 1.0 | 2.7 | 3.9 | 3.3 | 2.4 | 1.0 | 1.1 | |
| 2017 | 0.1 | | | | | 0.03 | | | | 0.7 | 0.4 | 0.1 | | | | | 0.1 | | | | | | 0.1 | 0.6 | 0.1 | 0.1 | 0.3 | 0.1 | 2.1 | 1.0 | 0.6 | 4.1 | 2.0 | 0.9 | 0.9 | |
| 2018 | | | | | | | | | | 0.4 | 0.4 | 0.4 | 0.4 | | | | 0.1 | | 0.3 | 0.1 | 0.1 | | | 0.1 | | | 0.6 | 2.6 | 7.4 | 9.0 | 4.7 | 3.7 | | | 2.0 | |
| 2019 | | | | | | | | | 0.9 | 1.4 | 0.6 | 0.4 | 0.1 | 0.4 | | | 0.4 | | | | | 0.1 | | 0.1 | | | 0.6 | 4.4 | 6.3 | 6.6 | 5.1 | 1.4 | | | 1.8 | |
| Mean | 0.09 | 0.02 | | | | 0.03 | | | 0.08 | 0.2 | 0.5 | 0.2 | 0.1 | 0.1 | 0.06 | 0.03 | 0.1 | | 0.01 | <0.005 | 0.02 | 0.05 | 0.05 | 0.1 | 0.02 | 0.05 | 0.1 | 0.2 | 1.0 | 3.2 | 5.6 | 4.0 | 2.1 | 1.5 | 1.3 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|-----|----|----|----|-----|-----|-----|----|----|----|-----|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|-----|-----|----|------|----|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 22 | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 37 |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 36 |
| 2008 | | | | | | | | | | | | | | | | | | | | | | 2 | | 1 | | | | 1 | 4 | 7 | 21 | 3 | | | | | 34 |
| 2009 | | | | | | | | | | | 1 | | | | | | 1 | | | | | | 1 | | | | | 8 | 37 | 34 | 5 | 1 | | | | | 86 |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2 | 2 | 18 | 43 | 21 | 3 | | | | | 90 |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | 1 | 14 | 8 | 3 | 2 | | | | | 29 |
| 2012 | | | | | | | | | | 2 | | | | | | | 2 | | | | | | | | | | 2 | 1 | 7 | 39 | 32 | 14 | | | | | 95 |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | 4 | 5 | 16 | 9 | 11 | 3 | | | | 49 |
| 2014 | | | | | | | | | | | 1 | | | | | | 1 | | | | | | | 1 | | | 2 | 10 | 5 | 38 | 25 | 12 | | | | | 94 |
| 2015 | 3 | | | | | 3 | | | | 1 | | | | | | | 1 | | | | | | | | | | | 3 | 4 | 11 | 11 | 5 | 1 | | | | 35 |
| 2016 | | | | | | | | | | | 2 | 1 | | | | | 3 | | | | | | | | 1 | 1 | | 1 | 6 | 9 | 10 | 12 | 5 | | | | 45 |
| 2017 | | | | | | | | | | 2 | 1 | 1 | | | | | 4 | | | | | | | 2 | 1 | | | 1 | 11 | 4 | 3 | 19 | 4 | 1 | | | 46 |
| 2018 | | | | | | | | | | | 1 | 1 | | | | | 2 | | | 1 | 1 | | | | | | | 3 | 8 | 22 | 26 | 2 | 6 | | | | 67 |
| 2019 | | | | | | | | | | 1 | 2 | 1 | | | | | 4 | | | | | 1 | | | | | | 3 | 14 | 20 | 22 | 11 | 2 | | | | 73 |
| Mean | 0.2 | | | | | 0.2 | | | | 0.4 | 0.5 | 0.3 | | | | | 1.2 | | 0.07 | 0.07 | | 0.2 | 0.1 | 0.3 | 0.1 | 0.1 | 0.2 | 0.9 | 4.7 | 13.4 | 19.3 | 12.3 | 3.5 | 2.0 | | 55.9 | |

Hermit Thrush has been observed at MBO in all seasons, but is generally rare to very rare outside of fall. To date there have been only four spring seasons with more than 10 individuals observed, all since 2012. All spring records are between 12 April and 3 June, with a distinct overall peak in the final week of April. Early fall migrants, typically molting adults, are observed in small numbers most years over the first half of fall (and as early as late July in 2018). However, the majority of observations are in early-mid October, peaking in Week 11 in 9 of the first 12 years, and in Week 12 in the past three years. Late migrants are typically present through the end of October and often into early-mid November. Spring numbers have been substantially above average in most years since 2012, whereas fall totals have fluctuated more irregularly.

WOTH: Wood Thrush / Grive des bois (*Hylocichla mustelina*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | 5-11 | 5-8 | 5-20 | 5-5 | 5-19 | 5-7 | 5-14 | 5-9 | 5-20 | 5-10 | 5-8 | 5-11 | 5-10 | 5-6 | 5-5 | 5-10 | 9-5 | | 8-9 | 10-2 | 8-2 | 9-13 | | 9-25 | | 8-1 | 8-1 | 8-1 | 8-19 | 8-4 | 8-1 | 8-19 |
| Peak | 5-11 | 5-8 | 5-20 | 6-5 | 5-19 | 5-16 | 5-14 | 5-9 | 5-20 | 5-20 | 5-12 | 5-20 | 5-17 | 5-13 | 5-19 | 5-16 | 9-5 | | 8-9 | 10-2 | 8-2 | 9-13 | | 9-25 | | 9-13 | 8-2 | 8-1 | 9-27 | 8-11 | 8-3 | 8-27 |
| Last | 5-27 | 5-21 | 5-20 | 6-5 | 5-22 | 5-26 | 5-31 | 5-15 | 5-23 | 5-28 | 6-5 | 6-1 | 6-5 | 6-1 | 6-5 | 5-28 | 10-13 | | 8-9 | 10-2 | 9-11 | 9-13 | | 9-28 | | 9-20 | 9-27 | 9-7 | 9-27 | 9-24 | 9-28 | 9-19 |
| Span | 17 | 14 | 1 | 32 | 4 | 20 | 18 | 7 | 4 | 19 | 29 | 22 | 27 | 27 | 32 | 18 | 39 | | 1 | 1 | 41 | 1 | 4 | | 51 | 58 | 38 | 40 | 52 | 59 | 32 | |
| # days | 3 | 5 | 1 | 2 | 3 | 4 | 3 | 3 | 3 | 10 | 20 | 16 | 21 | 22 | 31 | 10 | 3 | | 1 | 1 | 3 | 1 | 2 | | 7 | 20 | 7 | 7 | 19 | 17 | 7 | |
| % days | 5 | 7 | 1 | 3 | 4 | 6 | 4 | 4 | 4 | 15 | 29 | 23 | 30 | 31 | 44 | 14 | 3 | | 1 | 1 | 3 | 1 | 2 | | 8 | 20 | 7 | 7 | 19 | 17 | 8 | |
| High | 1 | 1 | 1 | 3 | 1 | 2 | 1 | 2 | 3 | 6 | 3 | 2 | 4 | 3 | 6 | 3 | 1 | | 1 | 1 | 1 | 1 | | 1 | | 4 | 2 | 1 | 2 | 3 | 2 | 2 |
| Total | 3 | 5 | 1 | 4 | 3 | 5 | 3 | 4 | 6 | 22 | 35 | 19 | 34 | 29 | 94 | 18 | 3 | | 1 | 1 | 3 | 1 | 2 | | 13 | 25 | 7 | 8 | 25 | 24 | 8 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|------|-----|-----|-----|-----|--------|----|----|----|----|----|-----|-----|-----|-----|-----|------|------|-----|------|-----|-----|------|------|------|-----|-----|------|------|-----|-----|-----|-----|-----|------|------|
| 2005 | | | | | | | | | | | | | 0.1 | 0.1 | 0.1 | | 0.05 | 0.06 | | 0.03 | | | | | | 0.1 | | | | 0.3 | | | | | 0.03 | |
| 2006 | | | | | | | | | | | | 0.1 | 0.1 | 0.4 | | | 0.07 | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | 0.1 | | | | 0.01 | | | | | 0.1 | | | | | | | | | | | | | 0.01 | |
| 2008 | | | | | | | | | | | | 0.1 | | | | 0.4 | 0.06 | | | | | | | | | | | 0.1 | | | | | | | 0.01 | |
| 2009 | | | | | | | | | | | | | 0.4 | | | | 0.04 | | | | 0.3 | | | | | 0.1 | | | | | | | | | 0.03 | |
| 2010 | | | | | | | | | | | | 0.1 | 0.1 | 0.3 | 0.1 | | 0.07 | | | | | | | | | | 0.1 | | | | | | | | 0.01 | |
| 2011 | | | | | | | | | | | | | 0.1 | | | | 0.04 | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | 0.6 | | | | 0.06 | | | | | | | | | | | 0.1 | 0.1 | | | | | | | 0.02 |
| 2013 | | | | | | | | | | | | | 0.6 | 0.3 | | | 0.09 | 0.3 | | 0.1 | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | 0.3 | 1.3 | 1.6 | | 0.3 | 1.0 | 2.5 | 1.9 | 0.7 | 0.4 | | | | | 0.6 | 0.1 | | | | | | | 0.1 | |
| 2015 | 0.1 | | | | | 0.08 | | | | | | 0.1 | 1.7 | 1.1 | 1.4 | 0.6 | 0.5 | 2.0 | 2.3 | 2.1 | 1.4 | 0.4 | 0.3 | 0.4 | 0.1 | 0.4 | 0.1 | 0.1 | 0.1 | | | | | | 0.3 | |
| 2016 | | | | | | | | | | | | | 0.3 | 0.9 | 1.1 | 0.4 | 0.3 | 0.8 | 1.0 | 0.9 | 0.6 | 0.1 | | | 0.1 | 0.1 | | | | | | | | | | 0.07 |
| 2017 | | | | | | | | | | | | | 0.9 | 2.1 | 1.1 | 0.7 | 0.5 | 2.0 | 1.3 | 1.6 | | | 0.1 | | | 0.3 | 0.1 | | | | | | | | | 0.08 |
| 2018 | | | | | | | | | | | | 0.4 | 1.0 | 0.9 | 1.1 | 0.7 | 0.4 | 0.7 | 1.5 | 1.1 | 0.3 | 0.7 | 0.3 | 0.1 | 0.6 | 0.4 | 1.0 | 0.1 | | | | | | | 0.3 | |
| 2019 | | | | | | | | | | | | 0.7 | 2.4 | 4.9 | 3.4 | 2.0 | 1.3 | 1.0 | 1.8 | 1.4 | 0.7 | 1.1 | 0.3 | 0.6 | 0.1 | 0.1 | 0.1 | | 0.3 | | | | | | | 0.2 |
| Mean | 0.01 | | | | | <0.005 | | | | | | 0.1 | 0.5 | 0.9 | 0.7 | 0.4 | 0.3 | 0.3 | 0.5 | 0.4 | 0.3 | 0.2 | 0.07 | 0.08 | 0.09 | 0.1 | 0.1 | 0.06 | 0.07 | | | | | | 0.08 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | | |
|------|------|-----|-----|-----|-----|------|----|----|----|----|----|------|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|----|-----|---|---|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | 1 | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 2009 | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | | 1 |
| 2010 | | | | | | | | | | | | | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | | | | | 1 |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | 1 | 1 | | 2 | | | 6 | 6 | 1 | 1 | | | | | | | | | | | | | | 2 | |
| 2015 | 1 | | | | | 1 | | | | | | | | 1 | 1 | | 2 | 1 | 2 | 3 | 3 | 1 | 1 | 1 | | 1 | | | | | | | | | | | 7 | |
| 2016 | | | | | | | | | | | | | | 1 | | | 1 | | | 2 | 2 | | 1 | | | 1 | | | | | | | | | | | | 2 |
| 2017 | | | | | | | | | | | | | | 2 | | | 2 | 3 | | 3 | | | 1 | | | 1 | | 2 | 1 | | | | | | | | | 5 |
| 2018 | | | | | | | | | | | | 1 | 3 | 1 | | | 5 | | | 3 | 3 | 1 | 1 | 1 | | 2 | 1 | 1 | | | | | | | | | | 6 |
| 2019 | | | | | | | | | | | | | | 2 | 1 | | 3 | 2 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | | | 2 | | | | | | | | | 8 |
| Mean | 0.07 | | | | | 0.07 | | | | | | 0.07 | 0.3 | 0.4 | 0.3 | 0.07 | 1.1 | 0.4 | 0.9 | 1.3 | 0.5 | 0.3 | 0.3 | 0.1 | 0.2 | 0.3 | 0.07 | 0.2 | 0.3 | | | | | | | 2.3 | | |

Wood Thrush is primarily a summer visitor to MBO, with individuals typically present from early-mid May until around late September. Since 2014, sightings in spring, summer, and fall have all been much more frequent than in all previous years, with breeding occurring on site annually. Over that period, spring arrivals have consistently been between 5 May and 11 May, with numbers typically peaking in Weeks 8 or 9, then with lower numbers continuing into Week 10 and summer. On average, the fall mean daily count is highest in early August, and there tends to be a slight increase again around mid-September as a few migrants pass through. There have been only two sightings beyond early October, one in mid-October in 2005, and an exceptionally late record in November 2014.

AMRO: American Robin / Merle d'Amérique (*Turdus migratorius*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| First | 4-5 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 3-29 | 3-30 | 3-28 | 3-29 | 3-28 | 3-28 | 3-28 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 |
| Peak | 4-11 | 4-15 | 4-20 | 4-16 | 4-26 | 4-7 | 4-19 | 4-22 | 4-18 | 4-17 | 4-9 | 4-1 | 4-6 | 4-22 | 4-19 | 4-15 | 10-14 | 10-15 | 10-23 | 10-13 | 10-13 | 10-30 | 10-18 | 10-25 | 10-19 | 10-30 | 11-3 | 10-26 | 10-27 | 10-26 | 11-6 | 10-23 |
| Last | 6-3 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-4 | 6-4 | 6-5 | 6-5 | 6-4 | 6-5 | 6-4 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 11-6 | 11-6 | 11-6 | 11-6 | 11-6 | 11-1 |
| Span | 60 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 68 | 67 | 70 | 69 | 69 | 70 | 69 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 98 | 98 | 98 | 98 | 98 | 93 |
| # days | 58 | 69 | 70 | 69 | 69 | 70 | 69 | 70 | 67 | 67 | 67 | 70 | 67 | 69 | 69 | 68 | 87 | 91 | 91 | 89 | 90 | 89 | 87 | 90 | 91 | 98 | 98 | 97 | 98 | 97 | 92 | |
| % days | 98 | 100 | 100 | 99 | 100 | 100 | 99 | 100 | 96 | 99 | 96 | 100 | 96 | 99 | 99 | 99 | 99 | 100 | 100 | 98 | 99 | 98 | 96 | 99 | 99 | 100 | 100 | 99 | 100 | 99 | 99 | |
| High | 43 | 57 | 50 | 49 | 49 | 35 | 36 | 205 | 24 | 77 | 58 | 100 | 23 | 55 | 65 | 62 | 500 | 1508 | 1150 | 519 | 700 | 1094 | 485 | 404 | 613 | 3033 | 1715 | 1530 | 500 | 1559 | 2985 | 1220 |
| Total | 469 | 883 | 689 | 568 | 781 | 542 | 684 | 1009 | 471 | 1041 | 506 | 1474 | 527 | 403 | 701 | 717 | 5588 | 7870 | 8131 | 7195 | 8671 | 12377 | 5576 | 6914 | 7350 | 9616 | 12663 | 7862 | 6391 | 12576 | 12730 | 8767 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-------|------|------|------|-----|-------|------|------|------|------|------|------|-----|-----|-----|-----|------|-----|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|
| 2005 | 1.5 | | | 1.0 | | 0.7 | | 10.0 | 15.7 | 9.7 | 15.1 | 6.9 | 3.9 | 2.9 | 3.9 | 2.6 | 7.9 | 3.1 | 6.8 | 5.0 | 9.7 | 10.1 | 8.9 | 6.7 | 5.0 | 4.4 | 8.0 | 17.6 | 27.7 | 99.8 | 318.3 | 239.7 | 106.0 | | 63.5 |
| 2006 | 9.6 | 0.07 | | | 0.5 | 2.2 | 8.6 | 21.0 | 23.4 | 22.4 | 14.1 | 12.3 | 9.6 | 6.4 | 7.1 | 4.1 | 12.8 | 4.8 | 12.4 | 9.0 | 13.4 | 18.0 | 13.4 | 9.6 | 6.7 | 8.3 | 15.9 | 31.7 | 31.1 | 99.1 | 419.0 | 321.7 | 136.3 | | 86.5 |
| 2007 | 28.9 | 6.3 | 0.5 | | 0.7 | 12.1 | 13.3 | 10.0 | 12.6 | 26.0 | 10.6 | 7.3 | 5.6 | 4.1 | 5.6 | 3.4 | 9.8 | 3.9 | 3.7 | 3.8 | 11.3 | 15.4 | 9.0 | 4.9 | 6.4 | 6.0 | 7.0 | 28.1 | 42.4 | 115.9 | 347.4 | 333.4 | 234.3 | | 89.4 |
| 2008 | 91.5 | 2.0 | 0.2 | 2.6 | | 31.6 | 4.0 | 9.6 | 16.3 | 14.9 | 8.0 | 7.0 | 6.4 | 5.4 | 4.3 | 5.3 | 8.1 | 3.8 | 5.0 | 4.4 | 16.1 | 10.9 | 13.3 | 11.1 | 7.9 | 20.4 | 6.9 | 16.7 | 33.9 | 107.9 | 260.0 | 263.9 | 259.0 | | 79.1 |
| 2009 | 18.0 | 25.5 | 0.8 | 2.6 | 5.7 | 7.8 | 14.7 | 18.0 | 17.1 | 18.4 | 20.4 | 7.4 | 4.0 | 6.6 | 5.6 | 1.9 | 11.3 | 2.3 | 3.0 | 2.7 | 13.7 | 8.6 | 8.1 | 8.0 | 5.4 | 12.7 | 24.7 | 36.9 | 68.4 | 153.9 | 403.0 | 321.4 | 173.9 | | 95.3 |
| 2010 | 30.8 | 0.8 | 0.09 | 0.4 | 3.0 | 10.1 | 12.7 | 11.0 | 6.3 | 11.6 | 8.6 | 8.0 | 8.7 | 4.6 | 3.6 | 2.4 | 7.7 | | 4.0 | 2.7 | 21.7 | 7.9 | 7.4 | 9.3 | 12.3 | 11.0 | 10.9 | 15.9 | 25.3 | 113.9 | 430.6 | 552.1 | 550.0 | | 136.0 |
| 2011 | 4.0 | | 2.1 | 1.7 | 0.9 | 2.2 | 7.7 | 12.1 | 12.4 | 19.4 | 13.3 | 13.7 | 7.4 | 5.6 | 4.0 | 2.0 | 9.8 | 1.7 | 12.0 | 7.6 | 16.9 | 16.0 | 13.0 | 14.1 | 8.1 | 6.9 | 5.1 | 16.3 | 41.3 | 79.3 | 87.4 | 217.0 | 275.1 | | 61.3 |
| 2012 | 34.4 | 9.0 | 4.7 | 26.0 | 9.4 | 20.8 | 13.1 | 11.9 | 14.0 | 57.3 | 20.7 | 9.4 | 7.0 | 3.3 | 4.1 | 3.3 | 14.4 | 2.5 | 6.5 | 4.5 | 18.4 | 15.4 | 21.3 | 14.6 | 9.9 | 7.4 | 16.1 | 37.6 | 93.1 | 136.9 | 213.3 | 207.4 | 196.3 | | 76.0 |
| 2013 | 27.5 | 1.4 | 1.3 | 0.2 | 0.6 | 5.4 | 4.4 | 8.1 | 8.3 | 11.9 | 7.0 | 8.4 | 6.4 | 6.7 | 4.3 | 1.7 | 6.7 | 3.3 | 8.0 | 6.0 | 29.4 | 13.7 | 15.0 | 14.1 | 12.3 | 5.3 | 11.4 | 12.9 | 29.3 | 108.9 | 157.0 | 392.4 | 248.3 | | 80.8 |
| 2014 | 14.8 | 1.0 | 1.0 | 6.0 | 7.0 | 5.8 | 5.0 | 8.6 | 25.3 | 43.0 | 24.1 | 17.6 | 7.3 | 5.3 | 7.6 | 6.7 | 15.3 | 4.7 | 14.0 | 10.0 | 26.7 | 22.3 | 28.1 | 30.4 | 46.1 | 27.4 | 25.1 | 29.7 | 36.7 | 62.0 | 78.3 | 184.7 | 776.0 | | 105.7 |
| 2015 | 243.3 | 18.0 | | | 1.8 | 163.3 | 5.9 | 15.4 | 8.7 | 6.7 | 6.9 | 10.7 | 4.6 | 5.9 | 4.1 | 3.4 | 7.2 | 2.0 | 13.0 | 8.3 | 18.7 | 9.6 | 10.7 | 17.7 | 14.3 | 7.0 | 8.1 | 16.9 | 33.1 | 89.0 | 143.1 | 241.1 | 629.6 | 570.0 | 129.2 |
| 2016 | 51.6 | 0.8 | 1.4 | 4.3 | 2.5 | 9.8 | 44.1 | 28.3 | 27.0 | 28.9 | 24.0 | 25.1 | 8.9 | 9.1 | 9.6 | 5.6 | 21.1 | 7.5 | 6.8 | 7.1 | 14.9 | 14.0 | 16.1 | 8.9 | 15.0 | 13.0 | 16.0 | 23.3 | 29.4 | 52.6 | 140.0 | 131.9 | 390.0 | 258.1 | 80.2 |
| 2017 | 64.1 | 32.5 | 3.0 | 0.9 | | 19.2 | 7.1 | 9.7 | 9.4 | 10.4 | 11.3 | 6.6 | 8.7 | 4.7 | 4.4 | 2.9 | 7.5 | 3.0 | 12.8 | 8.6 | 11.4 | 24.4 | 14.4 | 15.1 | 7.6 | 9.7 | 16.7 | 16.6 | 22.0 | 22.6 | 80.3 | 169.1 | 249.4 | 253.6 | 65.2 |
| 2018 | 15.4 | 1.2 | | 0.5 | 0.1 | 3.2 | 2.9 | 4.9 | 5.0 | 16.9 | 6.7 | 8.0 | 3.6 | 3.0 | 4.1 | 2.6 | 5.8 | 4.0 | 5.3 | 4.7 | 10.1 | 18.9 | 5.7 | 8.3 | 10.1 | 15.9 | 19.0 | 18.0 | 18.3 | 65.6 | 94.7 | 404.1 | 808.9 | 299.0 | 128.3 |
| 2019 | 7.0 | 0.2 | 0.09 | 0.8 | 1.9 | 2.1 | 12.9 | 12.4 | 11.7 | 18.9 | 12.0 | 8.3 | 9.3 | 5.9 | 5.6 | 3.3 | 10.0 | 2.7 | 6.0 | 4.6 | 12.7 | 16.0 | 17.6 | 13.6 | 6.1 | 15.4 | 9.7 | 14.1 | 58.1 | 37.6 | 62.3 | 323.7 | 449.1 | 782.4 | 129.9 |
| Mean | 50.9 | 3.2 | 1.0 | 2.3 | 2.3 | 14.9 | 11.2 | 12.6 | 14.2 | 21.2 | 13.5 | 10.4 | 6.8 | 5.3 | 5.2 | 3.4 | 10.4 | 3.5 | 8.0 | 5.9 | 16.4 | 14.7 | 13.5 | 12.4 | 11.6 | 11.4 | 13.4 | 22.1 | 39.5 | 89.5 | 214.7 | 286.9 | 365.5 | 432.6 | 94.1 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|------|-----|-----|-----|-----|------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|-------|-----|
| 2005 | 4 | | | | | 4 | | 2 | 2 | 1 | 3 | 2 | | | 6 | | 16 | | | | 4 | 4 | 2 | 2 | | | 2 | 2 | 2 | 2 | 34 | 47 | 18 | | 119 | |
| 2006 | | | | | | | | 2 | 6 | 3 | 2 | 3 | 1 | | | 1 | 18 | | | | 4 | 3 | 1 | | | | 3 | | 1 | 28 | 82 | 146 | 34 | | 302 | |
| 2007 | | | | | | | | | | 8 | | 1 | 1 | 1 | | 1 | 12 | | | | 2 | 2 | | | | 1 | 1 | 5 | 6 | 54 | 80 | 68 | 99 | | 318 | |
| 2008 | | | | | | | | | | 2 | | 2 | 2 | | | 2 | 8 | | | | 1 | 6 | 1 | 4 | | 2 | | 3 | 2 | 28 | 103 | 101 | 95 | | 346 | |
| 2009 | | | | | | | | | | 1 | 2 | 2 | | | | 5 | 1 | 12 | 13 | | 11 | 2 | | | | 2 | 2 | 2 | 3 | 22 | 51 | 96 | 9 | | 200 | |
| 2010 | 5 | | | | | 5 | | | | 1 | 2 | 2 | 6 | 4 | 1 | 1 | 17 | | | 13 | 13 | 17 | 3 | 1 | 1 | | | 1 | | 2 | 2 | 51 | 191 | 125 | | 394 |
| 2011 | | | | | | | | | | 14 | 6 | 6 | 1 | 1 | 2 | | 30 | 1 | 13 | 14 | 9 | 2 | 1 | | | | | 1 | 4 | | 1 | 8 | 53 | | 79 | |
| 2012 | 1 | | | | | 1 | | | | 4 | 13 | 1 | 1 | | | 1 | 21 | | | 18 | 18 | 5 | 2 | 3 | 1 | | 3 | | 4 | 19 | 29 | 45 | 19 | | 130 | |
| 2013 | 2 | | | | | 2 | | | | 2 | | | | 4 | | 1 | 7 | | | 3 | 8 | 11 | 6 | 1 | 2 | 1 | 1 | | | 34 | 32 | 68 | 91 | | 236 | |
| 2014 | 1 | | | | | 1 | | | | 21 | 8 | 6 | 3 | 4 | 1 | 1 | 44 | 1 | 19 | 20 | 8 | 8 | 7 | 7 | 1 | 2 | 2 | | 1 | 2 | 3 | 32 | 71 | | 144 | |
| 2015 | 156 | | | | | 156 | | | | 5 | 1 | 4 | 2 | 7 | | | 19 | 1 | 19 | 20 | 5 | 2 | 2 | 1 | 2 | 1 | 1 | | 2 | 15 | 16 | 47 | 117 | 52 | 263 | |
| 2016 | | | | | | | | | | 11 | 14 | 8 | 2 | | 1 | | 36 | 4 | 6 | 10 | 2 | 4 | 6 | 1 | 1 | 1 | | 3 | 3 | | 21 | 22 | 22 | 22 | 108 | |
| 2017 | 1 | | | | | 1 | | | | 2 | 1 | | 2 | 1 | | | 6 | | | 12 | 12 | 3 | 3 | 1 | | 1 | | 2 | 1 | 6 | 4 | 3 | 13 | 19 | 56 | |
| 2018 | | | | | | | | | | 3 | 1 | 2 | 1 | | | 1 | 1 | 9 | 2 | 5 | 7 | 8 | 2 | 2 | | 1 | 1 | 3 | 2 | 2 | 79 | 79 | 33 | 233 | | |
| 2019 | | | | | | | | | | 2 | 4 | 1 | | | | | 7 | | | 4 | 4 | 5 | 3 | 3 | 2 | | 2 | 4 | 1 | 4 | 11 | 43 | 24 | 106 | | |
| Mean | 12.1 | | | | | 12.1 | | 2.0 | 4.0 | 5.3 | 3.8 | 2.5 | 1.5 | 1.6 | 0.9 | 0.6 | 17.0 | 0.9 | 8.6 | 9.5 | 5.9 | 3.3 | 2.1 | 1.4 | 0.6 | 0.9 | 0.9 | 1.5 | 2.5 | 14.2 | 35.5 | 64.3 | 59.2 | 30.0 | 202.3 | |

American Robin is common at MBO from early spring through November, and is also regular at smaller numbers through the rest of winter. Spring migration most commonly peaks in Week 4, but can vary from Week 1 to 5. By mid-May, numbers have generally declined considerably to just the local breeding pairs. By July, some juveniles are already boosting the mean daily count, and numbers over the first half of fall generally remain stable, presumably reflecting the local population. Large flocks congregate later in fall, typically peaking in Week 11 or 12 from 2005 to 2013, and in Week 13 or 14 from 2014 to 2019. In all seasons, numbers fluctuate considerably from year to year, with no clear overall trends.

GRCA: Gray Catbird / Moqueur chat (*Dumetella carolinensis*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-----|
| First | 5-11 | 5-9 | 5-3 | 5-6 | 5-8 | 4-24 | 5-1 | 5-6 | 5-9 | 5-8 | 5-7 | 5-10 | 5-10 | 5-3 | 4-19 | 5-4 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 |
| Peak | 5-29 | 5-19 | 5-26 | 5-21 | 5-21 | 5-19 | 5-21 | 5-21 | 5-23 | 5-25 | 5-24 | 5-22 | 5-23 | 5-10 | 5-22 | 5-21 | 9-18 | 8-26 | 9-21 | 8-1 | 9-28 | 8-4 | 9-22 | 9-13 | 9-15 | 9-16 | 8-8 | 9-18 | 9-22 | 9-14 | 9-9 | 9-7 | |
| Last | 6-3 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-3 | 6-5 | 6-2 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-4 | 10-24 | 10-17 | 10-14 | 10-13 | 10-14 | 10-14 | 10-10 | 10-24 | 10-30 | 10-13 | 10-15 | 10-13 | 10-14 | 10-23 | 10-9 | 10-16 | |
| Span | 24 | 28 | 34 | 31 | 29 | 43 | 36 | 29 | 28 | 26 | 30 | 27 | 27 | 34 | 48 | 32 | 85 | 78 | 75 | 74 | 75 | 75 | 71 | 85 | 91 | 74 | 76 | 74 | 75 | 84 | 70 | 77 | |
| # days | 21 | 27 | 26 | 29 | 25 | 29 | 25 | 27 | 21 | 25 | 27 | 26 | 26 | 29 | 30 | 26 | 75 | 77 | 70 | 72 | 74 | 69 | 68 | 85 | 73 | 72 | 75 | 72 | 73 | 75 | 68 | 73 | |
| % days | 36 | 39 | 37 | 41 | 36 | 41 | 36 | 39 | 30 | 37 | 39 | 37 | 37 | 41 | 43 | 38 | 85 | 85 | 77 | 79 | 81 | 76 | 75 | 93 | 80 | 79 | 77 | 73 | 74 | 77 | 69 | 79 | |
| High | 7 | 6 | 15 | 9 | 12 | 8 | 8 | 8 | 12 | 9 | 5 | 9 | 8 | 8 | 10 | 9 | 14 | 13 | 11 | 12 | 17 | 11 | 11 | 18 | 15 | 15 | 18 | 12 | 13 | 18 | 10 | 14 | |
| Total | 60 | 65 | 99 | 85 | 78 | 99 | 84 | 109 | 79 | 85 | 67 | 93 | 88 | 97 | 144 | 89 | 373 | 414 | 371 | 376 | 515 | 337 | 317 | 480 | 422 | 457 | 527 | 456 | 493 | 468 | 364 | 425 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|------|-----|-----|-----|-----|--------|----|----|----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|------|-----|-----|
| 2005 | | | | | | | | | | | | | 1.0 | 1.4 | 3.6 | 3.6 | 1.0 | 2.9 | 2.7 | 2.8 | 2.7 | 4.7 | 5.1 | 5.0 | 6.0 | 7.4 | 6.4 | 6.3 | 5.2 | 3.8 | 1.2 | 0.7 | 0.1 | | 4.2 |
| 2006 | | | | | | | | | | | | | 0.9 | 3.3 | 3.4 | 1.7 | 0.9 | 1.7 | 2.1 | 1.9 | 5.1 | 4.6 | 7.0 | 7.1 | 5.0 | 7.6 | 6.7 | 5.4 | 6.3 | 2.9 | 1.3 | 0.1 | | | 4.5 |
| 2007 | | | | | | | | | | | | 0.7 | 1.7 | 4.4 | 5.9 | 1.4 | 1.4 | 1.0 | 1.0 | 1.0 | 3.9 | 6.1 | 7.7 | 4.9 | 4.9 | 5.9 | 6.4 | 7.0 | 4.3 | 1.9 | 0.1 | | | | 4.1 |
| 2008 | | | | | | | | | | | | 0.9 | 1.0 | 4.1 | 3.3 | 2.9 | 1.2 | 2.4 | 2.2 | 2.3 | 7.3 | 6.3 | 5.9 | 5.1 | 5.4 | 5.7 | 5.3 | 5.6 | 3.3 | 3.1 | 0.7 | | | | 4.1 |
| 2009 | | | | | | | | | | | | 0.1 | 1.1 | 4.1 | 3.3 | 2.4 | 1.1 | 1.3 | 1.5 | 1.4 | 5.9 | 8.4 | 6.3 | 8.4 | 7.4 | 7.9 | 6.3 | 9.7 | 9.1 | 3.0 | 1.1 | | | | 5.7 |
| 2010 | 0.05 | | | | | 0.02 | | | | 0.1 | | 0.1 | 1.4 | 5.0 | 4.7 | 2.7 | 1.4 | 2.0 | 1.2 | 1.4 | 5.0 | 6.1 | 5.3 | 6.1 | 6.3 | 6.1 | 4.1 | 4.3 | 2.9 | 1.6 | 0.3 | | | | 3.7 |
| 2011 | | | | | | | | | | 0.1 | | 0.1 | 1.0 | 3.1 | 5.4 | 2.1 | 1.2 | 1.0 | 4.5 | 3.0 | 4.4 | 4.3 | 5.1 | 4.1 | 2.9 | 4.0 | 5.4 | 6.7 | 5.7 | 2.4 | 0.1 | | | | 3.5 |
| 2012 | | | | | | | | | | | | 0.6 | 3.4 | 4.9 | 4.7 | 2.0 | 1.6 | 0.8 | 1.8 | 1.2 | 6.1 | 5.6 | 6.4 | 7.0 | 6.0 | 8.1 | 11.0 | 6.6 | 5.3 | 3.0 | 1.9 | 1.4 | 0.1 | | 5.3 |
| 2013 | | | | | | | | | | | | | 0.3 | 4.6 | 4.6 | 1.9 | 1.1 | 1.0 | 5.5 | 3.6 | 7.3 | 5.4 | 5.4 | 7.9 | 5.3 | 5.7 | 8.3 | 5.1 | 6.7 | 2.6 | 0.3 | 0.1 | 0.1 | | 4.6 |
| 2014 | | | | | | | | | | | | 0.1 | 2.4 | 3.7 | 4.0 | 2.2 | 1.2 | 1.0 | 6.5 | 4.1 | 6.6 | 7.1 | 5.6 | 6.1 | 7.7 | 7.6 | 9.1 | 8.4 | 4.0 | 2.1 | 0.9 | | | | 5.0 |
| 2015 | | | | | | | | | | | | 0.1 | 2.6 | 2.7 | 3.0 | 1.1 | 1.0 | 3.0 | 6.5 | 5.0 | 9.1 | 8.0 | 7.1 | 8.0 | 8.0 | 8.3 | 8.1 | 9.3 | 5.7 | 2.4 | 1.1 | | | | 5.4 |
| 2016 | | | | | | | | | | | | | 1.4 | 4.6 | 5.1 | 2.1 | 1.3 | 4.0 | 6.5 | 5.2 | 6.4 | 5.4 | 7.0 | 5.9 | 8.4 | 6.9 | 8.3 | 7.9 | 5.3 | 3.3 | 0.4 | | | | 4.7 |
| 2017 | | | | | | | | | | | | | 1.4 | 4.6 | 4.3 | 2.3 | 1.3 | 2.0 | 5.5 | 4.0 | 7.4 | 6.3 | 5.7 | 7.0 | 7.0 | 9.1 | 8.9 | 8.3 | 6.1 | 3.6 | 1.0 | | | | 5.0 |
| 2018 | | | | | | | | | | | | 1.6 | 4.0 | 3.9 | 3.0 | 1.4 | 1.4 | 3.3 | 4.3 | 3.9 | 7.9 | 5.4 | 5.7 | 6.3 | 6.7 | 8.1 | 12.4 | 6.4 | 5.1 | 0.9 | 1.3 | 0.6 | | | 4.8 |
| 2019 | | | | | | | | | | 0.1 | | 0.4 | 4.3 | 6.7 | 6.6 | 2.4 | 2.1 | 1.0 | 2.3 | 1.7 | 4.6 | 5.0 | 6.1 | 5.6 | 5.0 | 7.1 | 5.3 | 6.3 | 5.6 | 1.4 | | | | | 3.7 |
| Mean | 0.01 | | | | | <0.005 | | | | 0.02 | 0.01 | 0.3 | 1.9 | 4.1 | 4.3 | 2.1 | 1.3 | 2.0 | 3.2 | 2.7 | 6.0 | 5.9 | 6.1 | 6.3 | 6.1 | 7.0 | 7.5 | 6.9 | 5.4 | 2.5 | 0.8 | 0.2 | 0.03 | | 4.6 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|-----|-----|-----|-----|-----|------|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 2005 | | | | | | | | | | | | | 2 | 2 | 3 | 2 | 9 | | 2 | 2 | 4 | 6 | 4 | 6 | 6 | 8 | 9 | 7 | 2 | 5 | | | 1 | | 58 |
| 2006 | | | | | | | | | | | | | | 7 | 2 | | 9 | | | | 8 | 2 | 4 | | 2 | 8 | 6 | 3 | 8 | | | | | | 41 |
| 2007 | | | | | | | | | | | | | 1 | 5 | 8 | | 14 | | | | 4 | 7 | 2 | | 2 | 5 | 10 | 6 | 3 | | | | | | 39 |
| 2008 | | | | | | | | | | | | 1 | 2 | 6 | 3 | | 12 | | | | 12 | 3 | 3 | 1 | 3 | 4 | 3 | 4 | 7 | 5 | | | | | 45 |
| 2009 | | | | | | | | | | | | | 3 | 6 | 2 | 1 | 12 | | 4 | 4 | 10 | 11 | 9 | 4 | 4 | 2 | 5 | 10 | 2 | 5 | 1 | | | | 63 |
| 2010 | | | | | | | | | | | | 1 | 4 | 5 | 4 | 1 | 15 | | | 3 | 7 | 2 | | 4 | 5 | 4 | 3 | 3 | 3 | 1 | | | | | 32 |
| 2011 | | | | | | | | | | | | | 2 | 5 | 3 | 2 | 12 | 1 | 6 | 7 | 6 | 3 | 3 | 2 | | 3 | 8 | 6 | 7 | | | | | | 38 |
| 2012 | | | | | | | | | | | | | 6 | 7 | 6 | 2 | 21 | | 3 | 3 | 10 | 8 | 4 | 6 | 6 | 11 | 12 | 2 | 3 | 2 | | | | | 64 |
| 2013 | | | | | | | | | | | | | | 10 | 6 | 2 | 18 | 1 | 13 | 14 | 13 | 2 | 1 | 5 | 4 | 3 | 6 | 6 | 5 | 1 | | | 1 | | 47 |
| 2014 | | | | | | | | | | | | | 5 | 6 | 8 | | 19 | 1 | 17 | 18 | 18 | 15 | 7 | 3 | 7 | 11 | 13 | 9 | 10 | 1 | | | | | 94 |
| 2015 | | | | | | | | | | | | 1 | 3 | 6 | 6 | | 16 | 3 | 14 | 17 | 17 | 7 | 6 | 11 | 11 | 11 | 7 | 13 | 8 | 1 | | | | | 92 |
| 2016 | | | | | | | | | | | | | 1 | 6 | 9 | 1 | 17 | 1 | 10 | 11 | 14 | 5 | 6 | 4 | 5 | 9 | 12 | 7 | 5 | 4 | | | | | 71 |
| 2017 | | | | | | | | | | | | | 1 | 10 | 6 | | 17 | 1 | 6 | 7 | 20 | 10 | 8 | 5 | 5 | 8 | 13 | 14 | 8 | 1 | | | | | 92 |
| 2018 | | | | | | | | | | | | | 8 | 4 | 5 | 1 | 18 | 2 | 8 | 10 | 24 | 6 | 5 | 5 | 3 | 9 | 20 | 8 | 1 | 1 | 2 | | | | 84 |
| 2019 | | | | | | | | | | | | | 6 | 9 | 5 | | 20 | | 2 | 2 | 6 | 6 | 3 | 6 | 1 | 4 | 5 | 4 | 8 | | | | | | 43 |
| Mean | | | | | | | | | | | | 0.2 | 2.9 | 6.3 | 5.1 | 0.8 | 15.3 | 0.7 | 5.9 | 6.5 | 11.5 | 6.2 | 4.3 | 4.1 | 4.3 | 6.7 | 8.8 | 6.8 | 5.3 | 1.8 | 0.2 | | 0.1 | | 60.2 |

Gray Catbird typically arrives at MBO in early May, though there have been sightings in April in two years. Migration typically peaks in Week 8 or 9, then numbers taper off as only breeding pairs remain by early June. The mean daily count jumps up in early August, reflecting the presence of locally-produced juveniles, and remains stable for the next several weeks. The overall peak of fall numbers tends to occur around mid-September, as migrants pass through. Abundance generally drops off sharply after the end of September, and there have been scattered records past mid-October in only six years, including a late migrant in November 2009. In all seasons, numbers have fluctuated somewhat over time, with a slight underlying increasing trend.

BRTH: Brown Thrasher / Moqueur roux (*Toxostoma rufum*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|------|------|------|------|------|-------|------|------|------|
| First | 4-11 | 4-25 | 5-1 | 4-27 | 4-27 | 4-24 | 4-29 | 4-26 | 4-21 | 4-15 | 4-28 | 4-26 | 4-8 | 4-27 | 4-14 | 4-22 | 8-9 | 8-5 | 8-1 | 8-8 | 8-1 | 8-9 | 8-23 | 8-1 | 8-1 | 8-1 | 8-1 | 8-2 | 8-24 | 8-1 | 8-1 | 8-5 |
| Peak | 5-17 | 5-24 | 5-1 | 5-9 | 5-9 | 4-24 | 5-2 | 6-1 | 5-4 | 4-17 | 4-28 | 5-17 | 5-12 | 4-27 | 5-8 | 5-7 | 9-18 | 9-22 | 9-6 | 9-11 | 8-5 | 9-7 | 9-20 | 8-1 | 9-18 | 8-1 | 9-11 | 8-19 | 9-2 | 8-10 | 9-17 | 8-31 |
| Last | 6-3 | 6-5 | 5-31 | 6-2 | 6-3 | 5-24 | 6-4 | 6-1 | 5-23 | 5-28 | 6-2 | 6-5 | 6-3 | 5-31 | 6-5 | 6-1 | 10-9 | 10-1 | 9-26 | 10-3 | 10-11 | 10-5 | 10-3 | 9-18 | 10-1 | 10-8 | 10-4 | 10-3 | 10-11 | 10-5 | 10-8 | 10-3 |
| Span | 54 | 42 | 31 | 37 | 38 | 31 | 37 | 37 | 33 | 44 | 36 | 41 | 57 | 35 | 53 | 40 | 62 | 58 | 57 | 57 | 72 | 58 | 42 | 49 | 62 | 69 | 65 | 63 | 49 | 66 | 69 | 60 |
| # days | 29 | 19 | 12 | 18 | 18 | 15 | 18 | 19 | 13 | 17 | 13 | 28 | 30 | 23 | 45 | 21 | 22 | 24 | 10 | 12 | 32 | 21 | 5 | 23 | 40 | 46 | 56 | 34 | 42 | 52 | 58 | 32 |
| % days | 49 | 28 | 17 | 26 | 26 | 21 | 26 | 27 | 19 | 25 | 19 | 40 | 43 | 33 | 64 | 31 | 25 | 26 | 11 | 13 | 35 | 23 | 5 | 25 | 44 | 51 | 57 | 35 | 43 | 53 | 59 | 34 |
| High | 4 | 3 | 3 | 4 | 2 | 2 | 4 | 2 | 3 | 2 | 1 | 5 | 3 | 4 | 4 | 3 | 4 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 5 | 4 | 5 | 3 | 4 | 3 | 8 | 3 |
| Total | 50 | 25 | 16 | 25 | 21 | 16 | 25 | 20 | 19 | 23 | 13 | 39 | 46 | 41 | 94 | 32 | 34 | 31 | 12 | 14 | 48 | 25 | 6 | 34 | 70 | 76 | 109 | 43 | 69 | 76 | 120 | 51 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|------|
| 2005 | | | | | | | | | 0.1 | | 0.4 | 0.3 | 1.1 | 2.0 | 2.3 | 1.2 | 0.8 | 0.3 | 0.2 | 0.2 | | 0.9 | 0.1 | | 0.3 | 0.4 | 1.1 | 1.1 | 0.7 | 0.3 | | | | | 0.4 |
| 2006 | | | | | | | | | | | | | | | 1.0 | | 0.3 | 0.7 | 1.0 | 0.6 | 0.4 | 0.2 | 0.2 | 0.2 | 0.1 | 0.3 | 0.1 | 0.1 | 0.6 | 0.9 | 0.7 | 0.9 | 0.7 | | 0.3 |
| 2007 | | | | | | | | | | | 0.4 | 0.3 | 0.9 | 0.4 | 0.1 | 0.1 | 0.2 | 0.1 | | | 0.08 | 0.1 | 0.1 | 0.1 | | | 0.4 | 0.4 | 0.3 | 0.1 | | | | | 0.1 |
| 2008 | | | | | | | | | | | 0.9 | 0.4 | 1.0 | 0.6 | 0.6 | 0.1 | 0.4 | | | 0.2 | 0.1 | | 0.3 | 0.1 | | 0.1 | 0.7 | 0.3 | | 0.3 | 0.1 | | | | 0.2 |
| 2009 | | | | | | | | | | | 0.3 | 0.3 | 0.7 | 0.4 | 0.6 | 0.7 | 0.3 | 0.3 | | | 0.1 | 1.1 | 1.3 | 0.1 | 0.3 | | 0.3 | 0.4 | 1.7 | 0.9 | 0.6 | 0.1 | | | 0.5 |
| 2010 | | | | | | | | | | 0.3 | 0.7 | 0.4 | 0.3 | 0.4 | 0.1 | | 0.2 | | | | | | 0.4 | 0.1 | 0.3 | 0.3 | 0.7 | 0.9 | 0.6 | 0.1 | 0.1 | | | | 0.3 |
| 2011 | | | | | | | | | | | 0.7 | 1.4 | 0.4 | 0.3 | 0.4 | 0.3 | 0.4 | 0.3 | | | 0.1 | | | | 0.1 | | | 0.1 | 0.3 | 0.1 | 0.1 | | | | 0.07 |
| 2012 | | | | | | | | | | | 0.9 | 0.4 | 0.4 | 0.1 | 0.7 | 0.3 | 0.3 | | | 0.3 | 0.3 | 0.3 | 1.0 | 1.1 | | 0.6 | 0.3 | 0.6 | 1.3 | | | | | 0.4 | |
| 2013 | | | | | | | | | | 0.1 | | 1.3 | 0.3 | 0.9 | 0.1 | | 0.3 | | | 0.5 | 0.3 | 0.9 | 1.4 | 0.3 | 0.6 | 1.3 | 1.0 | 2.4 | 1.6 | 0.6 | | | | | 0.8 |
| 2014 | | | | | | | | | 0.4 | 0.3 | 0.3 | 0.4 | 0.6 | 0.1 | 1.1 | | 0.3 | 0.3 | 0.3 | 0.8 | 0.6 | 1.0 | 1.0 | 0.6 | 0.6 | 0.6 | 1.4 | 1.6 | 2.1 | 1.6 | 0.4 | | | | 0.8 |
| 2015 | | | | | | | | | | | 0.1 | 0.3 | 0.4 | 0.3 | 0.4 | 0.3 | 0.2 | | | 0.5 | 0.3 | 1.7 | 1.9 | 1.3 | 1.9 | 1.6 | 2.7 | 2.1 | 1.9 | 0.4 | 0.1 | | | | 1.1 |
| 2016 | | | | | | | | | | | 0.3 | 0.1 | 1.0 | 2.0 | 1.0 | 1.1 | 0.6 | 0.8 | 1.5 | 1.1 | 0.6 | 0.6 | 0.9 | 0.6 | 0.9 | 0.3 | 1.1 | 1.0 | | 0.3 | | | | 0.4 | |
| 2017 | | | | | | | 0.1 | 0.1 | | 0.4 | 1.0 | 1.3 | 1.0 | 1.4 | 1.1 | 0.7 | 0.7 | 0.7 | 0.8 | 0.7 | | | | 0.7 | 1.9 | 1.4 | 1.0 | 1.7 | 1.1 | 1.6 | 0.4 | | | | 0.7 |
| 2018 | | | | | | | | | | 1.4 | 2.0 | 1.6 | 0.6 | 0.1 | 0.1 | 0.6 | | | 0.5 | 0.3 | 1.0 | 1.9 | 0.9 | 1.1 | 1.1 | 1.3 | 1.9 | 1.0 | 0.6 | 0.1 | | | | 0.8 | |
| 2019 | | | | | | | | | 0.1 | 1.1 | 1.3 | 2.7 | 2.3 | 1.6 | 2.7 | 1.6 | 1.3 | 0.7 | 1.3 | 1.0 | 1.0 | 1.4 | 0.7 | 1.4 | 1.4 | 2.6 | 3.1 | 3.3 | 1.7 | 0.4 | | | | 1.2 | |
| Mean | | | | | | | 0.01 | 0.06 | 0.1 | 0.6 | 0.8 | 0.8 | 0.8 | 0.8 | 0.9 | 0.5 | 0.5 | 0.2 | 0.4 | 0.3 | 0.6 | 0.8 | 0.4 | 0.6 | 0.7 | 1.0 | 1.2 | 1.2 | 0.6 | 0.3 | 0.04 | | | | 0.5 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| 2005 | | | | | | | | | | | | | | 3 | 1 | | 4 | | | | | 1 | | | | | | | 1 | | | | | | 2 |
| 2006 | | | | | | | | | | | 1 | | 1 | | 1 | 1 | 4 | | | | | | | 1 | | 1 | 4 | 1 | | | | | | | 7 |
| 2007 | | | | | | | | | | | 1 | | 2 | | | | 3 | | | | | | | 1 | 1 | | | | | | | | | | 3 |
| 2008 | | | | | | | | | | | 1 | | 1 | | | | 2 | | | | | | 1 | | | 1 | 1 | | 1 | 1 | | | | | 5 |
| 2009 | | | | | | | | | | | | | | | 1 | | 1 | | | | | 2 | | | 1 | | | 2 | 1 | 1 | | | | | 8 |
| 2010 | | | | | | | | | | | 1 | | 1 | | | | 2 | | | | | | 1 | | | | | | | | | | | | 1 |
| 2011 | | | | | | | | | | | 1 | 1 | | | | | 2 | | | | | | | | | | | | | | 1 | | | | 1 |
| 2012 | | | | | | | | | | | | | | 1 | 1 | | 2 | | 1 | 1 | | 2 | 1 | | | | | | | | | | | | 3 |
| 2013 | | | | | | | | | | | | | | | 1 | | 1 | | | 2 | 2 | | | | 1 | | | | | | | | | | 1 |
| 2014 | | | | | | | | | | 1 | | 1 | | | | 1 | 3 | | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 1 | | | | | 10 |
| 2015 | | | | | | | | | | | | 1 | 2 | | | | 3 | | 1 | 1 | 4 | | 2 | 2 | 1 | 1 | 2 | | | | | | | | 12 |
| 2016 | | | | | | | | | | | | | | 3 | | | 3 | | 2 | 2 | | | 1 | | | | 1 | 1 | 1 | | | | | | 3 |
| 2017 | | | | | | | | | | | 2 | 1 | 1 | 2 | | | 6 | | | | | | | | | 1 | | 2 | 1 | | | | | | 4 |
| 2018 | | | | | | | | | | | 2 | 2 | 1 | | | | 5 | | 1 | 1 | 2 | 2 | | | 2 | | | | | | | | | | 6 |
| 2019 | | | | | | | | | | 1 | 1 | | | | | 2 | 4 | | 2 | 2 | 1 | 3 | | | 1 | 3 | 1 | | | 1 | | | | | 10 |
| Mean | | | | | | | | | | 0.1 | 0.7 | 0.4 | 0.7 | 0.6 | 0.5 | 0.07 | 3.0 | | 0.7 | 0.7 | 0.8 | 0.7 | 0.3 | 0.3 | 0.3 | 0.7 | 0.7 | 0.6 | 0.3 | 0.3 | | | | 5.1 | |

Brown Thrasher generally occurs at MBO over a similar period to Gray Catbird, but at much lower abundance. First spring arrivals tend to be a bit earlier than Gray Catbird, with at least one sighting in April in every year except 2007. Overall, spring numbers are somewhat higher throughout May, but there is no consistent timing of peak migration. In every year except 2010 there have been at least some summer records, including breeding evidence in some years. On average, fall numbers are fairly steady through the first two months, with only a slight increase around mid-September. The last sighting of the year is usually in the first half of October, never later than 11 October. In all seasons, there has been a slight increase in abundance over time.

NOMO: Northern Mockingbird / Moqueur polyglotte (*Mimus polyglottos*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|------|------|------|------|-------|------|------|------|------|-----|------|
| First | 4-30 | | 5-12 | | | | | 5-7 | | | | | | | | 5-6 | | | | | | | | | | | 10-12 | 9-18 | 9-22 | | | | 9-27 |
| Peak | 4-30 | | 5-12 | | | | | 5-7 | | | | | | | | 5-6 | | | | | | | | | | | 10-12 | 9-18 | 9-22 | | | | 9-27 |
| Last | 4-30 | | 5-18 | | | | | 5-7 | | | | | | | | 5-8 | | | | | | | | | | | 10-12 | 9-18 | 9-22 | | | | 9-27 |
| Span | 1 | | 7 | | | | | 1 | | | | | | | | 3 | | | | | | | | | | | 1 | 1 | 1 | | | | 1 |
| # days | 1 | | 2 | | | | | 1 | | | | | | | | 1 | | | | | | | | | | | 1 | 1 | 1 | | | | 1 |
| % days | 2 | | 3 | | | | | 1 | | | | | | | | 2 | | | | | | | | | | | 1 | 1 | 1 | | | | 1 |
| High | 1 | | 1 | | | | | 1 | | | | | | | | 1 | | | | | | | | | | | 1 | 1 | 1 | | | | 1 |
| Total | 1 | | 2 | | | | | 1 | | | | | | | | 0 | | | | | | | | | | | 1 | 1 | 1 | | | | 0 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|------|------|------|------|----|-----|--------|-----|-----|----|----|----|----|----|----|------|------|----|------|-----|-----|-----|-----|-----|--------|------|
| 2005 | | | | | | | | | | | 0.1 | | | | | | 0.02 | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | 0.1 | 0.1 | | | 0.03 | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | 0.1 | | | | | 0.01 | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.01 |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | 0.01 |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | 0.01 |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | 0.01 | 0.01 | 0.01 | 0.01 | | | <0.005 | | | | | | | | | 0.01 | 0.01 | | 0.01 | | | | | | <0.005 | |

Northern Mockingbird is a very rare migrant at MBO, with four sightings to date in spring, and three in fall. The two observations in spring 2007 were six days apart, and may have involved the same individual. All spring records have been between 30 April and 18 May. The three fall observations occurred in consecutive years from 2014 to 2016, and were all between 18 September and 12 October.

EUST: European Starling / Étourneau sansonnet (*Sturnus vulgaris*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|-------|------|-------|
| First | 4-6 | 3-28 | 3-28 | 4-1 | 3-28 | 3-29 | 3-28 | 3-31 | 3-28 | 3-29 | 3-28 | 3-28 | 3-31 | 4-2 | 3-31 | 3-29 | 8-1 | 8-3 | 8-2 | 8-1 | 8-4 | 8-2 | 8-1 | 8-3 | 8-5 | 8-4 | 8-1 | 8-5 | 8-9 | 8-12 | 8-13 | 8-4 |
| Peak | 6-3 | 4-6 | 5-6 | 6-3 | 4-3 | 4-8 | 4-21 | 3-31 | 4-6 | 3-30 | 5-4 | 5-2 | 4-26 | 4-22 | 4-28 | 4-23 | 10-19 | 10-21 | 10-24 | 10-26 | 10-8 | 10-22 | 10-27 | 10-3 | 10-22 | 9-23 | 11-3 | 9-23 | 10-27 | 10-25 | 9-30 | 10-16 |
| Last | 6-3 | 6-5 | 6-4 | 6-5 | 6-1 | 5-31 | 6-5 | 6-3 | 6-4 | 6-1 | 6-4 | 6-5 | 6-4 | 5-30 | 5-31 | 6-2 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 11-6 | 11-6 | 11-6 | 11-6 | 11-6 | 11-1 |
| Span | 59 | 70 | 69 | 66 | 66 | 64 | 70 | 65 | 69 | 65 | 69 | 70 | 66 | 59 | 62 | 66 | 91 | 89 | 90 | 91 | 88 | 90 | 91 | 89 | 87 | 88 | 98 | 94 | 90 | 87 | 86 | 90 |
| # days | 32 | 51 | 33 | 33 | 34 | 24 | 50 | 22 | 41 | 35 | 27 | 42 | 16 | 26 | 24 | 33 | 36 | 51 | 45 | 51 | 52 | 44 | 49 | 52 | 53 | 55 | 64 | 65 | 58 | 50 | 52 | |
| % days | 54 | 74 | 47 | 47 | 49 | 34 | 71 | 31 | 59 | 51 | 39 | 60 | 23 | 37 | 34 | 47 | 41 | 56 | 49 | 56 | 57 | 48 | 54 | 57 | 58 | 60 | 65 | 66 | 59 | 51 | 56 | |
| High | 6 | 18 | 40 | 30 | 30 | 22 | 32 | 42 | 60 | 30 | 18 | 19 | 15 | 48 | 15 | 28 | 200 | 700 | 275 | 405 | 212 | 345 | 109 | 561 | 510 | 800 | 1075 | 300 | 630 | 458 | 762 | 489 |
| Total | 68 | 171 | 168 | 150 | 197 | 98 | 270 | 91 | 261 | 185 | 113 | 194 | 46 | 194 | 78 | 152 | 1178 | 2480 | 1560 | 1694 | 1683 | 2880 | 939 | 5463 | 4849 | 4541 | 8642 | 3657 | 4903 | 4464 | 4349 | 3552 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|------|-------|------|------|------|------|-----|------|-----|------|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|-----|-----|------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| 2005 | 2.0 | | | 10.3 | 3.5 | 4.5 | | 2.5 | 1.0 | 0.3 | 0.9 | 0.1 | 1.3 | 2.0 | 0.6 | 2.0 | 1.2 | 2.0 | 0.6 | 1.3 | 0.3 | | | | 11.4 | | 0.1 | 5.7 | 7.7 | 21.8 | 22.8 | 92.4 | 13.4 | | 13.4 |
| 2006 | 0.07 | 12.8 | 10.3 | 11.8 | 2.1 | 7.3 | 2.1 | 8.3 | 1.3 | 2.1 | 2.9 | 1.6 | 0.9 | 1.1 | 1.7 | 3.6 | 2.5 | 1.4 | 2.2 | 1.8 | 9.9 | 0.1 | 5.4 | 1.4 | 1.3 | 4.1 | 5.0 | 7.3 | 10.7 | 9.1 | 27.3 | 169.0 | 103.6 | | 27.3 |
| 2007 | 4.3 | 3.7 | 17.5 | 5.2 | 12.9 | 7.8 | 5.0 | 4.7 | 1.7 | 2.3 | 0.7 | 6.1 | 1.3 | 0.6 | 1.3 | 0.3 | 2.4 | | | 3.1 | 0.7 | | | 0.1 | 0.9 | 6.7 | 3.3 | 9.6 | 12.3 | 31.7 | 56.1 | 38.1 | 63.3 | | 17.1 |
| 2008 | 30.3 | 1.5 | 0.8 | 5.0 | | 12.0 | 0.4 | 3.9 | 3.0 | 0.7 | 1.3 | 1.6 | 1.4 | 1.1 | 0.1 | 7.9 | 2.1 | 3.6 | 19.0 | 11.3 | 3.3 | 1.4 | 1.7 | 1.0 | 0.4 | 6.9 | 1.1 | 5.7 | 7.6 | 4.0 | 49.1 | 28.3 | 131.4 | | 18.6 |
| 2009 | 7.1 | 22.0 | 44.0 | 33.4 | 28.7 | 27.1 | 6.0 | 6.7 | 2.4 | 6.4 | 4.4 | 1.1 | 0.7 | | | 1.3 | 2.9 | | | | 0.1 | 0.6 | 0.4 | 1.4 | | 0.7 | 25.1 | 9.0 | 34.7 | 74.7 | 53.1 | 25.7 | 14.7 | | 18.5 |
| 2010 | 5.3 | 4.8 | 72.3 | 0.8 | 0.8 | 15.1 | 3.3 | 3.7 | | 0.7 | 0.9 | 1.7 | 0.4 | 0.9 | 1.9 | 0.6 | 1.4 | | 1.3 | 0.9 | 1.7 | | | | 0.1 | 0.4 | 11.1 | 31.0 | 12.1 | 45.1 | 26.1 | 167.0 | 116.6 | | 31.6 |
| 2011 | 13.7 | | 5.3 | 10.2 | 13.0 | 9.9 | 2.6 | 0.9 | 7.1 | 11.0 | 7.4 | 2.3 | 1.1 | 1.9 | 0.1 | 4.1 | 3.9 | 1.0 | 0.8 | 0.9 | 3.4 | 3.4 | 0.6 | 1.4 | 0.3 | 1.3 | 0.4 | 15.6 | 10.0 | 9.1 | 18.6 | 23.7 | 46.3 | | 10.3 |
| 2012 | 52.5 | 153.0 | 16.7 | 6.7 | 5.8 | 49.4 | 6.3 | 0.4 | 0.6 | 0.4 | 1.3 | 0.6 | 0.6 | 0.4 | 1.1 | 1.3 | 1.3 | | 0.8 | 0.4 | 1.4 | 10.0 | 2.1 | 1.3 | 0.9 | 1.6 | 1.6 | 5.6 | 221.9 | 251.1 | 133.0 | 58.6 | 91.4 | | 60.0 |
| 2013 | 42.8 | 20.0 | 12.6 | 0.8 | 6.1 | 15.6 | 5.1 | 13.6 | 5.0 | 1.7 | 3.7 | 2.7 | 2.0 | 0.9 | 0.4 | 2.1 | 3.7 | 12.3 | 2.0 | 6.4 | 0.1 | 0.4 | 0.3 | 0.1 | 0.7 | 11.7 | 74.9 | 12.6 | 5.1 | 30.3 | 84.4 | 250.6 | 221.4 | | 53.3 |
| 2014 | | 51.3 | 72.0 | 30.3 | 24.0 | 36.9 | 6.3 | 3.4 | 0.6 | 2.6 | 1.9 | 4.0 | 3.4 | 1.6 | 3.0 | 0.7 | 2.7 | | | | 2.4 | 2.3 | | 0.9 | 4.0 | 1.3 | 174.6 | 124.3 | 73.7 | 58.4 | 45.3 | 72.0 | 89.6 | | 49.9 |
| 2015 | 83.2 | 2.0 | | | 2.4 | 56.0 | 3.0 | 3.7 | 0.3 | 2.0 | 1.1 | 4.6 | 0.3 | 0.6 | 0.4 | 0.1 | 1.6 | | | | 1.1 | 7.4 | 0.7 | 1.0 | 6.1 | 1.6 | 0.1 | 14.0 | 22.0 | 316.9 | 52.9 | 49.1 | 281.0 | 480.6 | 88.2 |
| 2016 | 82.0 | 89.4 | 0.3 | 8.3 | 7.5 | 29.6 | 1.4 | 2.4 | 0.6 | 2.1 | 1.1 | 9.0 | 2.3 | 2.4 | 4.3 | 2.0 | 2.8 | 5.0 | 1.3 | 3.1 | 11.0 | 10.1 | 6.3 | 3.4 | 0.4 | 0.6 | 9.9 | 111.3 | 62.4 | 34.6 | 42.4 | 108.3 | 44.0 | 77.7 | 37.3 |
| 2017 | 52.4 | 13.0 | 9.1 | 6.2 | 17.7 | 21.4 | 1.1 | | | 1.0 | 2.6 | 0.1 | 0.1 | 0.6 | | 1.0 | 0.7 | 12.0 | | 5.1 | | 2.9 | 2.4 | 0.3 | 2.4 | | 24.1 | 17.6 | 11.6 | 76.9 | 107.1 | 65.9 | 271.1 | 118.1 | 50.0 |
| 2018 | 11.0 | 1.7 | 5.6 | 6.1 | | 5.0 | 2.3 | | | 11.6 | 2.7 | 3.7 | 3.9 | 2.3 | 0.9 | 0.4 | 2.8 | | | | | 0.1 | 1.1 | 7.6 | 14.3 | 7.3 | 14.4 | 4.4 | 96.6 | 71.1 | 76.1 | 135.6 | 145.1 | 63.9 | 45.6 |
| 2019 | 7.8 | 3.7 | 4.5 | 7.8 | 8.3 | 6.3 | 0.9 | 0.6 | 1.3 | 2.4 | 2.7 | 0.4 | 0.3 | 0.6 | 1.9 | 0.1 | 1.1 | | | | | 0.1 | | | | 2.4 | 3.6 | 31.9 | 219.7 | 19.0 | 68.4 | 48.0 | 79.6 | 148.6 | 44.4 |
| Mean | 26.7 | 25.2 | 18.9 | 10.4 | 9.7 | 18.2 | 3.2 | 3.6 | 1.7 | 3.2 | 2.4 | 2.6 | 1.3 | 1.1 | 1.2 | 1.8 | 2.2 | 2.2 | 2.3 | 2.3 | 2.4 | 2.6 | 1.4 | 1.3 | 2.9 | 3.1 | 23.3 | 27.0 | 54.3 | 70.7 | 57.9 | 88.8 | 114.2 | 177.8 | 38.1 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|------|-----|-----|-----|-----|-----|----|----|----|-----|------|----|----|----|------|------|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|-----|------|-----|-----|-----|-----|---|---|
| 2005 | | | | | | | | | | | 1 | | | | 1 | | 2 | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | 1 | |
| 2007 | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | 1 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | 1 | 1 | | | | | | | | | | | | | 1 | 1 | | | | | | | | | | | | | 1 | | | 1 | |
| 2011 | | | | | | | | | | | 2 | | | | | | 2 | | 1 | 1 | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | 1 | 1 | | | | | | | | | | | | | 1 | | | 1 | |
| 2013 | | | | | | | | | | | | | | | | | | | 2 | 2 | | | | | | | | | | | | 1 | | | | 1 | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | 1 | | | | 1 | 2 | | | | | | | | | 1 | | 1 | | | | | | | | | | | | | | | | | 1 | | 1 | |
| 2016 | | | | | | | | | | | | | | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 4 | | 4 |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | 0.07 | | | | 0.3 | 0.3 | | | | 0.2 | 0.07 | | | | 0.07 | 0.07 | 0.4 | | 0.4 | 0.4 | | | | | | | | | | | 0.07 | 0.2 | 0.3 | | 0.6 | | |

European Starling occurs at MBO throughout the year, though it is most abundant from around mid-September to March. The peak of spring counts is variable, but almost always in the first six weeks of the season. Sightings are less regular in summer than any other season, with none observed in four of the past six years, nor in 2009. Mean daily counts tend to remain low over the first six weeks of fall, then typically increase dramatically at some point between Week 7 and Week 13, with average counts highest in late October and early November. Large flocks are observed in most winters, most often in November or December, but sometimes later. In all seasons, numbers have fluctuated somewhat over time, probably a function of totals being influenced by the presence or absence of particularly large flocks in a given period. European Starling is only rarely banded in all seasons, with a cumulative total of four to nine individuals per season.

BOWA: Bohemian Waxwing / Jaseur boréal (*Bombycilla garrulus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|-------|------|------|-------|------|------|------|-------|-------|------|-------|------|-------|-----|
| First | 4-5 | | | 4-1 | 3-29 | 3-28 | 3-31 | | 3-31 | | 4-8 | 4-18 | | 5-10 | 3-29 | 4-6 | 10-23 | | 10-29 | | | 10-28 | | | | 10-21 | 10-26 | 9-30 | 10-28 | | 10-22 | |
| Peak | 4-8 | | | 4-3 | 3-29 | 3-31 | 3-31 | | 3-31 | | 4-10 | 4-18 | | 5-10 | 4-17 | 4-9 | 10-23 | | 10-29 | | | 10-28 | | | | 10-21 | 11-5 | 9-30 | 10-28 | | 10-24 | |
| Last | 4-18 | | | 4-3 | 4-18 | 3-31 | 5-5 | | 4-23 | | 4-25 | 5-6 | | 5-10 | 4-26 | 4-22 | 10-23 | | 10-30 | | | 10-28 | | | | 11-3 | 11-6 | 10-7 | 10-28 | | 10-27 | |
| Span | 14 | | | 3 | 21 | 4 | 36 | | 24 | | 18 | 19 | | 1 | 29 | 17 | 1 | | 2 | | | 1 | | | | 14 | 12 | 8 | 1 | | 6 | |
| # days | 12 | | | 2 | 9 | 2 | 24 | | 3 | | 8 | 6 | | 1 | 7 | 7 | 1 | | 2 | | | 1 | | | | 6 | 6 | 2 | 1 | | 3 | |
| % days | 20 | | | 3 | 13 | 3 | 34 | | 4 | | 11 | 9 | | 1 | 10 | 11 | 1 | | 2 | | | 1 | | | | 6 | 6 | 2 | 1 | | 3 | |
| High | 93 | | | 66 | 300 | 27 | 163 | | 7 | | 160 | 50 | | 33 | 30 | 93 | 1 | | 6 | | | 1 | | | | 5 | 36 | 3 | 1 | | 8 | |
| Total | 230 | | | 98 | 466 | 29 | 871 | | 14 | | 263 | 76 | | 33 | 59 | 143 | 1 | | 9 | | | 1 | | | | 17 | 60 | 6 | 1 | | 8 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|------|------|-------|------|------|------|------|------|------|-----|-----|-----|-----|----|-----|------|-----|-----|----|----|----|----|----|----|----|----|-----|------|------|-----|-----|-----|-----|------|------|
| 2005 | | | | 33.3 | 9.3 | 12.1 | | 35.3 | 2.3 | 0.3 | | | | | | | 3.9 | | | | | | | | | | | | | | | 0.1 | | | 0.01 | |
| 2006 | | | 3.7 | 11.1 | 1.3 | 2.9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | 0.1 | | | 25.0 | | 7.3 | 14.0 | | | | | | | | | | 1.4 | | | | | | | | | | | | | | | | 1.3 | | 0.1 | |
| 2009 | | | 31.0 | 23.7 | 35.9 | 23.6 | 54.6 | 13.5 | 0.1 | 0.3 | | | | | | | 6.8 | | | | | | | | | | | | | | | | | | | |
| 2010 | 0.1 | | | 1.6 | 6.7 | 1.7 | 4.1 | | | | | | | | | | 0.4 | | | | | | | | | | | | | | | | 0.1 | | 0.01 | |
| 2011 | | | 13.1 | 5.2 | 0.8 | 5.2 | 26.7 | 31.3 | 10.6 | 42.4 | 9.6 | 3.9 | | | | | 12.4 | | | | | | | | | | | | | | | | | | | |
| 2012 | | 0.5 | 0.3 | | | 0.1 | | | | | | | | | | | | | | | | | | | | | | | | | 0.4 | 2.3 | | | 0.2 | |
| 2013 | 1.0 | 3.6 | 1.4 | 0.2 | 4.8 | 2.5 | 1.0 | | | 1.0 | | | | | | | 0.2 | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | 120.0 | 2.0 | 5.4 | | 30.9 | 6.0 | 0.6 | 0.1 | | | | | | 3.8 | | | | | | | | | | | | | | | | 0.9 | 0.7 | 0.9 | 0.2 |
| 2016 | | 2.1 | 0.7 | 2.0 | 3.8 | 1.8 | | | | 8.6 | 2.1 | 0.1 | | | | | 1.1 | | | | | | | | | | | | | | | | | 1.1 | 7.4 | 0.6 |
| 2017 | 1.0 | | | 0.5 | 11.4 | 2.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.06 |
| 2018 | | | | | | | | | | | | | | 4.7 | | | 0.5 | | | | | | | | | | | 0.4 | 0.4 | | | | | 0.1 | | 0.01 |
| 2019 | 0.3 | 0.09 | | | 1.8 | 0.5 | 2.6 | | 4.3 | 0.3 | 1.3 | | | | | | 0.8 | | | | | | | | | | | | | | | | | | | |
| Mean | 0.1 | 0.6 | 3.1 | 7.7 | 7.0 | 3.7 | 7.4 | 7.1 | 1.6 | 3.6 | 0.9 | 0.3 | 0.3 | | | | 2.1 | | | | | | | | | | | | 0.03 | 0.03 | | 0.1 | 0.4 | 1.7 | 0.08 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|-----|----|----|----|----|----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|------|----|------|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | 14 | | | | | 14 | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | 0.9 | | | | | | | 0.9 | | | | | | | | | | | | | | | | | 0.07 | | 0.07 | |

Bohemian Waxwing is an irregular visitor to MBO from late fall to mid-spring, with sightings in 8 fall, 12 winter, and 10 spring seasons. Except for unusually early sightings at the end of September and early October in 2017, all fall records have been on 21 October or later. There have been sightings in every month of winter, but far more frequently and in the greatest numbers in February and March. Large numbers have lingered into late March and early April in some years, but typically only small numbers have lingered into spring, with sightings extending into May in just three years. Bohemian Waxwings have been banded at MBO only rarely, one individual in October 2012, and 14 out of a relatively late flock of spring migrants in April 2016.

CEDW: Cedar Waxwing / Jaseur d'Amérique (*Bombycilla cedrorum*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|-------|-----|
| First | 4-5 | 4-5 | 4-20 | 3-29 | 4-9 | 4-1 | 3-29 | 4-1 | 3-28 | 3-29 | 4-3 | 3-30 | 3-29 | 4-16 | 3-29 | 4-3 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 |
| Peak | 5-5 | 5-29 | 5-30 | 3-31 | 4-17 | 4-23 | 5-3 | 5-21 | 6-1 | 4-25 | 4-28 | 5-15 | 5-24 | 5-5 | 4-25 | 5-6 | 9-20 | 10-24 | 9-20 | 9-8 | 9-19 | 8-6 | 10-3 | 8-24 | 8-20 | 8-11 | 8-31 | 8-24 | 10-2 | 8-17 | 9-28 | 9-8 | |
| Last | 6-3 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-4 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-4 | 10-21 | 10-30 | 10-29 | 10-26 | 10-30 | 10-27 | 10-29 | 10-24 | 10-30 | 10-29 | 11-6 | 11-6 | 11-4 | 11-6 | 11-6 | 10-30 | |
| Span | 60 | 62 | 47 | 69 | 58 | 66 | 69 | 66 | 70 | 68 | 64 | 68 | 69 | 51 | 69 | 64 | 82 | 91 | 90 | 87 | 91 | 88 | 90 | 85 | 91 | 90 | 98 | 98 | 96 | 98 | 98 | 92 | |
| # days | 55 | 31 | 17 | 32 | 29 | 55 | 51 | 46 | 25 | 59 | 45 | 48 | 22 | 46 | 49 | 41 | 52 | 85 | 82 | 70 | 79 | 62 | 75 | 62 | 82 | 76 | 95 | 81 | 82 | 69 | 81 | 76 | |
| % days | 93 | 45 | 24 | 46 | 42 | 79 | 73 | 66 | 36 | 87 | 64 | 69 | 31 | 66 | 70 | 59 | 59 | 93 | 90 | 77 | 87 | 68 | 82 | 68 | 90 | 84 | 97 | 83 | 84 | 70 | 83 | 81 | |
| High | 95 | 31 | 38 | 55 | 28 | 70 | 128 | 54 | 32 | 400 | 78 | 46 | 55 | 135 | 125 | 91 | 40 | 94 | 78 | 100 | 105 | 47 | 63 | 55 | 70 | 50 | 30 | 46 | 42 | 40 | 29 | 59 | |
| Total | 1184 | 298 | 167 | 289 | 259 | 1180 | 1157 | 678 | 276 | 2992 | 528 | 698 | 398 | 1220 | 968 | 819 | 447 | 1508 | 1046 | 1163 | 1559 | 736 | 1566 | 1046 | 1805 | 1017 | 1016 | 1375 | 1071 | 740 | 777 | 1125 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|------|-----|------|------|------|------|------|------|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 2005 | | | | | 7.3 | 2.1 | | 18.0 | 36.4 | 32.0 | 18.7 | 44.4 | 5.9 | 4.6 | 7.7 | 12.0 | 20.1 | 8.8 | 2.5 | 5.6 | 5.7 | 3.0 | 2.1 | 3.9 | 11.4 | 4.7 | 8.6 | 12.7 | 3.7 | 5.0 | 0.8 | 3.6 | | | 5.1 |
| 2006 | | | | | 1.6 | 0.3 | | 3.2 | 4.4 | 3.7 | 0.3 | | | 3.6 | 14.9 | 13.0 | 4.3 | 7.0 | 8.2 | 7.6 | 17.7 | 17.4 | 14.6 | 19.4 | 8.1 | 13.9 | 13.7 | 11.4 | 13.9 | 4.3 | 31.0 | 23.4 | 26.6 | | 16.6 |
| 2007 | 1.0 | | | | 1.4 | 0.7 | | | | 2.3 | | | 0.7 | 2.6 | 9.3 | 9.0 | 2.4 | 6.6 | 3.7 | 5.2 | 13.9 | 18.3 | 7.6 | 13.4 | 11.6 | 19.9 | 11.9 | 20.7 | 6.7 | 5.6 | 10.1 | 7.4 | 2.4 | | 11.5 |
| 2008 | | | 3.2 | 2.4 | | 1.4 | 16.6 | 0.1 | 0.4 | 0.3 | 0.7 | 0.3 | 0.9 | 1.4 | 9.1 | 11.4 | 4.1 | 4.4 | 5.2 | 4.8 | 8.9 | 13.7 | 11.7 | 6.7 | 9.9 | 32.9 | 28.7 | 22.1 | 17.3 | 6.6 | 3.6 | 2.4 | 1.7 | | 12.8 |
| 2009 | | | | | 0.2 | 0.08 | | 0.8 | 8.1 | 3.6 | 0.6 | 1.6 | 2.3 | 1.9 | 10.9 | 7.4 | 3.8 | 3.0 | 1.8 | 2.3 | 13.3 | 11.0 | 15.9 | 19.6 | 16.4 | 25.4 | 24.0 | 51.0 | 23.9 | 8.7 | 7.9 | 2.6 | 3.1 | | 17.1 |
| 2010 | 0.4 | | | | | 0.1 | 3.1 | 15.1 | 9.0 | 34.3 | 24.0 | 18.3 | 23.3 | 12.6 | 16.0 | 12.9 | 16.9 | 2.7 | 3.8 | 3.4 | 25.3 | 9.7 | 11.6 | 6.1 | 18.9 | 13.1 | 9.6 | 4.6 | 3.1 | 2.3 | 0.3 | 0.6 | | 8.1 | |
| 2011 | | | 14.6 | 2.3 | 3.8 | 5.9 | 11.0 | 18.1 | 6.4 | 24.1 | 3.0 | 28.4 | 10.0 | 13.0 | 25.0 | 26.1 | 16.5 | 7.3 | 10.5 | 9.1 | 23.9 | 23.6 | 28.6 | 25.3 | 32.3 | 17.4 | 13.4 | 18.4 | 13.6 | 16.1 | 3.1 | 5.6 | 2.4 | | 17.2 |
| 2012 | 0.8 | 1.8 | 11.7 | | 1.4 | 2.3 | 0.1 | 6.4 | 19.4 | 1.7 | 6.4 | 1.1 | 1.7 | 19.7 | 22.7 | 17.4 | 9.7 | 3.8 | 3.5 | 3.6 | 19.9 | 22.3 | 25.9 | 31.4 | 13.3 | 7.7 | 10.4 | 8.7 | 8.6 | 0.7 | | 0.3 | 0.3 | | 11.5 |
| 2013 | | | | | | | 1.9 | | | | | 9.0 | 3.1 | 1.0 | 5.7 | 18.7 | 3.9 | 19.7 | 12.3 | 15.4 | 36.6 | 29.6 | 41.4 | 40.1 | 33.4 | 19.7 | 19.6 | 11.6 | 10.7 | 4.9 | 2.4 | 3.7 | 4.1 | | 19.8 |
| 2014 | 0.6 | | | 0.8 | 7.6 | 1.6 | 5.0 | 35.4 | 26.4 | 69.1 | 153.6 | 53.6 | 17.7 | 9.0 | 34.0 | 28.3 | 44.0 | 5.0 | 4.8 | 4.9 | 11.0 | 16.4 | 15.1 | 21.1 | 33.1 | 16.1 | 17.1 | 10.6 | 4.9 | 1.6 | 0.9 | 4.1 | 3.1 | | 11.2 |
| 2015 | 6.2 | | | | | 4.1 | 0.3 | 2.1 | 4.3 | 0.9 | 30.7 | 8.3 | 2.4 | 6.1 | 10.1 | 10.1 | 7.5 | 5.7 | 11.5 | 9.0 | 13.6 | 14.1 | 7.3 | 12.7 | 14.4 | 7.4 | 10.6 | 9.3 | 9.9 | 6.9 | 10.6 | 6.3 | 9.7 | 12.4 | 10.4 |
| 2016 | 3.4 | 2.0 | 7.3 | 4.8 | 13.8 | 6.9 | 2.4 | 0.4 | 3.7 | 2.0 | 13.0 | 12.9 | 14.6 | 11.4 | 27.9 | 11.4 | 10.0 | 5.8 | 7.3 | 6.5 | 18.4 | 16.7 | 24.7 | 28.6 | 16.4 | 25.1 | 25.7 | 11.9 | 13.7 | 4.6 | 4.3 | 0.6 | 4.1 | 1.6 | 14.0 |
| 2017 | 2.6 | 7.5 | | 1.5 | | 1.5 | 1.4 | | | | 0.9 | | | 2.7 | 35.1 | 16.7 | 5.7 | 8.0 | 8.3 | 8.1 | 14.0 | 16.0 | 14.4 | 10.9 | 7.6 | 9.3 | 9.9 | 26.3 | 18.9 | 9.1 | 3.3 | 8.4 | 1.9 | 3.1 | 10.9 |
| 2018 | | | 0.1 | | | 0.02 | | | 0.9 | 20.6 | 22.7 | 54.7 | 17.7 | 12.9 | 29.6 | 15.3 | 17.4 | 7.7 | 4.5 | 5.9 | 11.9 | 16.1 | 12.4 | 11.6 | 10.9 | 11.7 | 9.0 | 6.7 | 7.3 | 2.0 | | 1.3 | 0.7 | 4.1 | 7.6 |
| 2019 | 0.7 | | | 2.8 | 0.5 | 0.6 | 4.4 | 3.3 | 6.0 | 31.1 | 31.9 | 5.1 | 0.9 | 2.7 | 17.4 | 35.4 | 13.8 | 6.3 | 3.5 | 4.7 | 9.1 | 9.9 | 9.3 | 10.0 | 7.6 | 3.6 | 6.0 | 5.1 | 14.7 | 5.3 | 6.4 | 5.4 | 10.7 | 7.9 | 7.9 |
| Mean | 1.3 | 0.5 | 2.7 | 1.1 | 2.5 | 1.7 | 3.3 | 6.9 | 8.4 | 14.9 | 20.4 | 15.8 | 6.7 | 7.0 | 18.4 | 16.3 | 11.9 | 7.0 | 5.6 | 6.3 | 16.2 | 15.9 | 16.2 | 17.4 | 15.7 | 15.2 | 14.5 | 15.4 | 11.5 | 5.6 | 5.7 | 5.0 | 4.8 | 5.8 | 12.1 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|-----|-----|------|-----|-----|-----|------|-----|------|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 2005 | | | | | | | | | 7 | 14 | 5 | 15 | | 4 | | 14 | 59 | | | | | | | 2 | | 1 | 5 | | | | | | | | 8 |
| 2006 | | | | | | | | | 1 | | | | | 2 | 8 | 6 | 17 | | | | 4 | 6 | | 1 | | 3 | 1 | | 6 | | | | 1 | | 22 |
| 2007 | | | | | | | | | | | | | | | 10 | 7 | 17 | | 1 | 1 | 6 | 5 | | | 3 | 1 | 6 | | | | | | | | 21 |
| 2008 | | | | | | | | | | | | | 1 | | 11 | 17 | 29 | | | | 2 | 2 | | | 4 | | 3 | 5 | | | | | | | 16 |
| 2009 | | | | | | | | | | 2 | | | | | 10 | 2 | 14 | 3 | 5 | 8 | 12 | 2 | 2 | 7 | 4 | 1 | 1 | 4 | 4 | | | 1 | 1 | | 39 |
| 2010 | | | | | | | | | 23 | 6 | 3 | | 9 | 23 | 8 | 72 | 4 | 6 | 10 | 15 | 7 | 1 | | | | | 2 | | | | | | | | 25 |
| 2011 | | | | | | | | | 5 | | 3 | 9 | 2 | 24 | 7 | 50 | | 2 | 2 | 14 | 7 | 6 | 4 | 6 | 7 | 1 | | | | | | | | | 45 |
| 2012 | | | | | | | | | | 1 | | | 9 | 38 | 29 | 77 | | 4 | 4 | 13 | 10 | 3 | 3 | | | | | | | | | | | | 29 |
| 2013 | | | | | | | | | | | | 6 | 1 | 7 | 1 | 7 | 1 | 1 | 1 | 56 | 10 | 7 | 4 | | 5 | 3 | | 2 | 4 | | | | | | 91 |
| 2014 | | | | | | | | | 33 | 147 | 12 | 3 | 2 | 24 | 11 | 232 | | | | 3 | 6 | 1 | | 5 | 1 | | | | | | 1 | | | 1 | 17 |
| 2015 | | | | | | | | | | 49 | | 1 | 6 | 3 | 2 | 61 | 4 | 4 | 8 | 5 | 5 | | 3 | 1 | | 3 | 2 | | 1 | | | | | | 20 |
| 2016 | | | | | | | | | | 1 | 5 | | | | 17 | 3 | 26 | 2 | 2 | 4 | 5 | 9 | 12 | 5 | | | | | | | | | | | 31 |
| 2017 | | | | | | | | | | | | | | | 28 | 10 | 38 | | 7 | 7 | 16 | 6 | 4 | 1 | | | | | | | | | | | 32 |
| 2018 | | | | | | | | | | 13 | 3 | 42 | 26 | | 25 | 13 | 122 | 3 | 2 | 5 | 9 | 8 | | 1 | 1 | 3 | | | | | | | | | 22 |
| 2019 | | | | | | | | | | 23 | 1 | | 1 | | 7 | 13 | 45 | 2 | 1 | 3 | 5 | 5 | 2 | 1 | 1 | 1 | | | | | 1 | | | | 16 |
| Mean | | | | | | | | | 4.0 | 7.5 | 14.2 | 5.3 | 2.7 | 2.3 | 15.6 | 9.5 | 57.7 | 1.3 | 2.3 | 3.5 | 11.0 | 5.9 | 2.5 | 1.9 | 1.3 | 1.7 | 0.9 | 1.7 | 1.3 | 0.3 | | 0.1 | 0.2 | | 28.9 |

Cedar Waxwing has been observed at MBO throughout the year, but much less frequently during winter than other seasons. Spring observations are highly erratic with the peak mostly between Weeks 5 and 10, but as early as Week 1, and the total number of individuals observed during the season ranging from as few as 167 in 2007 to nearly 3000 in 2014. Summer counts are also variable, though not quite to the same extent. On average, mean daily counts in fall are similar throughout most of August and September, then drop off sharply in Week 10 and remain at a similar level through the remainder of the season. There is considerable variation in timing among years though, with the peak of migration ranging between Weeks 1 and 11, although the banding peak is almost always in the first half of August. Fall totals have been unusually low the past two years, but are within the range of fluctuation previously observed.

HOSP: House Sparrow / Moineau domestique (*Passer domesticus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|------|-------|-------|------|------|------|------|------|------|------|------|------|-------|-----|
| First | 4-5 | 3-28 | 3-28 | 4-9 | 5-17 | | | | | | | | | 5-6 | | 4-15 | 8-1 | 8-28 | 8-9 | 10-12 | 10-6 | | | | | | | | | | 9-8 | |
| Peak | 5-5 | 4-11 | 5-8 | 5-1 | 5-17 | | | | | | | | | 5-6 | | 5-3 | 10-15 | 8-28 | 8-12 | 10-17 | 10-6 | | | | | | | 8-11 | | | 9-20 | |
| Last | 6-3 | 6-5 | 6-4 | 5-8 | 5-17 | | | | | | | | | 5-6 | | 5-22 | 10-30 | 10-14 | 10-9 | 10-24 | 10-30 | | | | | | | 10-2 | | | 10-19 | |
| Span | 60 | 70 | 69 | 30 | 1 | | | | | | | | | 1 | | 38 | 91 | 48 | 62 | 13 | 25 | | | | | 1 | | | | 42 | | |
| # days | 50 | 69 | 46 | 4 | 1 | | | | | | | | | 1 | | 28 | 30 | 7 | 8 | 5 | 2 | | | | | 1 | | | | 8 | | |
| % days | 85 | 100 | 66 | 6 | 1 | | | | | | | | | 1 | | 42 | 34 | 8 | 9 | 5 | 2 | | | | | 1 | | | | 9 | | |
| High | 9 | 15 | 6 | 2 | 1 | | | | | | | | | 2 | | 6 | 15 | 2 | 2 | 4 | 4 | | | | | 1 | | | | 4 | | |
| Total | 154 | 498 | 110 | 5 | 1 | | | | | | | | | 2 | | 51 | 144 | 11 | 10 | 9 | 5 | | | | | 1 | | | | 12 | | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | | |
|------|-----|-----|------|-----|------|------|-----|-----|------|------|------|-----|-----|-----|-----|-----|------|-----|------|-----|------|------|------|------|------|----|----|------|------|-----|-----|-----|-----|-----|-----|------|------|--|
| 2005 | 1.5 | 0.5 | | 1.3 | 2.0 | 1.4 | | 4.3 | 3.0 | 4.2 | 1.9 | 4.3 | 1.9 | 0.7 | 1.0 | 2.8 | 2.6 | 2.1 | 1.4 | 1.8 | 0.7 | | 0.3 | 0.9 | | | | 0.4 | 0.7 | 0.7 | 4.8 | 4.7 | 8.3 | | 1.6 | | | |
| 2006 | 2.6 | 1.4 | 11.6 | 4.0 | 5.6 | 5.0 | 5.3 | 7.5 | 10.4 | 11.0 | 11.1 | 9.4 | 6.3 | 3.9 | 5.1 | 2.1 | 7.2 | 1.9 | 0.08 | 0.9 | | | | 0.3 | 0.1 | | | 0.1 | | 0.6 | 0.4 | | | | 0.1 | | | |
| 2007 | 3.2 | 0.6 | 1.0 | 0.5 | 2.9 | 2.1 | 0.9 | 0.9 | 1.1 | 0.9 | 0.3 | 3.4 | 2.6 | 1.7 | 3.1 | 0.9 | 1.6 | 0.4 | 0.2 | 0.3 | | 0.6 | 0.1 | | 0.3 | | | 0.1 | 0.1 | 0.1 | | | | | 0.1 | | | |
| 2008 | | | | | | | | 0.1 | | 0.1 | 0.3 | 0.1 | | | | | 0.07 | 0.2 | | 0.1 | | | | | | | | | | | | 0.3 | 0.9 | 0.1 | | 0.1 | | |
| 2009 | | | | | 0.07 | 0.03 | | | | | | | | | | | 0.01 | | | | | | | | | | | | | | 0.6 | | | | | 0.05 | | |
| 2010 | | | | | 0.08 | 0.02 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | 0.3 | 0.3 | 0.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | 0.1 | | | | | | | | 0.02 | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | 0.3 | | | | | 0.03 | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | 0.6 | 0.3 | 1.4 | 0.5 | 0.8 | 0.7 | 0.4 | 0.8 | 1.0 | 1.0 | 0.9 | 1.2 | 0.7 | 0.4 | 0.6 | 0.3 | 0.7 | 0.8 | 0.3 | 0.5 | 0.05 | 0.05 | 0.03 | 0.08 | 0.03 | | | 0.05 | 0.06 | 0.1 | 0.3 | 0.4 | 0.6 | | 0.1 | | | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | | |
|------|-----|------|-----|-----|-----|-----|----|-----|----|----|-----|-----|------|----|----|------|-----|-----|------|-----|----|----|----|----|----|----|----|----|----|-----|------|-----|-----|-----|----|-----|--|--|
| 2005 | 4 | | | 1 | 2 | 7 | | | | | | 1 | | | | 1 | 2 | | 1 | 1 | | | | | | | | | | | | | 2 | | 2 | | | |
| 2006 | 1 | | 7 | | 3 | 11 | | 1 | | | 3 | 1 | 1 | | | | 6 | 2 | | 2 | | | | | | | | | | 1 | | | | | 1 | | | |
| 2007 | 3 | 1 | | | 2 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | 0.6 | 0.08 | 1.4 | 0.1 | 0.6 | 1.7 | | 0.5 | | | 0.2 | 0.1 | 0.07 | | | 0.07 | 0.5 | 0.1 | 0.07 | 0.2 | | | | | | | | | | | 0.07 | | 0.1 | | | 0.2 | | |

House Sparrow occurred fairly regularly at MBO over the first few years, but then rapidly declined, with only three widely scattered sightings after 2011. Historically it was most common in spring, with observations every week during the first three years, reflecting one or pairs breeding on site in Tree Swallow nest boxes. These sightings extended into summer in each of those years. Fall sightings were always less frequent, although still more regular in the first three years than later. There were records in every month during the first three winters, but thereafter only in February or March from 2009 to 2011. No House Sparrows have been banded at MBO since March 2007.

AMPI: American Pipit / Pipit d'Amérique (*Anthus rubescens*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|------|------|------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| First | | 4-30 | | 5-24 | 5-8 | | | | 5-4 | | 5-5 | 5-10 | 5-4 | 5-2 | 4-30 | 5-6 | 9-11 | 9-10 | 9-1 | 10-8 | 9-20 | 10-4 | 10-2 | 9-21 | 9-24 | 9-27 | 9-15 | 9-23 | 9-9 | 10-17 | 9-17 | 9-21 |
| Peak | | 4-30 | | 5-24 | 5-8 | | | | 5-4 | | 5-5 | 5-16 | 5-6 | 5-9 | 5-8 | 5-8 | 9-11 | 10-27 | 9-1 | 10-8 | 9-26 | 10-6 | 10-4 | 10-4 | 10-25 | 10-1 | 10-10 | 10-26 | 10-13 | 10-26 | 10-30 | 10-8 |
| Last | | 5-4 | | 5-24 | 5-8 | | | | 5-7 | | 5-5 | 5-19 | 5-6 | 5-13 | 5-9 | 5-10 | 10-12 | 10-27 | 9-8 | 10-8 | 9-26 | 10-30 | 10-4 | 10-26 | 10-29 | 10-30 | 11-3 | 10-26 | 11-4 | 11-1 | 11-6 | 10-20 |
| Span | | 5 | | 1 | 1 | | | | 4 | | 1 | 10 | 3 | 12 | 10 | 5 | 32 | 48 | 8 | 1 | 7 | 27 | 3 | 36 | 36 | 34 | 50 | 34 | 57 | 16 | 51 | 29 |
| # days | | 3 | | 1 | 1 | | | | 2 | | 1 | 7 | 2 | 5 | 5 | 3 | 5 | 4 | 2 | 1 | 2 | 4 | 2 | 18 | 20 | 13 | 23 | 13 | 18 | 4 | 15 | 10 |
| % days | | 4 | | 1 | 1 | | | | 3 | | 1 | 10 | 3 | 7 | 7 | 4 | 6 | 4 | 2 | 1 | 2 | 4 | 2 | 20 | 22 | 14 | 23 | 13 | 18 | 4 | 15 | 10 |
| High | | 10 | | 1 | 1 | | | | 1 | | 1 | 30 | 2 | 4 | 5 | 6 | 13 | 18 | 1 | 2 | 3 | 6 | 3 | 44 | 24 | 22 | 24 | 22 | 19 | 3 | 18 | 15 |
| Total | | 12 | | 1 | 1 | | | | 2 | | 1 | 71 | 3 | 13 | 14 | 8 | 22 | 24 | 2 | 2 | 4 | 11 | 5 | 134 | 131 | 72 | 82 | 55 | 91 | 8 | 62 | 47 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|------|-----|-----|-----|-----|--------|----|----|----|-----|-----|-----|-----|------|----|-----|------|-----|-----|----|----|----|----|----|------|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|------|------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | 1.9 | | 0.1 | 0.8 | 0.3 | 0.2 | | | | | 0.2 | |
| 2006 | | | | | | | | | | 1.4 | 0.3 | | | | | | 0.2 | | | | | | | | | 0.3 | | | 0.1 | | | | 3.0 | | | 0.3 | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | 0.1 | | | | | | | | | | 0.02 | |
| 2008 | | | | | | | | | | | | | | 0.1 | | | 0.01 | | | | | | | | | | | | 0.3 | | | | | | | 0.02 | |
| 2009 | | | | | | | | | | | 0.1 | | | | | | 0.01 | | | | | | | | | | 0.1 | 0.4 | | | | | | | | 0.04 | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1.0 | 0.3 | | 0.3 | | | | 0.1 | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.3 | 0.4 | | | | | | | | 0.05 |
| 2012 | 0.2 | | | | | 0.08 | | | | | | | | | | | | | | | | | | | | | 0.1 | 2.3 | 12.3 | 1.1 | 2.6 | 0.7 | | | | 1.5 | |
| 2013 | | | | | | | | | | 0.3 | | | | | | | 0.03 | | | | | | | | | | 2.4 | 4.4 | 3.1 | 2.1 | 2.9 | 3.7 | | | | 1.4 | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 4.7 | | 4.1 | 0.1 | 1.3 | | | | | 0.8 |
| 2015 | 0.06 | | | | | 0.04 | | | | | 0.1 | | | | | | 0.01 | | | | | | | | | 0.1 | 0.6 | 1.1 | 1.4 | 5.6 | 0.6 | 0.3 | 2.0 | | | 0.8 | |
| 2016 | | | | | | | | | | | | 5.6 | 4.6 | | | | 1.0 | | | | | | | | | | 0.3 | 1.4 | 1.1 | 0.9 | 1.0 | 3.1 | | | | 0.6 | |
| 2017 | | | | | | | | | | | 0.4 | | | | | | 0.04 | | | | | | | | | 0.4 | 0.4 | 1.3 | 0.1 | 1.3 | 3.9 | 3.7 | 1.6 | 0.3 | | 0.9 | |
| 2018 | | | | | | | | | | | 0.7 | 1.1 | | | | | 0.2 | | | | | | | | | | | | | 0.1 | 0.4 | 0.6 | | | | 0.08 | |
| 2019 | | | | | | | | | | 0.3 | 1.6 | 0.1 | | | | | 0.2 | | | | | | | | | | 0.9 | 0.3 | 0.9 | 0.7 | 0.4 | 0.7 | 3.6 | 1.4 | | 0.6 | |
| Mean | 0.02 | | | | | <0.005 | | | | 0.1 | 0.2 | 0.5 | 0.3 | 0.01 | | 0.1 | | | | | | | | | 0.01 | 0.2 | 0.1 | 0.4 | 1.1 | 1.5 | 1.3 | 0.8 | 1.2 | 0.9 | 0.5 | | |

American Pipit is an irregular spring and regular fall migrant at MBO, with numbers quite variable from year to year. Aside from a late sighting on 24 May 2008, all spring observations have been between 30 April and 19 May. Spring counts are generally low, aside from large flocks observed in 2016. There have been scattered sightings in the first half of September in six years, but most migrants typically pass through from late September to late October, with a few in November in most years since 2012. The peak of fall migration also appears to have shifted later over time, from Week 9 or 10 (2008-2014) to Week 11 to 14 (2015-2019). Aside from low numbers in 2018, fall totals have generally been much higher since 2012 than in earlier years.

EVGR: Evening Grosbeak / Gros-bec errant (*Coccothraustes vespertinus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|-------|------|------|------|------|------|-------|-------|------|-------|-------|------|------|-----|-------|
| First | | 4-16 | | 4-26 | | | 4-15 | | 5-4 | | | | | | 5-7 | 4-25 | 9-28 | | 10-30 | | | | | | 10-25 | 10-25 | | 10-13 | 10-27 | | 10-5 | | 10-17 |
| Peak | | 4-18 | | 4-26 | | | 4-15 | | 5-4 | | | | | | 5-8 | 4-26 | 10-8 | | 10-30 | | | | | | 10-25 | 10-25 | | 10-13 | 10-27 | | 11-1 | | 10-22 |
| Last | | 4-18 | | 4-26 | | | 4-15 | | 5-4 | | | | | | 5-16 | 4-27 | 10-19 | | 10-30 | | | | | | 10-25 | 10-25 | | 10-13 | 10-31 | | 11-1 | | 10-25 |
| Span | | 3 | | 1 | | | 1 | | 1 | | | | | | 10 | 3 | 22 | | 1 | | | | | | 1 | 1 | | 1 | 5 | | 28 | | 8 |
| # days | | 2 | | 1 | | | 1 | | 1 | | | | | | 4 | 2 | 4 | | 1 | | | | | 1 | 1 | | 1 | 2 | | 8 | | 3 | |
| % days | | 3 | | 1 | | | 1 | | 1 | | | | | | 6 | 3 | 5 | | 1 | | | | | 1 | 1 | | 1 | 2 | | 8 | | 3 | |
| High | | 2 | | 2 | | | 3 | | 1 | | | | | | 8 | 3 | 3 | | 3 | | | | | 12 | 1 | | 5 | 3 | | 9 | | 5 | |
| Total | | 3 | | 2 | | | 3 | | 1 | | | | | | 13 | 1 | 7 | | 3 | | | | | 12 | 1 | | 5 | 5 | | 24 | | 4 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | | | | |
|------|-----|-----|-----|-----|-----|------|----|----|------|------|------|-----|------|------|----|------|------|------|-----|----|----|----|----|----|----|----|----|------|------|------|------|-----|-----|-----|------|------|------|-----|-----|-----|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.08 | | | |
| 2006 | | | | | | | | | 0.1 | 0.3 | | | | | | | 0.04 | | | | | | | | | | | | 0.5 | 0.5 | | 0.1 | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.4 | | 0.03 | | | |
| 2008 | | | | | | | | | | | 0.3 | | | | | | | 0.03 | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | 0.7 | | | | | 0.2 | | | 0.4 | | | | | | | | 0.04 | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1.7 | | 0.1 | | | |
| 2013 | | | | | | | | | | | | 0.1 | | | | | 0.01 | | | | | | | | | | | | | | | | | 0.1 | | 0.01 | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.7 | | | 0.05 | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.4 | 0.3 | 0.05 | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.6 | 0.4 | 0.1 | 0.7 | 1.6 | 0.2 |
| 2019 | 2.4 | | | | | 0.5 | | | | | | 1.3 | 0.3 | 0.3 | | 0.2 | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | 0.2 | | | | | 0.06 | | | 0.04 | 0.02 | 0.02 | 0.1 | 0.02 | 0.02 | | 0.02 | | | | | | | | | | | | 0.03 | 0.07 | 0.08 | 0.02 | 0.2 | 0.4 | | 0.04 | | | | | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | | |
|------|------|-----|-----|-----|-----|------|----|----|----|----|----|------|----|----|----|------|----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--|--|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | 1 | | | | | 1 | | | | | | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | | | | |
| Mean | 0.07 | | | | | 0.07 | | | | | | 0.07 | | | | 0.07 | | | | | | | | | | | | | | | | | | | | | | |

Evening Grosbeak is a very rare and irregular migrant at MBO. There have been spring sightings in five years, with the number of individuals counted in 2019 greater than in all four previous years combined. Spring sightings have ranged between 15 April and 16 May. In fall, the species has been observed in seven years, only twice in consecutive years. Except for MBO's first record in late September 2005, all fall sightings have been between 8 October and 1 November, although in two years without fall records, there were late migrants observed later in November (2011 and 2019). Flock size was somewhat larger in 2012 and 2018 than in other years. Only two Evening Grosbeaks have been banded at MBO, one in November 2018 and another in May 2019.

PIGR: Pine Grosbeak / Durbec des sapins (*Pinicola enucleator*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-------|------|-------|------|------|------|------|------|------|------|------|------|------|-------|------|-------|
| First | | | | | | | | | | | | | | | | | 10-28 | | 10-29 | | | | | | | | | | | 10-27 | | 10-28 |
| Peak | | | | | | | | | | | | | | | | | 10-28 | | 10-29 | | | | | | | | | | | 10-27 | | 10-28 |
| Last | | | | | | | | | | | | | | | | | 10-28 | | 10-29 | | | | | | | | | | | 11-6 | | 10-31 |
| Span | | | | | | | | | | | | | | | | | 1 | | 1 | | | | | | | | | | | 11 | | 4 |
| # days | | | | | | | | | | | | | | | | | 1 | | 1 | | | | | | | | | | | 2 | | 1 |
| % days | | | | | | | | | | | | | | | | | 1 | | 1 | | | | | | | | | | | 2 | | 1 |
| High | | | | | | | | | | | | | | | | | 1 | | 2 | | | | | | | | | | | 1 | | 1 |
| Total | | | | | | | | | | | | | | | | | 0 | | 2 | | | | | | | | | | | 2 | | 0 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | | |
|------|------|------|------|-----|-----|------|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|------|------|--------|
| 2005 | | | | 1.3 | | 0.4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | 0.01 | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | 0.3 | | | 2.2 | | 0.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | 0.1 | 0.1 | 0.1 | | | 0.08 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | 0.4 | 1.0 | | | | 0.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | 0.1 | 0.02 |
| 2019 | | | 0.3 | | | 0.06 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | 0.05 | 0.07 | 0.02 | 0.2 | | 0.07 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.04 | 0.03 | <0.005 |

Pine Grosbeak is a very rare fall migrant and occasional winter visitor at MBO. Three of the fall sightings were between 27 October and 29 October; the other was only slightly later, on 6 November. All fall records involved only one or two individuals. There have been observations in five winter seasons, with the greatest numbers in February 2009.

HOFI: House Finch / Roselin familier (*Haemorhous mexicanus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|-------|-------|-------|
| First | 4-5 | 4-2 | 4-24 | 4-17 | 5-12 | 4-8 | 5-10 | 4-3 | 3-28 | 3-29 | 3-28 | 4-1 | 4-6 | 4-8 | 4-14 | 4-10 | 8-11 | 8-7 | 8-3 | 8-31 | 8-5 | 8-6 | 9-3 | 8-8 | 8-3 | 8-1 | 8-7 | 8-2 | 8-1 | 8-8 | 8-8 | 8-9 |
| Peak | 5-1 | 4-2 | 5-26 | 4-21 | 5-12 | 4-18 | 5-10 | 5-2 | 4-2 | 3-29 | 3-28 | 4-18 | 5-18 | 4-8 | 4-14 | 4-21 | 10-30 | 8-7 | 8-3 | 10-10 | 9-19 | 10-30 | 10-29 | 10-25 | 10-25 | 10-17 | 11-3 | 8-7 | 8-22 | 10-19 | 10-12 | 10-1 |
| Last | 6-2 | 5-1 | 6-1 | 4-23 | 6-1 | 5-11 | 5-18 | 5-12 | 4-29 | 4-5 | 4-28 | 5-15 | 5-28 | 6-2 | 5-12 | 5-12 | 10-30 | 9-28 | 10-29 | 10-23 | 10-21 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 11-6 | 11-6 | 11-5 | 11-1 | 11-6 | 10-28 |
| Span | 59 | 30 | 39 | 7 | 21 | 34 | 9 | 40 | 33 | 8 | 32 | 45 | 53 | 56 | 29 | 33 | 81 | 53 | 88 | 54 | 78 | 86 | 58 | 84 | 89 | 91 | 92 | 97 | 97 | 86 | 91 | 82 |
| # days | 12 | 4 | 4 | 4 | 3 | 5 | 2 | 6 | 10 | 2 | 7 | 9 | 8 | 7 | 8 | 6 | 16 | 3 | 8 | 9 | 8 | 27 | 11 | 43 | 34 | 65 | 54 | 51 | 56 | 32 | 37 | 30 |
| % days | 20 | 6 | 6 | 6 | 4 | 7 | 3 | 9 | 14 | 3 | 10 | 13 | 11 | 10 | 11 | 9 | 18 | 3 | 9 | 10 | 9 | 30 | 12 | 47 | 37 | 71 | 55 | 52 | 57 | 33 | 38 | 32 |
| High | 3 | 1 | 4 | 2 | 1 | 6 | 1 | 5 | 3 | 1 | 3 | 5 | 5 | 2 | 3 | 3 | 12 | 1 | 3 | 9 | 2 | 37 | 5 | 12 | 10 | 15 | 15 | 17 | 10 | 9 | 11 | 11 |
| Total | 16 | 4 | 9 | 5 | 3 | 12 | 2 | 10 | 18 | 2 | 12 | 16 | 16 | 10 | 13 | 10 | 53 | 3 | 17 | 23 | 9 | 139 | 22 | 109 | 80 | 226 | 139 | 170 | 148 | 93 | 129 | 91 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|------|------|------|------|------|------|-----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|------|-----|
| 2005 | 14.0 | 6.0 | | 2.3 | 3.0 | 6.4 | | 0.5 | 0.3 | 0.3 | 0.9 | | | | 0.3 | 0.2 | 0.3 | 0.2 | | 0.09 | | 0.3 | | 0.6 | | | 0.3 | 0.1 | 0.2 | 0.3 | 1.5 | 1.6 | 3.0 | | 0.6 | |
| 2006 | 4.4 | 4.3 | 1.0 | 0.4 | 0.4 | 2.2 | 0.1 | | | 0.3 | 0.1 | | | | | 0.06 | | | | | 0.1 | | | | | 0.1 | | 0.1 | | | | | | | 0.03 | |
| 2007 | 4.9 | 2.7 | 12.7 | 13.5 | 8.4 | 7.4 | | | | 0.1 | 0.4 | | | | 0.6 | 0.1 | 0.1 | 0.1 | 0.1 | 0.08 | 0.4 | 0.3 | 0.1 | 0.3 | | | | | 0.7 | | | 0.6 | | 0.2 | | |
| 2008 | | | | | | | | | 0.1 | 0.6 | | | | | | | 0.07 | | 0.6 | 0.8 | 0.7 | | | | | | 0.4 | | | | 1.9 | 0.6 | | | 0.3 | |
| 2009 | 0.9 | 22.5 | 3.3 | 2.0 | 2.7 | 3.3 | | | | | | | 0.3 | | | 0.1 | 0.04 | | | | 0.1 | | 0.1 | | 0.1 | 0.1 | | 0.3 | 0.1 | | | 0.3 | | | 0.1 | |
| 2010 | 6.5 | 6.1 | 0.09 | 1.7 | 0.8 | 3.2 | | 0.1 | 0.6 | 0.9 | | | 0.1 | | | 0.2 | | | | | 0.1 | 0.6 | | 0.1 | 0.9 | 0.3 | 0.3 | | 0.1 | 0.4 | 0.1 | 2.6 | 14.3 | | 1.5 | |
| 2011 | 31.7 | | | 0.2 | | 8.6 | | | | | | | 0.1 | 0.1 | | 0.03 | | | | | | | | 0.3 | 0.1 | | 0.7 | 0.6 | 0.1 | | | 1.3 | | 0.2 | | |
| 2012 | 8.3 | 13.3 | 10.7 | 0.3 | | 6.8 | 0.1 | 0.3 | | | 0.1 | 0.7 | 0.1 | | | 0.1 | | | | | | 0.7 | 0.7 | 1.1 | 2.0 | 2.3 | 0.3 | 0.6 | 1.4 | 0.7 | 0.6 | 1.6 | 3.6 | | 1.2 | |
| 2013 | 16.4 | 14.9 | 18.3 | 22.6 | 10.3 | 15.6 | 1.3 | | 0.3 | 0.4 | 0.6 | | | | | 0.3 | | | | | 0.4 | 0.1 | 0.7 | 0.7 | 0.1 | 0.4 | 0.4 | 0.4 | 1.4 | 2.4 | 1.9 | 3.4 | | 0.9 | | |
| 2014 | 13.6 | 6.3 | 3.7 | 6.9 | 9.4 | 7.6 | 0.2 | 0.1 | | | | | | | | 0.03 | | | | | | 5.9 | 3.1 | 2.7 | 1.7 | 2.0 | 0.3 | 0.4 | 2.0 | 2.1 | 0.9 | 3.9 | 3.6 | 3.7 | | 2.5 |
| 2015 | 11.6 | 6.0 | 1.0 | | 0.2 | 8.1 | 0.9 | 0.4 | 0.3 | | 0.1 | | | | | 0.2 | | | | | | 0.7 | 1.3 | 1.3 | 1.3 | 1.0 | 0.1 | 0.9 | 0.6 | 1.7 | 0.9 | 0.9 | 1.0 | 1.7 | 6.6 | 1.4 |
| 2016 | 6.6 | 1.1 | 0.8 | | 0.8 | 1.5 | 0.1 | 0.1 | 0.3 | 0.9 | 0.3 | 0.3 | 0.3 | | | 0.2 | | | | | | 2.9 | 2.4 | 1.7 | 1.9 | 2.4 | 0.6 | | 0.4 | 1.6 | 1.4 | 3.0 | 1.6 | 1.7 | 2.7 | 1.7 |
| 2017 | 5.9 | 13.0 | 0.7 | 0.2 | | 2.5 | | 0.1 | | 1.0 | | | | 0.9 | 0.3 | | 0.2 | | | 0.5 | 0.3 | 2.6 | 1.7 | 0.9 | 3.7 | 1.0 | 0.6 | 0.6 | 0.9 | 0.7 | 2.0 | 0.6 | 3.6 | 1.1 | 1.3 | 1.5 |
| 2018 | | | | | | | | 0.3 | 0.3 | 0.1 | 0.3 | | | | 0.1 | 0.3 | 0.1 | | | | | 1.1 | 1.4 | 2.1 | 1.9 | 1.1 | 0.7 | | 0.7 | 0.4 | 2.1 | 1.0 | 0.6 | 0.9 | 0.9 | |
| 2019 | 0.4 | 0.09 | | 0.2 | 0.5 | 0.2 | | | 0.4 | 0.4 | 0.6 | 0.3 | 0.1 | | | 0.2 | | | | | | 1.6 | | | 0.3 | | | 0.4 | | 0.6 | 1.4 | 2.9 | 2.9 | 2.9 | 5.6 | 1.3 |
| Mean | 7.9 | 5.0 | 3.8 | 2.8 | 2.7 | 4.6 | 0.2 | 0.1 | 0.2 | 0.3 | 0.2 | 0.09 | 0.08 | 0.07 | 0.09 | 0.05 | 0.1 | 0.1 | 0.07 | 0.08 | 0.9 | 0.9 | 0.6 | 0.9 | 0.8 | 0.4 | 0.3 | 0.4 | 0.7 | 0.7 | 1.2 | 1.5 | 2.6 | 3.3 | 1.0 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|------|-----|-----|-----|-----|------|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|------|------|-----|-----|-----|-----|-----|----|------|-----|------|-----|------|-----|-----|---|-----|
| 2005 | 52 | 5 | | 1 | | 58 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | 2 |
| 2006 | 4 | | 1 | | | 5 | | | | | | | | | | | | | | | | | | | | | 1 | | 1 | | | | | | | | 2 |
| 2007 | 16 | 5 | | | | 21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | 31 | 1 | | | | 32 | | | | | | | | | | | | | | | | 1 | | | | | | | | | 1 | 3 | 2 | | | 7 | |
| 2011 | 61 | | | | | 61 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | 65 | 4 | | | | 69 | | | | | | | | | | | | | | | | | 2 | 2 | 1 | 2 | | | | | | | | | | | 7 |
| 2013 | 57 | 31 | | 1 | 6 | 95 | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | 1 |
| 2014 | 29 | 3 | | | | 32 | | | | | | | | | | | | | | | | 5 | | | | | | | | | | | | | | | 5 |
| 2015 | 68 | | | | | 68 | | | | | | | | | | | | | | | | | | 3 | | | | | | | | | | | | | 3 |
| 2016 | 15 | 2 | | | 2 | 19 | | | | | | | | | | | | | | | | | | 1 | 2 | | | | | | | | | | | | 3 |
| 2017 | 21 | 14 | | | | 35 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 2019 | | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | 29.9 | 5.5 | 0.2 | 0.3 | 0.7 | 35.4 | | | | | | | | | | | | | | | 0.07 | 0.07 | 0.6 | 0.2 | 0.4 | 0.2 | 0.1 | | 0.07 | | 0.07 | | 0.07 | 0.2 | 0.3 | | 2.2 |

House Finch tends to be uncommon to rare in spring and summer, and uncommon in fall, but in many years has been among the most common species in winter (though it was missed entirely in winter 2008 and 2018). Spring sightings have occurred throughout the season, though more frequently in the first half. Fall sightings likewise extend across all weeks; numbers tend to be lowest in September, and highest after mid-October, although the majority of individuals banded have been in August. In both spring and fall, numbers were substantially lower during MBO's first five years, whereas winter counts over the past four years have been among the lowest ever. Winter numbers have peaked anywhere from November to February, and were notably higher than average from 2011 to 2015.

PUFI: Purple Finch / Roselin pourpré (*Haemorhous purpureus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|------|-------|-------|
| First | 4-10 | 4-30 | 4-3 | 4-20 | 4-18 | 3-31 | 5-6 | 4-12 | 4-22 | 4-7 | 4-9 | 3-29 | 4-15 | 3-30 | 4-23 | 4-13 | 8-13 | | 8-4 | 8-20 | 8-8 | 8-24 | 9-17 | 8-1 | 8-1 | 8-3 | 8-1 | 8-2 | 8-1 | 8-1 | 8-7 | 8-9 |
| Peak | 4-30 | 5-6 | 4-9 | 5-2 | 4-30 | 4-13 | 5-6 | 4-24 | 4-30 | 4-19 | 4-29 | 4-26 | 5-26 | 5-15 | 5-18 | 4-30 | 10-4 | | 9-5 | 9-25 | 8-19 | 10-2 | 9-17 | 10-23 | 8-5 | 10-11 | 10-24 | 8-3 | 10-21 | 10-8 | 10-19 | 9-23 |
| Last | 5-27 | 6-5 | 5-20 | 5-27 | 5-19 | 5-21 | 5-13 | 5-24 | 6-1 | 6-1 | 5-28 | 6-1 | 6-5 | 6-5 | 6-5 | 5-27 | 10-30 | | 10-23 | 10-27 | 10-28 | 10-30 | 10-30 | 10-25 | 10-23 | 10-25 | 11-6 | 11-2 | 10-27 | 11-1 | 10-30 | 10-28 |
| Span | 48 | 37 | 48 | 38 | 32 | 52 | 8 | 43 | 41 | 56 | 50 | 65 | 52 | 68 | 44 | 45 | 79 | | 81 | 69 | 82 | 68 | 44 | 86 | 84 | 84 | 98 | 93 | 88 | 93 | 85 | 81 |
| # days | 10 | 14 | 11 | 18 | 11 | 16 | 4 | 22 | 16 | 31 | 29 | 58 | 36 | 54 | 33 | 24 | 17 | | 29 | 17 | 12 | 12 | 4 | 61 | 15 | 17 | 75 | 61 | 60 | 69 | 56 | 36 |
| % days | 17 | 20 | 16 | 26 | 16 | 23 | 6 | 31 | 23 | 46 | 41 | 83 | 51 | 77 | 47 | 35 | 19 | | 32 | 19 | 13 | 13 | 4 | 67 | 16 | 19 | 77 | 62 | 61 | 70 | 57 | 39 |
| High | 2 | 2 | 2 | 3 | 3 | 3 | 1 | 4 | 4 | 4 | 2 | 15 | 3 | 7 | 5 | 4 | 3 | | 5 | 3 | 2 | 3 | 1 | 10 | 4 | 5 | 11 | 7 | 9 | 18 | 14 | 7 |
| Total | 12 | 16 | 13 | 25 | 16 | 24 | 4 | 35 | 24 | 49 | 34 | 193 | 49 | 102 | 57 | 44 | 26 | | 56 | 25 | 15 | 17 | 4 | 197 | 28 | 34 | 196 | 142 | 120 | 263 | 180 | 87 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|------|-----|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|--|
| 2005 | | | | | | | | 0.2 | | 0.2 | 0.7 | 0.3 | | 0.3 | 0.1 | | 0.2 | | | | | 0.1 | | | 0.3 | 0.1 | | 0.6 | | 1.2 | 0.7 | 0.9 | 0.1 | | 0.3 | |
| 2006 | | | | | | | | | | | 0.1 | 0.9 | 0.7 | 0.1 | 0.3 | 0.1 | 0.2 | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | 0.1 | 0.6 | 0.1 | 0.3 | 0.1 | | 0.1 | 0.4 | | | 0.2 | | | | 0.3 | | | | 0.7 | 1.0 | 0.6 | 1.4 | 0.9 | 1.4 | 0.9 | 0.4 | | | 0.6 | |
| 2008 | | | | | | | | | | 0.3 | 0.6 | 1.7 | 0.6 | 0.1 | 0.3 | | 0.4 | | | | | | 0.1 | 0.1 | 0.1 | 0.1 | | 0.9 | 0.1 | 0.6 | 0.1 | 0.6 | 0.7 | | 0.3 | |
| 2009 | | 4.5 | | | | 0.2 | | | | 0.4 | 0.7 | 0.7 | 0.3 | 0.1 | | | 0.2 | | | | | 0.3 | 0.6 | | | | 0.1 | | 0.3 | 0.3 | 0.1 | 0.3 | 0.1 | | 0.2 | |
| 2010 | 0.2 | | | | 0.08 | 0.06 | 0.1 | 0.1 | 1.7 | 0.3 | 0.4 | 0.1 | | 0.6 | | | 0.3 | | 0.2 | 0.1 | | | | 0.1 | 0.1 | 0.1 | 0.1 | | 0.6 | 0.6 | 0.3 | | 0.4 | | 0.2 | |
| 2011 | 0.2 | | | | | 0.05 | | | | | | 0.1 | 0.4 | | | | 0.06 | | | | | | | | | | 0.1 | 0.1 | | | | 0.1 | 0.1 | | 0.04 | |
| 2012 | 0.6 | 0.8 | | | 0.2 | 0.3 | 0.1 | | | 0.3 | 0.6 | 1.1 | 1.1 | 0.9 | 0.7 | 0.3 | 0.5 | | 0.3 | 0.1 | | | | | | | 0.3 | 0.7 | 1.9 | 3.3 | 3.1 | 3.4 | 0.3 | | 2.2 | |
| 2013 | | | | 0.2 | 0.3 | 0.1 | | | | 0.6 | 1.1 | 1.1 | 0.1 | 0.3 | 0.3 | 0.3 | 0.3 | | | | 1.3 | 0.3 | 0.1 | | | | 0.3 | 0.4 | 1.0 | 0.6 | | | | 0.3 | | |
| 2014 | | | | | | | 0.1 | 0.6 | 0.9 | 1.0 | 0.1 | 0.9 | 2.0 | 1.3 | 0.2 | 0.7 | 0.7 | 0.3 | 0.3 | 0.3 | 0.6 | 0.6 | 0.6 | 0.6 | | | 0.1 | | 0.4 | 0.1 | 1.0 | 0.9 | | 0.4 | | |
| 2015 | 0.06 | 1.0 | | | 0.8 | 0.2 | | 0.1 | 0.6 | 1.0 | 1.1 | 0.4 | 1.1 | 0.4 | | 0.5 | 0.7 | 0.8 | 0.7 | 1.0 | 1.0 | 1.7 | 1.1 | 0.9 | 1.1 | 1.7 | 0.1 | 1.0 | 1.3 | 3.1 | 4.4 | 3.7 | 3.1 | 3.6 | 2.0 | |
| 2016 | 3.0 | 1.0 | 0.2 | | 8.4 | 2.7 | 1.4 | 1.1 | 2.3 | 4.4 | 5.7 | 5.7 | 2.4 | 2.3 | 1.7 | 0.4 | 2.8 | 0.5 | 0.8 | 0.6 | 4.0 | 1.6 | 1.4 | 0.3 | 0.9 | 0.4 | 0.9 | 1.9 | 2.1 | 2.7 | 2.0 | 1.1 | 0.9 | 0.1 | 1.4 | |
| 2017 | 0.6 | | 0.1 | | | 0.2 | | | 0.1 | 1.0 | 1.4 | 1.0 | 1.0 | 0.7 | 1.1 | 0.6 | 0.7 | 0.7 | 1.3 | 1.0 | 2.0 | 1.7 | 1.4 | 2.1 | 0.7 | 0.6 | 0.6 | 0.3 | 2.6 | 1.7 | 0.7 | 2.1 | 0.6 | | 1.2 | |
| 2018 | | | | | 0.2 | 0.05 | 0.1 | 1.3 | 0.9 | 2.4 | 1.6 | 1.7 | 2.0 | 1.4 | 2.0 | 1.1 | 1.5 | | 1.8 | 1.0 | 5.7 | 3.6 | 1.7 | 1.6 | 2.0 | 1.7 | 1.7 | 2.1 | 3.7 | 8.7 | 2.1 | 1.7 | 0.9 | 0.3 | 2.7 | |
| 2019 | 0.09 | | | 0.4 | | 0.06 | | | | 0.3 | 1.3 | 2.1 | 1.1 | 2.3 | 0.4 | 0.6 | 0.8 | | 0.3 | 0.1 | 0.3 | 0.9 | 1.1 | 1.3 | 1.3 | 2.1 | 0.9 | 0.6 | 0.6 | 2.7 | 5.3 | 4.0 | 4.7 | | 1.8 | |
| Mean | 0.3 | 0.3 | 0.03 | 0.03 | 0.9 | 0.3 | 0.1 | 0.2 | 0.4 | 0.8 | 1.1 | 1.2 | 0.7 | 0.8 | 0.5 | 0.2 | 0.6 | 0.1 | 0.3 | 0.2 | 1.1 | 0.8 | 0.7 | 0.7 | 0.7 | 0.7 | 0.6 | 0.6 | 1.0 | 1.8 | 1.4 | 1.3 | 0.9 | 0.8 | 0.9 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|-----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|----|
| 2005 | | | | | | | | | | | 3 | | | 2 | | | 5 | | | | | | | | | | | 1 | | 2 | | | | | 3 | |
| 2006 | | | | | | | | | | | | 1 | 2 | | | | 3 | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | 1 | | | 1 | | | | | | | | 2 | 1 | | | 2 | 3 | 3 | | | | 11 | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | 1 | | 2 | | | 3 | | | 7 | |
| 2009 | | | | | | | | | | | | 3 | | | | | 3 | | | | | 1 | | | | | 1 | 1 | 1 | | | | | | 5 | |
| 2010 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | 3 | | | | 1 | | | 4 | |
| 2011 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | 3 | 3 | | | | 6 | | | | 3 | | | 2 | 2 | 1 | | 8 | | 1 | 1 | 3 | | | 2 | 9 | 2 | 9 | 1 | 2 | 4 | 10 | 2 | | | 44 | |
| 2013 | | | | | 1 | 1 | | | | | 2 | | | | | | 2 | | | | 4 | | | | | | | | | | | | | | | 4 |
| 2014 | | | | | | | | | | | | | 2 | 4 | | | 6 | | | | 3 | 1 | | 2 | | | 1 | | | | | | | | | 7 |
| 2015 | | 1 | | | 2 | 3 | | | | | | 1 | | | | | 1 | | 1 | 1 | 3 | 2 | 2 | 1 | 1 | 1 | | | 2 | 8 | 8 | 1 | 4 | 2 | 35 | |
| 2016 | 15 | 4 | | | 29 | 48 | | | | 3 | 10 | 12 | | 2 | | | 27 | | 1 | 1 | 3 | | 1 | | 1 | 2 | | | 4 | 4 | | 1 | | | 16 | |
| 2017 | 1 | | | | | 1 | | | | 1 | | | | | 3 | | 4 | | 2 | 2 | 4 | 4 | | 1 | 1 | 3 | | 1 | 2 | | | 1 | | | 17 | |
| 2018 | | | | | | | | | | | | | | | | | | | 6 | 6 | 23 | 7 | | 1 | 2 | 1 | 3 | 3 | 11 | 9 | 2 | | | 1 | | 63 |
| 2019 | | | | | | | | | | | | 1 | | 1 | | | 2 | | | | 1 | | 1 | | 4 | 3 | 1 | | 5 | 12 | 1 | | | | 28 | |
| Mean | 1.5 | 0.7 | | | 2.9 | 4.4 | | | | 0.5 | 1.0 | 1.2 | 0.4 | 0.8 | 0.3 | | 4.1 | | 0.7 | 0.7 | 2.9 | 1.0 | 0.3 | 0.5 | 1.4 | 0.9 | 1.0 | 0.4 | 1.7 | 2.7 | 2.4 | 0.3 | 0.7 | 0.4 | 16.3 | |

Purple Finch has been observed at MBO in all seasons, but has varied considerably in abundance among years. On average, spring numbers are highest in Week 5 or 6, although peaks in individual years have ranged from Week 2 to 8. There were no summer sightings until 2010, but annual records since 2014, reflecting the presence of one to two breeding pairs annually over this period. Purple Finch was missed in fall in 2006, and occurred irregularly throughout the season in most years from 2005 to 2014, but in 2012 and annually since 2015, it has been observed weekly through at least Week 13 (and into Week 14 in three of the past five years). Correspondingly, numbers observed and banded in those six years have all been near to well above average. Spring counts have fluctuated more irregularly, with an exceptional total only in 2016. There have been sightings in every month of winter, but more commonly early and late in the season.

CORE: Common Redpoll / Sizerin flammé (*Acanthis flammea*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|-------|------|------|-------|-------|-------|-------|-------|------|------|------|-------|------|-------|
| First | | | | 4-10 | 4-17 | | 3-28 | | 3-28 | | 3-28 | 3-28 | | | 3-30 | 4-2 | 10-27 | | 10-29 | | | 10-22 | 10-30 | 10-28 | 10-25 | 10-26 | 11-3 | | | 10-23 | | 10-27 |
| Peak | | | | 4-10 | 4-17 | | 3-29 | | 3-28 | | 3-28 | 4-12 | | | 3-30 | 4-4 | 10-27 | | 10-29 | | | 10-22 | 10-30 | 10-28 | 10-25 | 10-30 | 11-6 | | | 10-30 | | 10-28 |
| Last | | | | 4-17 | 4-17 | | 4-25 | | 4-13 | | 4-6 | 4-15 | | | 4-19 | 4-16 | 10-27 | | 10-29 | | | 10-22 | 10-30 | 10-28 | 10-25 | 10-30 | 11-6 | | | 11-6 | | 10-29 |
| Span | | | | 8 | 1 | | 29 | | 17 | | 10 | 19 | | | 21 | 15 | 1 | | 1 | | | 1 | 1 | 1 | 1 | 5 | 4 | | | 15 | | 3 |
| # days | | | | 2 | 1 | | 4 | | 11 | | 8 | 9 | | | 6 | 8 | 1 | | 1 | | | 1 | 1 | 1 | 1 | 3 | 4 | | | 12 | | 3 |
| % days | | | | 3 | 1 | | 6 | | 16 | | 11 | 13 | | | 4 | 8 | 1 | | 1 | | | 1 | 1 | 1 | 1 | 3 | 4 | | | 12 | | 3 |
| High | | | | 4 | 1 | | 45 | | 50 | | 50 | 110 | | | 6 | 38 | 4 | | 3 | | | 3 | 3 | 3 | 18 | 2 | 30 | | | 62 | | 14 |
| Total | | | | 5 | 1 | | 97 | | 191 | | 161 | 179 | | | 11 | 43 | 4 | | 3 | | | 3 | 3 | 3 | 18 | 4 | 54 | | | 292 | | 26 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|------|------|------|------|------|------|-----|------|------|------|----|----|----|----|-----|------|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|------|------|------|------|
| 2005 | 1.3 | | | | 1.3 | 0.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.6 | | 0.05 | | |
| 2006 | | 2.8 | 8.5 | 2.7 | 14.9 | 5.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | 4.8 | | | 3.6 | | 2.6 | | 0.6 | 0.1 | | | | | | | | 0.07 | | | | | | | | | | | | | | | | | 0.4 | | 0.03 | |
| 2009 | 1.0 | | 15.8 | 25.9 | 29.4 | 20.1 | | | 0.1 | | | | | | | | 0.01 | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.4 | | 0.03 | | |
| 2011 | 0.8 | | 2.0 | 64.3 | 61.1 | 24.5 | 10.7 | 2.9 | | | 0.3 | | | | | | 1.4 | | | | | | | | | | | | | | | | | 0.4 | | 0.03 | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.4 | | 0.03 | |
| 2013 | 0.5 | 13.3 | 42.0 | 43.0 | 44.6 | 31.8 | 23.3 | 2.4 | 1.6 | | | | | | | | 2.7 | | | | | | | | | | | | | | | | | 2.6 | | 0.2 | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.6 | | 0.04 |
| 2015 | 0.8 | | 5.0 | 18.0 | 70.0 | 16.1 | 22.1 | 0.9 | | | | | | | | | 2.3 | | | | | | | | | | | | | | | | | | 7.7 | 0.6 | |
| 2016 | 0.4 | 0.3 | | | | 0.09 | 0.3 | 2.1 | 23.1 | | | | | | | | 2.6 | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | 0.3 | | 0.07 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | 5.5 | 0.2 | 0.09 | | 1.2 | 1.6 | 1.1 | | | 0.4 | | | | | | | 0.2 | | | | | | | | | | | | | | | | 0.3 | 21.9 | 19.6 | 3.0 | |
| Mean | 0.9 | 1.7 | 6.9 | 8.3 | 16.2 | 6.9 | 4.2 | 0.6 | 1.7 | 0.03 | 0.02 | | | | | | 0.6 | | | | | | | | | | | | | | | | | 0.05 | 1.8 | 5.5 | 0.3 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|------|------|------|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|--|
| 2005 | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | 26 | | 14 | 40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | 21 | 21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | 1 | | | 2 | 50 | 53 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | 3 | 23 | | 87 | 227 | 340 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | | 3 | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | 12 | | | | 172 | 184 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | 2 | 1 | | | | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | 1 | | | | 1 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8 | 1 | 9 | |
| Mean | 1.4 | 2.0 | 5.2 | 12.7 | 44.2 | 46.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.7 | 0.2 | 0.8 | |

Common Redpoll is a species of the far north that only migrates as far south as MBO in some years. The majority of records have been in winter, with fall sightings ranging from 22 October onward, and spring observations extending no later than April 25, and the vast majority of individuals gone by early April. Typically the species has been observed every two to three years, corresponding with variation in the productivity of birch and alder cone crops farther north, but the anticipated movement in the winter of 2017 did not materialize. Over one-third of all Common Redpolls banded at MBO were in March 2013, and March has also been the most productive period in most other years.

HORE: Hoary Redpoll / Sizerin blanchâtre (*Acanthis hornemanni*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|--|
| First | | | | | | | | | | | 4-3 | | | | | 4-3 | | | | | | | | | | | | | | | | | |
| Peak | | | | | | | | | | | 4-3 | | | | | 4-3 | | | | | | | | | | | | | | | | | |
| Last | | | | | | | | | | | 4-3 | | | | | 4-3 | | | | | | | | | | | | | | | | | |
| Span | | | | | | | | | | | 1 | | | | | 1 | | | | | | | | | | | | | | | | | |
| # days | | | | | | | | | | | 1 | | | | | 1 | | | | | | | | | | | | | | | | | |
| % days | | | | | | | | | | | 1 | | | | | 1 | | | | | | | | | | | | | | | | | |
| High | | | | | | | | | | | 1 | | | | | 1 | | | | | | | | | | | | | | | | | |
| Total | | | | | | | | | | | 1 | | | | | 0 | | | | | | | | | | | | | | | | | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|------|------|------|------|------|----|----|----|----|----|----|----|----|-----|--------|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | 0.2 | 0.03 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | 0.2 | 0.3 | 0.08 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | 0.5 | 0.2 | 0.1 | 0.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | 0.6 | 0.1 | 0.1 | | | | | | | | | | 0.01 | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | 0.06 | 0.02 | 0.07 | 0.03 | 0.01 | | | | | | | | | | <0.005 | | | | | | | | | | | | | | | | | | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | 3 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | 0.1 | | | | 0.5 | 0.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Hoary Redpoll is a very rare late winter and early spring visitor to MBO. Small numbers were observed between January and March in each of the four winters with particularly large movements of Common Redpolls; in 2015 one individual was seen as late as 3 April. All six individuals banded have been between 13 March and 27 March, although across four different winters.

RECR: Red Crossbill / Bec-croisé des sapins (*Loxia curvirostra*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8-15 | | 8-15 |
| Peak | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8-15 | | 8-15 |
| Last | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8-15 | | 8-15 |
| Span | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | 1 |
| # days | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | 1 |
| % days | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | 1 |
| High | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | 2 |
| Total | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | 0 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--------|------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.02 |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | <0.005 | |

Red Crossbill has only been seen at MBO once, when two individuals passed overhead on 15 August 2018.

WWCR: White-winged Crossbill / Bec-croisé bifascié (*Loxia leucoptera*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|-------|------|------|-------|-------|------|-------|------|------|------|------|-------|-------|
| First | | | | | | | | | | | | | | | | | | | 10-9 | 8-26 | | | 10-28 | 8-23 | | 10-24 | | | | 8-23 | 10-12 | 9-24 |
| Peak | | | | | | | | | | | | | | | | | | | 10-9 | 10-22 | | | 10-28 | 10-23 | | 10-24 | | | | 10-6 | 10-12 | 10-17 |
| Last | | | | | | | | | | | | | | | | | | | 10-9 | 10-29 | | | 10-28 | 10-29 | | 10-24 | | | | 10-6 | 10-12 | 10-19 |
| Span | | | | | | | | | | | | | | | | | | | 1 | 65 | | | 1 | 68 | | 1 | | | 45 | 1 | 26 | |
| # days | | | | | | | | | | | | | | | | | | | 1 | 3 | | | 1 | 6 | | 1 | | | 2 | 1 | 2 | |
| % days | | | | | | | | | | | | | | | | | | | 1 | 3 | | | 1 | 7 | | 1 | | | 2 | 1 | 2 | |
| High | | | | | | | | | | | | | | | | | | | 2 | 17 | | | 2 | 6 | | 1 | | | 3 | 1 | 5 | |
| Total | | | | | | | | | | | | | | | | | 0 | | 2 | 20 | | | 2 | 17 | | 1 | | | 5 | 1 | 3 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|------|-----|------|------|------|------|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | 0.5 | 0.2 | 0.1 | 0.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | 0.3 | | | | | 0.08 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | 0.5 | | | | | 0.08 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | 0.5 | | | | | 0.08 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | 0.06 | | | | | 0.04 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | 0.05 | | 0.02 | 0.02 | 0.02 | 0.02 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | 0.1 | | | | | 0.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

White-winged Crossbill is a very rare fall migrant and winter visitor at MBO. It has been observed in seven years in fall; in three years there were early sightings between 23 August and 26 August, but otherwise all observations have been between 6 October and 29 October. Aside from a flock of 17 on 22 October 2008, numbers have generally been small. From 2009 to 2015, there was at least one sighting every other winter. Only one has been banded, on 7 November 2012.

PISI: Pine Siskin / Tarin des pins (*Spinus pinus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|------|-------|-------|-------|------|-------|------|-------|-------|------|-------|-------|
| First | | 4-2 | | | 3-31 | | 3-31 | 4-25 | 4-11 | | 3-31 | 3-29 | 6-2 | 4-1 | 4-1 | 4-10 | 10-21 | 10-10 | 10-17 | 10-13 | | 10-22 | 9-23 | 8-10 | | 9-23 | 9-7 | 9-6 | 10-4 | 10-3 | 9-14 | 9-27 |
| Peak | | 4-2 | | | 4-19 | | 5-20 | 5-5 | 4-11 | | 5-1 | 4-9 | 6-2 | 4-11 | 4-1 | 4-23 | 10-21 | 10-10 | 10-28 | 10-13 | | 10-30 | 10-3 | 9-29 | | 10-24 | 9-21 | 10-25 | 10-21 | 11-4 | 10-21 | 10-17 |
| Last | | 4-5 | | | 5-22 | | 5-30 | 5-5 | 6-1 | | 5-28 | 5-18 | 6-2 | 5-24 | 5-21 | 5-18 | 10-28 | 10-10 | 10-28 | 10-27 | | 10-30 | 10-30 | 10-30 | | 10-30 | 11-6 | 11-5 | 11-4 | 11-6 | 11-2 | 10-30 |
| Span | | 4 | | | 53 | | 61 | 11 | 52 | | 59 | 51 | 1 | 54 | 51 | 40 | 8 | 1 | 12 | 15 | | 9 | 38 | 82 | | 38 | 61 | 61 | 32 | 35 | 50 | 34 |
| # days | | 2 | | | 30 | | 12 | 3 | 4 | | 8 | 29 | 1 | 10 | 7 | 11 | 3 | 1 | 4 | 9 | | 4 | 18 | 23 | | 30 | 21 | 7 | 9 | 26 | 6 | 12 |
| % days | | 3 | | | 43 | | 17 | 4 | 6 | | 11 | 41 | 1 | 14 | 10 | 15 | 3 | 1 | 4 | 10 | | 4 | 20 | 25 | | 33 | 21 | 7 | 9 | 27 | 6 | 13 |
| High | | 3 | | | 12 | | 6 | 4 | 5 | | 7 | 47 | 1 | 6 | 15 | 11 | 8 | 1 | 12 | 100 | | 16 | 150 | 60 | | 43 | 25 | 6 | 44 | 20 | 7 | 38 |
| Total | | 5 | | | 111 | | 26 | 7 | 11 | | 23 | 374 | 1 | 19 | 29 | 40 | 10 | 1 | 29 | 215 | | 29 | 454 | 152 | | 284 | 162 | 14 | 104 | 126 | 17 | 106 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|------|-----|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|----|-----|------|----|------|------|------|-----|-----|------|------|-----|------|-----|-----|-----|------|-----|
| 2005 | 0.5 | | | | | 0.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | 1.3 | 0.1 | | 0.1 | |
| 2006 | | | | 0.7 | 1.9 | 0.5 | 0.4 | 0.3 | | | | | | | | | 0.07 | | | | | | | | | | | | | | | | | | | 0.01 | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | 0.5 | | 13.4 | 5.7 | 5.6 | 0.7 | 1.7 | 1.0 | 5.7 | 2.7 | 3.3 | 0.6 | 0.4 | | | 1.6 | | | | | | | | | | | | | | | | | | | | |
| 2010 | 0.05 | | | | | 0.02 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1.6 | 2.6 | | 0.3 |
| 2011 | 0.1 | | | | | 0.03 | 0.4 | | | 0.3 | | | | 2.1 | 0.7 | 0.1 | 0.4 | | | | | | | | | | 0.1 | 0.1 | 50.0 | 11.3 | | 3.3 | | | 5.0 | | |
| 2012 | 1.3 | 0.5 | | | 0.6 | 0.7 | | | | 0.1 | 0.9 | | | | | | 0.1 | | | | 0.4 | | | 0.4 | | | | 8.6 | 1.7 | 3.6 | 3.3 | 3.7 | | | 1.7 | | |
| 2013 | 9.1 | 0.6 | 0.07 | 0.8 | | 1.7 | | | 0.7 | 0.4 | | | | | 0.1 | 0.3 | 0.2 | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | 2.4 | | | | | 1.6 | 0.6 | | | | 1.3 | 0.6 | | | 0.9 | | 0.3 | | | | | | | | | 0.4 | 3.7 | 3.3 | 1.9 | 7.6 | 6.4 | 19.9 | | | 3.1 | | |
| 2016 | 0.9 | 5.0 | 0.2 | 0.08 | 2.3 | 1.5 | 14.1 | 23.1 | 8.9 | 5.9 | 1.3 | | | 0.1 | | | 5.3 | | | | | | | | 0.1 | | | 0.1 | 0.3 | | | | 1.1 | 0.3 | 0.1 | | |
| 2017 | 0.1 | | | | | 0.03 | | | | | | | | | | 0.1 | 0.01 | | | | | | | | | | | | | | | | | | | | |
| 2018 | 1.3 | | | | | 0.2 | 0.4 | | 0.9 | | 0.3 | 0.3 | 0.7 | | 0.1 | | 0.3 | | | | | | | | | | | 4.0 | 2.1 | 3.4 | 4.3 | 4.1 | 4.1 | 1.3 | | | |
| 2019 | 0.4 | | | 1.0 | 0.09 | 0.2 | 2.1 | | | | 0.7 | 0.3 | 1.0 | | | | 0.4 | | | | | | | | | 0.4 | | | | | | | 1.7 | 0.1 | 0.1 | 0.2 | |
| Mean | 1.0 | 0.6 | 0.03 | 1.3 | 1.1 | 0.8 | 1.4 | 1.7 | 0.8 | 0.8 | 0.4 | 0.4 | 0.1 | 0.2 | 0.1 | 0.04 | 0.6 | | | | | 0.03 | | 0.03 | 0.04 | 0.03 | 0.4 | 0.8 | 4.0 | 3.7 | 2.5 | 3.2 | 1.8 | 1.1 | | | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|-----|----|----|----|-----|------|------|------|-----|------|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|------|-----|-----|-----|-----|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | 7 | | 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | 3 | 3 | | | | 1 | 1 | | 1 | | | | 3 | | | | | | | | | | | | | | | | 14 | | | 14 | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | 2 | 1 | | 3 | | | | | | | | | | | | | | | | | | | 1 | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | 2 | | | | | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | 2 | | | | 9 | 11 | | | | 2 | | | | | | | 2 | | | | | | | | | | | | | | | | | | | | |
| 2017 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | |
| 2019 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | 0.4 | | | 1.0 | 1.1 | 1.8 | | | | 0.2 | 0.07 | 0.07 | 0.07 | 0.1 | 0.07 | | 0.6 | | | | | | | | | | | | | | | 0.07 | 0.9 | | 0.4 | 1.4 | |

Pine Siskin is an irregular spring and fall migrant and winter visitor at MBO. It has been observed in spring in ten years, with the first arrivals recorded by 1 April in seven cases, but not until 2 June in 2017. Numbers were low to modest in most years, but substantially higher in 2009 when a pair nested in April, and especially in 2016, with a total count nearly double the sum of all other years combined. Small numbers were banded in spring in 2016 and three other years, including a juvenile before mid-May in each of 2009 and 2018. In fall, Pine Siskin was missed only in 2009 and 2013. Timing of migration is more consistent in fall than spring, with sightings in the first half of fall in just four years, and the vast majority of migrants passing through in October. Pine Siskin was banded in fall in only three years. Larger numbers have been banded in winter than any other season, and there have been winter sightings in all but three years. Observations tend to be scarcer in December and January.

AMGO: American Goldfinch / Chardonneret jaune (*Spinus tristis*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|
| First | 4-5 | 3-28 | 3-28 | 3-29 | 3-28 | 3-28 | 3-28 | 3-30 | 3-28 | 3-29 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 |
| Peak | 4-28 | 5-10 | 5-13 | 5-30 | 5-25 | 5-5 | 5-25 | 4-24 | 6-4 | 5-13 | 5-26 | 5-23 | 5-3 | 5-7 | 5-29 | 5-15 | 9-13 | 9-13 | 9-7 | 9-10 | 9-16 | 9-1 | 9-9 | 9-12 | 9-3 | 9-1 | 9-3 | 8-30 | 8-29 | 11-4 | 11-4 | 9-14 | |
| Last | 6-3 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-4 | 6-5 | 6-5 | 6-5 | 6-4 | 6-5 | 6-4 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 11-6 | 11-6 | 11-6 | 11-6 | 11-6 | 11-1 |
| Span | 60 | 70 | 70 | 69 | 70 | 70 | 70 | 68 | 70 | 68 | 70 | 70 | 70 | 69 | 70 | 69 | 64 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 98 | 98 | 98 | 98 | 98 | 93 |
| # days | 59 | 68 | 66 | 61 | 65 | 69 | 54 | 65 | 63 | 65 | 60 | 68 | 65 | 66 | 59 | 64 | 83 | 82 | 90 | 85 | 85 | 87 | 84 | 84 | 86 | 88 | 97 | 93 | 93 | 98 | 95 | 89 | |
| % days | 100 | 99 | 94 | 87 | 94 | 99 | 77 | 93 | 90 | 96 | 86 | 97 | 93 | 94 | 84 | 92 | 94 | 90 | 99 | 93 | 93 | 96 | 92 | 92 | 95 | 97 | 99 | 95 | 95 | 100 | 97 | 95 | |
| High | 20 | 38 | 36 | 28 | 28 | 28 | 30 | 27 | 15 | 30 | 26 | 35 | 25 | 30 | 25 | 28 | 50 | 100 | 50 | 31 | 43 | 52 | 38 | 50 | 85 | 50 | 61 | 65 | 58 | 84 | 32 | 57 | |
| Total | 625 | 825 | 773 | 576 | 511 | 642 | 342 | 642 | 387 | 509 | 420 | 897 | 632 | 573 | 401 | 584 | 1303 | 1421 | 1685 | 1023 | 1102 | 1162 | 887 | 1572 | 1850 | 1482 | 1616 | 1626 | 1588 | 1929 | 1156 | 1427 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|------|------|------|------|------|------|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 2005 | 21.8 | 18.5 | | 1.5 | 5.0 | 10.7 | | 7.3 | 5.9 | 6.7 | 9.7 | 13.0 | 10.6 | 13.3 | 13.4 | 16.0 | 10.6 | 8.6 | 11.4 | 10.1 | 15.1 | 15.0 | 13.1 | 8.1 | 12.4 | 18.7 | 23.0 | 19.7 | 18.3 | 22.7 | 8.8 | 9.6 | 8.6 | | 14.8 |
| 2006 | 17.4 | 10.9 | 5.0 | 1.0 | 1.1 | 7.6 | 3.3 | 3.0 | 6.1 | 9.7 | 8.1 | 17.7 | 20.9 | 15.4 | 21.3 | 12.7 | 12.0 | 12.8 | 16.3 | 14.7 | 19.6 | 21.7 | 17.7 | 22.0 | 19.1 | 20.9 | 32.6 | 14.4 | 8.3 | 11.6 | 7.6 | 2.7 | 4.9 | | 15.6 |
| 2007 | 4.6 | 4.6 | 5.2 | 0.7 | 11.9 | 5.6 | 2.9 | 3.3 | 2.1 | 14.6 | 13.0 | 15.3 | 19.9 | 15.7 | 13.3 | 10.4 | 11.0 | 12.3 | 11.3 | 11.8 | 22.7 | 23.0 | 23.7 | 22.6 | 20.1 | 25.0 | 19.4 | 17.6 | 14.6 | 13.7 | 15.0 | 10.0 | 13.3 | | 18.5 |
| 2008 | 9.8 | 2.3 | 0.4 | | | 3.7 | 0.9 | 1.9 | 3.7 | 6.6 | 10.9 | 9.1 | 15.4 | 11.7 | 10.3 | 11.9 | 8.2 | 8.6 | 13.6 | 11.1 | 17.3 | 14.9 | 14.7 | 10.3 | 11.6 | 15.9 | 13.3 | 13.9 | 10.6 | 13.6 | 4.9 | 3.0 | 2.4 | | 11.2 |
| 2009 | 13.1 | 14.0 | 7.8 | 18.1 | 3.5 | 9.9 | 4.6 | 3.3 | 2.9 | 6.4 | 8.7 | 9.6 | 9.4 | 10.0 | 12.9 | 5.7 | 7.4 | 3.3 | 1.0 | 2.0 | 11.6 | 13.4 | 15.7 | 16.3 | 12.1 | 15.6 | 18.3 | 20.7 | 11.3 | 8.6 | 1.9 | 1.6 | 10.4 | | 12.1 |
| 2010 | 16.8 | 2.3 | 5.3 | 5.1 | 15.3 | 10.4 | 3.3 | 3.6 | 5.3 | 7.7 | 9.6 | 15.6 | 14.0 | 14.4 | 11.6 | 6.7 | 9.2 | 2.3 | 2.8 | 2.7 | 9.1 | 12.4 | 12.6 | 14.1 | 28.6 | 12.0 | 18.6 | 13.7 | 12.3 | 11.4 | 2.7 | 3.7 | 14.7 | | 12.8 |
| 2011 | 19.8 | 2.0 | 9.1 | 6.0 | 3.1 | 10.0 | 0.3 | 1.3 | 0.6 | 1.9 | 4.4 | 7.0 | 8.3 | 8.9 | 11.4 | 4.9 | 4.9 | 4.0 | 8.8 | 6.7 | 13.3 | 11.9 | 12.4 | 14.4 | 14.7 | 19.7 | 7.9 | 9.4 | 4.3 | 5.1 | 1.4 | 5.3 | 6.9 | | 9.7 |
| 2012 | 5.4 | 9.3 | 6.0 | 2.3 | 4.0 | 5.4 | 4.4 | 4.9 | 7.4 | 9.6 | 10.6 | 11.4 | 13.6 | 12.7 | 10.6 | 6.6 | 9.2 | 1.5 | 6.0 | 3.8 | 20.9 | 23.7 | 22.4 | 20.0 | 18.7 | 30.3 | 26.4 | 18.7 | 15.3 | 9.3 | 2.0 | 3.4 | 13.4 | | 17.3 |
| 2013 | 34.0 | 17.6 | 0.9 | | 1.4 | 8.9 | 1.6 | 1.6 | 2.1 | 4.0 | 4.4 | 11.1 | 7.4 | 10.4 | 6.3 | 6.3 | 5.5 | 6.3 | 9.0 | 7.9 | 17.6 | 18.3 | 31.0 | 39.0 | 48.0 | 35.1 | 25.9 | 19.4 | 12.4 | 7.9 | 5.1 | 1.7 | 2.9 | | 20.3 |
| 2014 | 23.0 | 1.8 | 0.3 | 1.5 | 4.0 | 5.4 | 3.0 | 3.3 | 3.3 | 6.4 | 7.0 | 6.4 | 13.9 | 11.4 | 11.1 | 8.5 | 7.5 | 6.7 | 6.0 | 6.3 | 16.0 | 15.7 | 19.1 | 24.9 | 30.3 | 34.0 | 22.9 | 12.1 | 14.4 | 4.3 | 6.3 | 2.7 | 9.0 | | 16.3 |
| 2015 | 11.6 | 5.0 | | | 3.0 | 8.6 | 1.7 | 1.6 | 0.4 | 2.4 | 3.7 | 7.6 | 9.6 | 10.3 | 13.4 | 9.3 | 6.0 | 3.0 | 6.8 | 5.1 | 12.3 | 16.6 | 22.4 | 27.1 | 38.4 | 16.9 | 17.0 | 15.7 | 17.1 | 10.1 | 7.6 | 3.4 | 8.1 | 18.0 | 16.5 |
| 2016 | 41.6 | 32.0 | 25.6 | 10.7 | 7.8 | 21.2 | 3.6 | 5.9 | 5.6 | 12.4 | 13.1 | 17.4 | 15.9 | 18.1 | 21.4 | 14.7 | 12.8 | 7.5 | 17.0 | 12.2 | 22.0 | 23.3 | 17.9 | 24.4 | 31.0 | 23.4 | 21.4 | 14.9 | 9.9 | 12.3 | 4.6 | 3.0 | 8.3 | 16.0 | 16.6 |
| 2017 | 25.6 | 19.0 | 3.7 | 4.6 | 3.1 | 10.3 | 2.9 | 2.9 | 4.9 | 7.7 | 9.0 | 10.4 | 13.9 | 11.6 | 15.9 | 11.3 | 9.0 | 6.0 | 9.5 | 8.0 | 14.0 | 15.9 | 13.1 | 23.1 | 26.3 | 13.9 | 22.4 | 13.4 | 16.7 | 11.7 | 11.0 | 22.0 | 11.4 | 11.9 | 16.2 |
| 2018 | 20.6 | 4.5 | 1.0 | 1.5 | 1.8 | 5.5 | 4.1 | 4.1 | 3.6 | 7.4 | 5.4 | 14.0 | 13.0 | 12.7 | 10.7 | 6.7 | 8.2 | 6.0 | 4.8 | 5.3 | 9.9 | 15.7 | 16.9 | 16.1 | 25.1 | 47.1 | 30.7 | 20.9 | 18.3 | 10.6 | 5.1 | 6.0 | 18.1 | 35.0 | 19.7 |
| 2019 | 12.6 | 9.3 | 2.6 | 1.6 | 3.8 | 6.5 | 5.3 | 2.9 | 2.3 | 3.6 | 3.1 | 3.4 | 4.9 | 10.4 | 10.7 | 10.7 | 5.7 | 5.0 | 6.5 | 5.9 | 13.3 | 12.6 | 13.0 | 13.3 | 12.3 | 17.7 | 13.3 | 11.3 | 13.0 | 9.1 | 8.3 | 5.6 | 6.6 | 15.9 | 11.8 |
| Mean | 16.8 | 10.8 | 6.1 | 4.6 | 5.2 | 9.1 | 3.0 | 3.3 | 3.7 | 7.1 | 8.1 | 11.3 | 12.7 | 12.5 | 13.0 | 9.4 | 8.5 | 7.7 | 9.8 | 8.8 | 15.6 | 16.9 | 17.7 | 19.7 | 23.3 | 23.1 | 20.9 | 15.7 | 13.1 | 10.7 | 6.1 | 5.6 | 9.3 | 19.3 | 15.3 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|------|------|------|-----|-----|-------|----|-----|-----|-----|-----|-----|-----|------|------|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|------|
| 2005 | 72 | 21 | | 2 | 18 | 113 | | 5 | 1 | 4 | 12 | 16 | 7 | 34 | 20 | 12 | 111 | | | | | | 3 | | 2 | 6 | 40 | 5 | | 10 | 1 | 11 | 4 | | 82 |
| 2006 | 69 | 20 | 17 | 3 | 2 | 111 | | | 2 | 4 | 2 | 3 | 8 | 3 | 9 | 1 | 32 | | | | 1 | 2 | 3 | 7 | 3 | 3 | 14 | 1 | 2 | 4 | 2 | 1 | | | 43 |
| 2007 | 2 | 5 | 6 | | 8 | 21 | | | | 4 | 1 | 6 | 18 | 11 | 8 | 3 | 51 | | | | | 2 | 3 | 1 | | 3 | 20 | 4 | 17 | 15 | 16 | 6 | 5 | 2 | 94 |
| 2008 | | | | | | | | | | 8 | 5 | 5 | 6 | 9 | 8 | | 41 | | | | | 2 | 2 | 2 | 2 | 1 | 11 | 7 | 4 | 12 | 10 | 1 | | | 54 |
| 2009 | | | | | 2 | 2 | | | | 2 | | 4 | 8 | 13 | 18 | 2 | 47 | | 1 | 1 | | 2 | | 7 | 6 | 1 | 2 | 2 | 7 | 3 | 3 | | 1 | 1 | 35 |
| 2010 | 56 | 1 | 1 | 3 | 19 | 80 | | | | 4 | 5 | 1 | 10 | 12 | 13 | | 45 | | | | | | 1 | 2 | 1 | 4 | 2 | 17 | 13 | 14 | 5 | 4 | | 22 | 85 |
| 2011 | 93 | | | | | 93 | | | | | | 2 | 2 | 5 | 7 | 1 | 17 | 1 | | 1 | | | 1 | 3 | 6 | 6 | | | | | 1 | | | | 17 |
| 2012 | 41 | 34 | | 4 | 8 | 87 | | | | 5 | 2 | 8 | 4 | 17 | 14 | 1 | 51 | 2 | | 2 | | | 2 | 5 | 3 | 13 | 12 | 1 | 1 | 3 | | | 8 | | 48 |
| 2013 | 146 | 77 | | | 5 | 228 | | | | | | 1 | 1 | 3 | 1 | 9 | 1 | 1 | 2 | 2 | 2 | 4 | 12 | 9 | 13 | 14 | 4 | 8 | | 2 | | | | 70 | |
| 2014 | 69 | 1 | | | | 70 | | | | 2 | 2 | 1 | 26 | 15 | 7 | 7 | 60 | 8 | 5 | 13 | | 4 | 1 | 3 | 8 | 44 | 11 | 1 | 12 | | | | | 84 | |
| 2015 | 61 | 1 | | | 3 | 65 | | | | | | 4 | 5 | 20 | 11 | | 40 | | 1 | 1 | | 1 | 6 | 23 | 20 | 2 | 6 | | | | 12 | | 1 | 22 | 93 |
| 2016 | 218 | 148 | 49 | | 19 | 434 | | | | 3 | 4 | 6 | 6 | 21 | 19 | 5 | 64 | 4 | | 4 | 4 | 1 | 2 | 6 | 5 | 2 | 1 | 1 | 1 | | 1 | 9 | 10 | 43 | |
| 2017 | 122 | 14 | | | | 136 | | | | 4 | 4 | 1 | 3 | 8 | 23 | 3 | 46 | 3 | 3 | 6 | 1 | | | 1 | 2 | | 2 | | 3 | 4 | 6 | 14 | 3 | 2 | 38 |
| 2018 | 60 | 4 | 1 | | | 65 | | | | 3 | | 4 | 12 | 14 | 7 | 3 | 43 | 2 | 4 | 6 | | | 3 | 7 | 6 | 22 | 20 | 14 | 7 | | 1 | 9 | 10 | 99 | |
| 2019 | 32 | 28 | | | 12 | 72 | | | | 2 | | 1 | 2 | 3 | 11 | 2 | 21 | 2 | 2 | 4 | 2 | | | | 3 | | 14 | 4 | 1 | 1 | 3 | 3 | 3 | 34 | |
| Mean | 74.4 | 29.5 | 14.8 | 1.7 | 8.7 | 112.6 | | 2.5 | 1.5 | 3.0 | 2.5 | 4.2 | 7.9 | 12.5 | 11.9 | 2.7 | 45.2 | 1.5 | 1.1 | 2.7 | 1.1 | 1.1 | 2.5 | 5.1 | 4.9 | 9.9 | 10.0 | 5.5 | 5.5 | 3.7 | 2.5 | 2.3 | 4.1 | 9.4 | 61.3 |

American Goldfinch is generally common at MBO throughout the year, having been missed in only three winter periods. In spring, numbers increase notably around the beginning of May, typically peaking either early or late in the month. Counts taper off a bit in Week 10 and remain similar over summer, then jump up at the beginning of fall. In all but two years, fall numbers peaked between Weeks 5 and 7. They tend to drop off considerably by mid-October, but then rebound as late fall migrants move through in late October and November. December numbers remain high, then are somewhat lower from January to March. American Goldfinch is banded frequently in all seasons, but in the highest numbers in winter. Across all seasons, numbers have fluctuated over time without any clear trends.

SNBU: Snow Bunting / Plectrophenax des neiges (*Plectrophenax nivalis*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-------|------|------|------|------|------|------|------|------|------|-------|------|------|-------|------|-------|
| First | | | | | | | | | | | | | | | | | 10-30 | | | | | | | | | | 10-31 | | 11-4 | 10-23 | 11-3 | 10-30 |
| Peak | | | | | | | | | | | | | | | | | 10-30 | | | | | | | | | | 10-31 | | 11-4 | 11-1 | 11-3 | 11-1 |
| Last | | | | | | | | | | | | | | | | | 10-30 | | | | | | | | | | 11-6 | | 11-4 | 11-1 | 11-4 | 11-2 |
| Span | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | 7 | | 1 | 10 | 2 | 4 |
| # days | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | 5 | | 1 | 3 | 2 | 2 |
| % days | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | 5 | | 1 | 3 | 2 | 2 |
| High | | | | | | | | | | | | | | | | | 34 | | | | | | | | | | 30 | | 5 | 3 | 4 | 15 |
| Total | | | | | | | | | | | | | | | | | 0 | 34 | | | | | | | | | 62 | | 5 | 6 | 8 | 8 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|------|-----|------|------|------|------|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|------|-----|-----|------|------|
| 2005 | 12.5 | | | | | 3.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | 4.9 | | 0.4 | |
| 2006 | 2.5 | | | | | 0.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | 0.8 | | 0.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | 8.8 | | | | 1.4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | 3.8 | | | | 1.2 | 2.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8.9 | 0.6 |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | 0.1 | | | | | 0.03 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.7 | 0.05 |
| 2018 | | | 0.4 | | | 0.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | 0.3 | 0.4 | 0.06 |
| 2019 | 0.09 | | | | | 0.02 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1.1 | 0.08 |
| Mean | 1.0 | 0.4 | 0.03 | 0.09 | 0.05 | 0.3 | | | | | | | | | | | | | | | | | | | | | | | | | | 0.01 | 0.3 | 2.2 | 0.08 | |

Snow Bunting occasionally arrives in late fall, but is primarily observed at MBO during winter. It has only been recorded in fall in five years, three of them only because of the extension of the season to Week 14. Overall, sightings have been most frequent in November, likely reflective of the main push of southbound migration occurring at that time. There have been only scattered sightings over the remainder of winter. Sightings are too scarce and irregular to identify any trends over time.

CHSP: Chipping Sparrow / Bruant familier (*Spizella passerina*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|
| First | 4-10 | 4-20 | 4-24 | 4-22 | 4-18 | 4-20 | 4-28 | 4-9 | 4-16 | 4-18 | 4-17 | 4-18 | 4-13 | 4-24 | 4-15 | 4-18 | 8-1 | 8-4 | 8-3 | 8-3 | 8-1 | 8-17 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-3 | 8-4 | 8-4 | 8-3 | |
| Peak | 5-11 | 4-30 | 5-26 | 5-8 | 5-10 | 5-5 | 5-3 | 5-15 | 5-16 | 5-19 | 5-6 | 5-27 | 5-29 | 5-19 | 5-11 | 5-13 | 9-13 | 8-12 | 10-15 | 10-10 | 10-2 | 9-22 | 9-28 | 9-14 | 9-17 | 10-11 | 9-5 | 9-21 | 10-1 | 9-14 | 10-10 | 9-22 |
| Last | 6-3 | 6-3 | 6-1 | 6-1 | 5-30 | 6-1 | 5-29 | 6-3 | 6-3 | 6-2 | 6-3 | 6-5 | 6-5 | 6-3 | 6-5 | 6-2 | 10-28 | 10-9 | 10-18 | 10-17 | 10-21 | 10-10 | 10-21 | 10-21 | 10-11 | 10-27 | 11-2 | 10-31 | 10-25 | 10-11 | 11-4 | 10-21 |
| Span | 55 | 45 | 39 | 41 | 43 | 43 | 32 | 56 | 49 | 46 | 48 | 49 | 54 | 41 | 52 | 46 | 89 | 67 | 77 | 76 | 82 | 55 | 82 | 82 | 72 | 88 | 94 | 92 | 84 | 69 | 93 | 80 |
| # days | 21 | 29 | 21 | 35 | 26 | 33 | 18 | 39 | 42 | 36 | 40 | 43 | 43 | 40 | 43 | 34 | 30 | 19 | 25 | 15 | 12 | 9 | 27 | 42 | 18 | 42 | 34 | 33 | 29 | 28 | 26 | 26 |
| % days | 36 | 42 | 30 | 50 | 38 | 47 | 26 | 56 | 60 | 53 | 57 | 61 | 61 | 57 | 61 | 49 | 34 | 21 | 27 | 16 | 13 | 10 | 30 | 46 | 20 | 46 | 35 | 34 | 30 | 29 | 27 | 28 |
| High | 6 | 5 | 5 | 5 | 4 | 4 | 4 | 7 | 12 | 5 | 9 | 6 | 6 | 8 | 6 | 6 | 12 | 4 | 7 | 4 | 4 | 3 | 16 | 10 | 4 | 8 | 6 | 11 | 4 | 6 | 8 | 7 |
| Total | 36 | 52 | 29 | 61 | 45 | 51 | 25 | 103 | 155 | 87 | 113 | 111 | 100 | 127 | 110 | 80 | 88 | 37 | 55 | 25 | 18 | 13 | 97 | 130 | 29 | 123 | 80 | 82 | 56 | 65 | 54 | 63 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|------|-----|-----|------|-----|--------|----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2005 | | | | | | | | 0.2 | | 0.7 | 0.1 | 1.1 | 2.1 | 0.6 | | 0.6 | 0.6 | 0.3 | 0.6 | 0.5 | 0.6 | | | 0.3 | 0.1 | 1.9 | 2.6 | 3.1 | 2.3 | 2.0 | 0.2 | | 0.1 | | 1.0 | |
| 2006 | | | | | | | | | | 0.4 | 1.0 | 1.3 | 1.3 | 1.0 | 1.3 | 1.1 | 0.8 | 0.6 | 0.2 | 0.4 | 0.7 | 1.1 | 0.1 | 0.6 | | 0.4 | 0.3 | 0.6 | 0.7 | 0.7 | | | | | 0.4 | |
| 2007 | | | | | | | | | | 0.3 | 0.1 | 0.4 | 1.1 | 0.6 | 1.3 | 0.3 | 0.4 | 0.3 | 0.2 | 0.2 | 0.1 | 0.4 | 0.3 | | 0.6 | 0.1 | 1.1 | 1.3 | 0.4 | 1.7 | 1.6 | 0.1 | | | 0.6 | |
| 2008 | | | | | | | | | | 0.4 | 1.4 | 1.7 | 1.7 | 1.7 | 1.1 | 0.6 | 0.9 | 0.2 | 0.2 | | 0.1 | 0.1 | | | | 0.1 | 0.1 | 0.7 | 0.4 | 1.1 | 0.6 | 0.3 | | | 0.3 | |
| 2009 | | | | | | | | | | 0.1 | 0.4 | 0.9 | 2.6 | 1.6 | 0.7 | 0.1 | 0.7 | | | | 0.4 | 0.1 | 0.1 | | | 0.1 | 0.1 | | 0.6 | 0.3 | 0.3 | 0.4 | | | 0.2 | |
| 2010 | | | | | | | | | | 0.3 | 0.6 | 2.1 | 1.4 | 1.4 | 0.9 | 0.6 | 0.7 | | 0.2 | 0.1 | | | 0.1 | | | | | 0.9 | 0.3 | 0.4 | 0.1 | | | | 0.1 | |
| 2011 | | | | | | | | | | 0.9 | 1.3 | 0.7 | 0.3 | 0.4 | | 0.4 | 0.3 | 0.3 | 0.5 | 0.4 | 0.1 | | | 0.4 | 0.3 | 0.1 | 1.4 | 3.0 | 5.1 | 2.0 | 1.0 | 0.3 | | | 1.1 | |
| 2012 | | | | 0.3 | | 0.04 | | 0.1 | 0.3 | 0.4 | 0.7 | 2.6 | 3.7 | 3.3 | 2.7 | 0.9 | 1.5 | 0.5 | 0.8 | 0.6 | 0.7 | 0.3 | 0.1 | 1.7 | 2.9 | 1.7 | 4.7 | 1.4 | 0.9 | 3.4 | | 0.7 | | | 1.4 | |
| 2013 | 0.3 | | | | | 0.04 | | | 0.1 | 0.3 | 2.0 | 5.6 | 3.7 | 4.9 | 3.9 | 1.7 | 2.2 | 0.3 | | 0.1 | 0.9 | 0.1 | 0.3 | 0.3 | 0.3 | 0.7 | 0.7 | 0.4 | 0.6 | 0.1 | | | | | 0.3 | |
| 2014 | | | | | | | | | | 1.4 | 0.9 | 1.6 | 1.6 | 2.3 | 3.3 | 1.7 | 1.3 | 1.0 | 0.3 | 0.6 | 0.6 | 0.7 | | 0.3 | 0.3 | 0.4 | | 0.4 | 2.7 | 3.7 | 4.1 | 2.9 | 1.4 | | | 1.4 |
| 2015 | | | | | | | | | 0.3 | 1.4 | 1.3 | 4.0 | 3.1 | 2.7 | 2.6 | 0.7 | 1.6 | 0.3 | | 0.1 | 1.1 | | 0.1 | 0.3 | 0.4 | 1.9 | 0.9 | 0.3 | 2.6 | 2.0 | 0.7 | 0.7 | 0.1 | 0.3 | 0.8 | |
| 2016 | | | | | | | | | | 1.0 | 1.9 | 3.4 | 3.7 | 2.4 | 2.7 | 0.7 | 1.6 | 0.8 | 1.3 | 1.0 | 0.4 | 0.3 | 0.1 | | 0.4 | 1.1 | 1.3 | 4.6 | 1.7 | 0.1 | 0.7 | 0.1 | 0.6 | 0.1 | 0.8 | |
| 2017 | | | | | | | | | | 0.1 | 1.4 | 1.9 | 1.6 | 2.1 | 1.7 | 3.3 | 2.1 | 1.4 | | | | 0.4 | 0.9 | 0.7 | 1.3 | 0.1 | 0.7 | | 0.1 | 1.4 | 0.4 | 0.1 | 0.3 | | 0.6 | |
| 2018 | | | | | | | | | | 0.3 | 2.3 | 3.7 | 4.0 | 3.6 | 2.6 | 1.7 | 1.8 | 0.3 | | 0.1 | 0.6 | 0.1 | | 0.3 | 0.3 | 1.7 | 2.0 | 0.7 | 2.0 | 1.4 | 0.1 | | | | 0.7 | |
| 2019 | | | | | | | | | | 0.6 | 0.9 | 2.4 | 2.6 | 3.3 | 2.7 | 2.1 | 1.1 | 1.6 | | | | 0.3 | 0.6 | 0.1 | | | | 1.3 | 0.3 | 0.7 | 0.9 | 2.6 | 0.7 | 0.1 | 0.1 | 0.6 |
| Mean | 0.01 | | | 0.01 | | <0.005 | | 0.02 | 0.1 | 0.6 | 1.2 | 2.3 | 2.4 | 2.0 | 1.9 | 0.9 | 1.2 | 0.4 | 0.3 | 0.3 | 0.5 | 0.3 | 0.2 | 0.3 | 0.4 | 0.7 | 1.1 | 1.2 | 1.5 | 1.5 | 0.8 | 0.4 | 0.2 | 0.1 | 0.7 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|-----|----|----|----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|----|
| 2005 | | | | | | | | | | 1 | | | | | | 2 | 3 | | | | | | | 1 | | | 4 | 12 | 1 | 1 | 1 | | 1 | | 21 |
| 2006 | | | | | | | | | | | | | | | | | | | | | 1 | 1 | | | | | 1 | | 2 | | | | | | 5 |
| 2007 | | | | | | | | | | | | | 1 | | | 1 | 2 | | | | | | | | | | 4 | 1 | 2 | 3 | 2 | | | | 12 |
| 2008 | | | | | | | | | | | | | 2 | 3 | | | 6 | | | | | | | | | | 1 | | 3 | 6 | 1 | | | | 11 |
| 2009 | | | | | | | | | | | | | 2 | | | | 2 | | | | 1 | | | | | | 1 | | 3 | 1 | 1 | 3 | | | 10 |
| 2010 | | | | | | | | | | | | | 2 | | | 1 | 3 | | | | | | 1 | | | | | | 3 | 1 | 1 | | | | 6 |
| 2011 | | | | | | | | | | | | | | | | | | | | | 1 | | | 2 | | 1 | 1 | 11 | 12 | 4 | 1 | | | | 33 |
| 2012 | | | | 1 | | 1 | | | | | | 2 | 1 | | 1 | 1 | 5 | | 2 | 2 | 3 | 2 | 1 | 1 | 8 | 2 | 9 | 1 | | 5 | | 1 | | | 33 |
| 2013 | 2 | | | | | 2 | | | | | | 2 | 4 | 4 | 1 | | 11 | | | | 2 | | | | 1 | | | 1 | 1 | | | | | | 5 |
| 2014 | | | | | | | | | | | | 1 | 1 | 2 | 1 | | 5 | | | | | | | | | 1 | | | 3 | 5 | 2 | 2 | | | 13 |
| 2015 | | | | | | | | | | | | | 4 | | 1 | | 5 | | | | 1 | | | | 1 | 1 | | 1 | 2 | | | | 1 | | 7 |
| 2016 | | | | | | | | | | | | | 1 | 1 | 1 | | 3 | | | | | | | | 1 | | | 1 | 2 | | | | 1 | | 5 |
| 2017 | | | | | | | | | | 1 | | | | 3 | 2 | | 6 | | | | | | | | | | | | 2 | | | | | | 2 |
| 2018 | | | | | | | | | | | 1 | 2 | 1 | 3 | | | 7 | | | | 2 | | | | | | | 1 | | | | | | | 4 |
| 2019 | | | | | | | | | | | | 1 | 1 | | | | 2 | | | | 1 | | | | | | 1 | 1 | | | | | | | 3 |
| Mean | 0.1 | | | 0.1 | | 0.2 | | | | 0.1 | 0.07 | 0.5 | 1.4 | 1.1 | 0.5 | 0.3 | 4.0 | | 0.1 | 0.1 | 0.8 | 0.2 | 0.1 | 0.3 | 0.7 | 0.3 | 1.5 | 2.2 | 2.1 | 1.9 | 0.5 | 0.4 | 0.2 | 11.3 | |

Chipping Sparrow is generally uncommon at MBO from around mid-April to mid-October. Spring arrivals have been as early as 9 April, and typically extend to the end of the season, but there is almost always a peak in Week 6 or 7. There have been summer records in 12 of 15 years, generally reflecting the presence of local breeders. Observations over the first half of fall likely also primarily reflect the local birds, whereas the higher numbers from Week 7 to 10 indicate the peak of fall migration. There have been only scattered sightings after mid-October, with the majority of sightings in Week 13 and beyond since 2014. Winter sightings have occurred only in February and November 2012. Spring numbers have generally increased over time, especially in terms of observations. Fall observations were highest in 2011, 2012, and 2014; numbers observed have dropped to around average in more recent years, whereas numbers banded have been unusually scarce since 2015.

CCSP: Clay-colored Sparrow / Bruant des plaines (*Spizella pallida*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|------|------|------|------|------|------|-----|
| First | | | | | | | | | | 5-17 | 5-25 | | | | | 5-21 | | | | | 9-17 | | 10-18 | | 9-17 | | | | | | 9-27 | |
| Peak | | | | | | | | | | 5-17 | 5-25 | | | | | 5-21 | | | | | 9-24 | | 10-18 | | 9-17 | | | | | | 9-29 | |
| Last | | | | | | | | | | 5-17 | 5-25 | | | | | 5-21 | | | | | 9-24 | | 10-18 | | 9-17 | | | | | | 9-29 | |
| Span | | | | | | | | | | 1 | 1 | | | | | 1 | | | | | 8 | | 1 | | 1 | | | | | | 3 | |
| # days | | | | | | | | | | 1 | 1 | | | | | 1 | | | | | 2 | | 1 | | 1 | | | | | | 1 | |
| % days | | | | | | | | | | 1 | 1 | | | | | 1 | | | | | 2 | | 1 | | 1 | | | | | | 1 | |
| High | | | | | | | | | | 1 | 1 | | | | | 1 | | | | | 2 | | 1 | | 1 | | | | | | 1 | |
| Total | | | | | | | | | | 1 | 1 | | | | | 0 | | | | | 3 | | 1 | | 1 | | | | | | 0 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|------|------|-----|--------|------|-----|----|----|----|----|----|----|----|------|------|----|-----|-----|-----|------|-----|----|--------|------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | 0.3 | | | | | | | | | 0.03 |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | 0.01 |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | 0.01 |
| 2014 | | | | | | | | | | | | | | | 0.1 | | | 0.01 | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | 0.1 | | 0.01 | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | 0.01 | 0.01 | | <0.005 | | | | | | | | | | 0.02 | 0.02 | | | | | 0.01 | | | <0.005 | |

Clay-colored Sparrow is a very rare spring and fall migrant at MBO. There have been only two spring sightings in mid-late May in two consecutive years. In fall, there have been five sightings spread over three years, mostly between 17 September and 24 September, and one later occurrence on 18 October. To date, none have been banded.

FISP: Field Sparrow / Bruant des champs (*Spizella pusilla*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|------|------|------|------|------|------|------|------|------|
| First | | 5-19 | | | 5-26 | | | | 4-19 | 4-19 | 5-23 | | | | 4-17 | 5-5 | 8-3 | | 9-21 | | 10-18 | 9-23 | 9-18 | 10-3 | 9-15 | | 10-4 | | | | | 9-20 |
| Peak | | 5-19 | | | 5-26 | | | | 4-19 | 4-19 | 5-23 | | | | 4-17 | 5-5 | 8-3 | | 9-21 | | 10-18 | 9-23 | 9-18 | 10-3 | 9-15 | | 10-4 | | | | | 9-20 |
| Last | | 5-21 | | | 5-26 | | | | 5-18 | 4-19 | 6-5 | | | | 6-5 | 5-21 | 10-5 | | 9-21 | | 10-18 | 9-23 | 9-18 | 10-3 | 9-15 | | 10-5 | | | | | 9-28 |
| Span | | 3 | | | 1 | | | | 30 | 1 | 14 | | | | 50 | 16 | 64 | | 1 | | 1 | 1 | 1 | 1 | 1 | | 2 | | | | | 9 |
| # days | | 2 | | | 1 | | | | 3 | 1 | 2 | | | | 4 | 2 | 6 | | 1 | | 1 | 1 | 1 | 1 | 1 | | 2 | | | | | 2 |
| % days | | 3 | | | 1 | | | | 4 | 1 | 3 | | | | 6 | 3 | 7 | | 1 | | 1 | 1 | 1 | 1 | 1 | | 2 | | | | | 2 |
| High | | 1 | | | 1 | | | | 1 | 1 | 1 | | | | 1 | 1 | 1 | | 2 | | 1 | 2 | 1 | 1 | 1 | | 1 | | | | | 1 |
| Total | | 2 | | | 1 | | | | 3 | 1 | 2 | | | | 4 | 1 | 6 | | 2 | | 1 | 2 | 1 | 1 | 1 | | 2 | | | | | 1 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | | |
|------|-----|-----|-----|-----|-----|----|----|----|------|------|----|------|------|------|------|------|------|------|-----|--------|------|-----|----|----|----|------|------|------|------|------|-----|------|-----|-----|-----|------|------|------|
| 2005 | | | | | | | | | | | | | | | | | | 0.06 | | | 0.03 | 0.1 | | | | | 0.1 | | | | | | | | | | 0.07 | |
| 2006 | | | | | | | | | | | | | | | 0.3 | | | 0.03 | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.02 |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | 0.1 | | 0.01 | | | | | | | | | | | | | | | | | 0.1 | | 0.01 | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.02 |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.01 |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | 0.01 |
| 2013 | | | | | | | | | | 0.3 | | | | | 0.1 | | 0.04 | | | | | | | | | | | 0.1 | | | | | | | | | 0.01 | |
| 2014 | | | | | | | | | | 0.1 | | | | | | | 0.01 | | | | | | | | | | | | | | | | | | | | 0.01 | |
| 2015 | | | | | | | | | | | | | | | 0.1 | 0.1 | 0.03 | | | | | | | | | | | | | | | | | | | | 0.02 | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | 0.1 | | 0.1 | 0.1 | | | 0.1 | 0.06 | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 0.01 | 0.03 | | 0.01 | 0.01 | 0.03 | 0.02 | 0.02 | 0.01 | 0.01 | | <0.005 | 0.01 | | | | | 0.01 | 0.02 | 0.04 | 0.02 | 0.05 | | 0.01 | | | | 0.01 | | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|------|----|----|----|------|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|------|-----|-----|-----|-----|----|------|---|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| 2006 | | | | | | | | | | | | | | | 1 | | 1 | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | 1 | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | 0.07 | | | | 0.07 | | 0.1 | | | | | | | | | | | | | | 0.07 | | | | | | 0.07 | | |

Field Sparrow is a rare spring and fall migrant at MBO, with a lone summer sighting in June 2005. There have been spring sightings in six years, with a few clustered between 17 April and 19 April, but most others in the second half of May or early June. Fall sightings occurred in eight of the first 11 years, but were lacking over the past four years. Aside from two sightings in the first half of fall in 2005, and one late record in 18 October, sightings have been between 15 September and 5 October. Only two Field Sparrows have been banded in spring, and one in fall.

FOSP: Fox Sparrow / Bruant fauve (*Passerella iliaca*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|
| First | 4-7 | 4-2 | | 4-10 | 4-10 | 4-6 | 4-12 | 4-18 | 4-16 | 4-14 | 4-15 | 4-17 | 4-1 | 4-26 | 4-13 | 4-11 | 10-11 | 10-5 | 10-8 | 10-4 | 10-6 | 10-1 | 10-4 | 10-4 | 9-26 | 9-23 | 10-1 | 9-29 | 10-17 | 10-6 | 10-12 | 10-4 |
| Peak | 4-18 | 4-16 | | 4-21 | 4-22 | 4-19 | 4-19 | 4-24 | 4-19 | 4-17 | 4-25 | 4-19 | 4-26 | 4-26 | 5-1 | 4-21 | 10-28 | 10-21 | 10-13 | 10-14 | 10-25 | 10-27 | 10-21 | 10-20 | 10-15 | 10-29 | 10-24 | 11-6 | 10-17 | 10-22 | 11-6 | 10-23 |
| Last | 5-3 | 5-1 | | 4-28 | 4-27 | 4-30 | 5-9 | 5-9 | 5-6 | 5-6 | 4-30 | 5-4 | 5-6 | 4-26 | 5-9 | 5-3 | 10-30 | 10-28 | 10-30 | 10-28 | 10-30 | 10-30 | 10-29 | 10-29 | 10-30 | 10-30 | 11-6 | 11-6 | 11-4 | 11-6 | 11-6 | 10-31 |
| Span | 27 | 30 | | 19 | 18 | 25 | 28 | 22 | 21 | 23 | 16 | 18 | 36 | 1 | 27 | 22 | 20 | 24 | 23 | 25 | 25 | 30 | 26 | 26 | 35 | 38 | 37 | 39 | 19 | 32 | 26 | 28 |
| # days | 14 | 27 | | 16 | 10 | 15 | 26 | 13 | 18 | 23 | 16 | 17 | 24 | 1 | 25 | 18 | 18 | 10 | 21 | 10 | 18 | 24 | 10 | 23 | 20 | 26 | 18 | 27 | 10 | 25 | 22 | 19 |
| % days | 24 | 39 | | 23 | 14 | 21 | 37 | 19 | 26 | 34 | 23 | 24 | 34 | 1 | 36 | 25 | 20 | 11 | 23 | 11 | 20 | 26 | 11 | 25 | 22 | 29 | 18 | 28 | 10 | 26 | 22 | 20 |
| High | 5 | 13 | | 22 | 7 | 14 | 15 | 4 | 32 | 21 | 42 | 13 | 20 | 1 | 19 | 16 | 25 | 8 | 7 | 2 | 13 | 15 | 3 | 23 | 7 | 34 | 5 | 14 | 2 | 9 | 5 | 11 |
| Total | 26 | 131 | | 119 | 25 | 81 | 93 | 23 | 217 | 167 | 222 | 71 | 133 | 1 | 190 | 100 | 135 | 20 | 60 | 13 | 82 | 120 | 15 | 125 | 47 | 169 | 36 | 99 | 13 | 84 | 53 | 71 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|------|------|-----|-----|------|------|------|-----|-----|------|------|-----|------|----|----|-----|------|-----|-----|----|----|----|----|----|----|----|-----|------|------|-----|-----|------|-----|-----|------|-----|-----|
| 2005 | | | | | | | | 0.2 | 0.7 | 1.5 | 1.1 | 0.4 | | | | | 0.4 | | | | | | | | | | | | | | | | 2.0 | 5.7 | 11.9 | | 1.5 |
| 2006 | 1.4 | | | | | 0.3 | 0.3 | 3.7 | 5.3 | 7.1 | 2.9 | | | | | | 1.9 | | | | | | | | | | | | 0.6 | 0.3 | 1.9 | 0.1 | | | 0.2 | | |
| 2007 | 0.06 | | | | | 0.02 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.7 | |
| 2008 | 0.3 | | | | | 0.08 | | 0.1 | 1.1 | 14.0 | 1.7 | | | | | | 1.7 | | | | | | | | | | | | 0.3 | 0.4 | 0.7 | 0.4 | | | 0.1 | | |
| 2009 | | | | | | | | 0.5 | 0.1 | 2.9 | 0.1 | | | | | | 0.4 | | | | | | | | | | | | 1.0 | 0.6 | 2.3 | 7.9 | | | 0.9 | | |
| 2010 | 2.1 | | | | | 0.6 | | 0.1 | 2.9 | 8.0 | 0.6 | | | | | | 1.2 | | | | | | | | | | | 0.3 | 1.1 | 4.3 | 4.3 | 7.1 | | | 1.3 | | |
| 2011 | 1.0 | | | | | 0.3 | | | 1.7 | 7.3 | 2.9 | 1.3 | 0.1 | | | | 1.3 | | | | | | | | | | | | 0.4 | 0.1 | 1.1 | 0.4 | | | 0.2 | | |
| 2012 | 0.9 | 0.3 | | | 0.4 | 0.5 | | | | 1.3 | 1.6 | 0.3 | 0.1 | | | | 0.3 | | | | | | | | | | | | 0.9 | 3.0 | 8.7 | 5.3 | | | 1.4 | | |
| 2013 | 0.5 | | | | | 0.08 | | | | 1.1 | 19.9 | 9.7 | 0.3 | | | | 3.1 | | | | | | | | | | | 0.4 | 0.3 | 3.4 | 2.0 | 0.6 | | | 0.5 | | |
| 2014 | | | | | | | | | 3.6 | 12.9 | 5.9 | 1.6 | | | | | 2.5 | | | | | | | | | | 0.1 | 0.1 | 0.4 | 4.6 | 4.6 | 14.3 | | | 1.9 | | |
| 2015 | 2.4 | | | | | 1.6 | | | 1.3 | 15.6 | 14.9 | | | | | | 3.2 | | | | | | | | | | | | 0.1 | 0.3 | 1.7 | 1.9 | 1.1 | | 0.4 | | |
| 2016 | | | | | | | | | 0.9 | 5.9 | 2.9 | 0.6 | | | | | 1.0 | | | | | | | | | | | 0.1 | 0.6 | 1.7 | 1.3 | 2.3 | 8.1 | | 1.0 | | |
| 2017 | 0.7 | | | | | 0.2 | 0.1 | 0.3 | 4.1 | 8.6 | 5.4 | 0.4 | | | | | 1.9 | | | | | | | | | | | | | | | | | | 0.1 | | |
| 2018 | | | | | | | | | | | 0.1 | | | | | | 0.01 | | | | | | | | | | | | | | | | | | | 0.1 | |
| 2019 | 0.4 | | | | | 0.08 | | | 2.3 | 6.9 | 12.1 | 5.7 | 0.1 | | | | 2.7 | | | | | | | | | | | | 0.4 | 1.7 | 2.6 | 3.9 | 3.4 | | 0.9 | | |
| Mean | 0.9 | 0.01 | | | 0.02 | 0.2 | 0.03 | 0.3 | 1.7 | 7.5 | 4.1 | 0.7 | 0.03 | | | | 1.4 | | | | | | | | | | | 0.01 | 0.08 | 0.4 | 1.7 | 2.8 | 4.1 | 3.1 | | 0.8 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | | |
|------|-----|-----|-----|-----|-----|-----|----|-----|-----|------|-----|-----|------|----|----|-----|------|-----|-----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|----|------|----|----|
| 2005 | | | | | | | | | | 4 | 3 | 1 | | | | | 8 | | | | | | | | | | | | | | | | 1 | 5 | 20 | | 26 | |
| 2006 | 1 | | | | | 1 | | 1 | 5 | 3 | | | | | | | 9 | | | | | | | | | | | | 3 | | | 2 | | | | 5 | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 26 | |
| 2008 | | | | | | | | | | 23 | | | | | | | 23 | | | | | | | | | | | | | | | | | | | | 8 | |
| 2009 | | | | | | | | | | 1 | 1 | | | | | | 2 | | | | | | | | | | | | 5 | 1 | 9 | 17 | | | | 32 | | |
| 2010 | 7 | | | | | 7 | | | | 16 | | | | | | | 16 | | | | | | | | | | | | 4 | 13 | 12 | 22 | | | | 51 | | |
| 2011 | 6 | | | | | 6 | | | | 12 | 4 | 1 | 1 | | | | 18 | | | | | | | | | | | | 1 | | 3 | 1 | | | | 5 | | |
| 2012 | 2 | | | | | 2 | | | | 2 | 4 | | | | | | 6 | | | | | | | | | | | | 4 | 12 | 25 | 10 | | | | 51 | | |
| 2013 | | | | | | | | | | 32 | 10 | | | | | | 42 | | | | | | | | | | | 2 | | 11 | 2 | 1 | | | | 16 | | |
| 2014 | | | | | | | | | | 28 | 6 | | | | | | 34 | | | | | | | | | | | | | | | | | | | | 44 | |
| 2015 | 8 | | | | | 8 | | | | 22 | 25 | | | | | | 47 | | | | | | | | | | | | | | | | | | | | 10 | |
| 2016 | | | | | | | | | | 7 | 1 | 1 | | | | | 9 | | | | | | | | | | | | 2 | 3 | 3 | 6 | 23 | | | 37 | | |
| 2017 | 2 | | | | | 2 | | | | 17 | 8 | | | | | | 25 | | | | | | | | | | | | | | | | | | | | 4 | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 26 |
| 2019 | 2 | | | | | 2 | | | | 6 | 17 | 11 | | | | | 34 | | | | | | | | | | | | 1 | 8 | 10 | 5 | 2 | | | 14 | | |
| Mean | 2.0 | | | | | 2.0 | | 0.5 | 2.5 | 11.5 | 5.3 | 0.9 | 0.07 | | | | 18.2 | | | | | | | | | | | 0.1 | 1.6 | 4.9 | 7.1 | 8.0 | 5.8 | | | 23.7 | | |

Fox Sparrow is an early-mid spring and late fall migrant at MBO, with some sightings usually carrying over into early winter. The first spring sightings are often in the first half of April, but typically rise to a sharp peak in Week 4 and taper off again rapidly, with only a small number lingering into May, none past 9 May. In fall, there have been late September records in just three years; typically numbers peak in mid-late October and migrants continue to pass through well into October. Both in spring and fall there have been years with exceptionally low numbers, but no distinct trends over time.

ATSP: American Tree Sparrow / Bruant hudsonien (*Spizelloides arborea*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| First | 4-5 | 3-28 | 3-28 | 4-1 | 3-29 | 3-28 | 3-28 | 4-2 | 3-28 | 3-29 | 3-28 | 3-28 | 3-28 | 3-28 | 3-30 | 3-29 | 10-13 | 10-11 | 10-1 | 10-7 | 10-12 | 10-11 | 10-9 | 10-15 | 10-15 | 10-12 | 10-18 | 10-11 | 10-21 | 10-22 | 10-19 | 10-13 |
| Peak | 4-6 | 4-3 | 4-19 | 4-9 | 4-9 | 3-29 | 3-30 | 4-15 | 4-10 | 4-1 | 4-7 | 4-19 | 3-31 | 3-29 | 4-3 | 4-6 | 10-28 | 10-28 | 10-25 | 10-18 | 10-30 | 10-27 | 10-30 | 10-27 | 10-30 | 10-29 | 11-3 | 10-30 | 11-1 | 11-1 | 11-3 | 10-28 |
| Last | 5-10 | 4-30 | 4-23 | 4-20 | 4-23 | 4-17 | 5-2 | 4-26 | 4-27 | 5-6 | 5-6 | 5-6 | 5-10 | 4-26 | 5-22 | 4-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 11-6 | 11-6 | 11-6 | 11-6 | 11-6 | 11-1 |
| Span | 36 | 34 | 27 | 20 | 26 | 21 | 36 | 25 | 31 | 39 | 40 | 40 | 44 | 30 | 54 | 34 | 18 | 20 | 30 | 24 | 19 | 20 | 22 | 16 | 16 | 19 | 20 | 27 | 17 | 16 | 19 | 20 |
| # days | 17 | 24 | 20 | 11 | 16 | 8 | 28 | 10 | 23 | 28 | 25 | 34 | 23 | 19 | 26 | 21 | 15 | 13 | 20 | 12 | 13 | 15 | 10 | 16 | 10 | 13 | 18 | 25 | 12 | 12 | 10 | 14 |
| % days | 29 | 35 | 29 | 16 | 23 | 11 | 40 | 14 | 33 | 41 | 36 | 49 | 33 | 27 | 37 | 30 | 17 | 14 | 22 | 13 | 14 | 16 | 11 | 18 | 11 | 14 | 18 | 26 | 12 | 12 | 10 | 15 |
| High | 9 | 12 | 7 | 12 | 15 | 21 | 19 | 9 | 25 | 14 | 16 | 22 | 10 | 10 | 12 | 14 | 12 | 17 | 15 | 19 | 45 | 30 | 13 | 9 | 7 | 38 | 16 | 9 | 7 | 13 | 9 | 17 |
| Total | 52 | 110 | 54 | 50 | 83 | 47 | 118 | 39 | 136 | 118 | 92 | 176 | 67 | 53 | 105 | 87 | 81 | 96 | 108 | 37 | 137 | 118 | 57 | 75 | 23 | 260 | 111 | 98 | 37 | 56 | 37 | 89 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|------|------|----|-----|-----|-----|-----|----|----|----|----|----|----|----|-----|------|------|------|------|------|-----|-----|----|
| 2005 | 1.3 | 3.5 | | 1.3 | 5.0 | 2.6 | | 4.5 | 1.9 | 0.7 | 0.9 | 0.1 | 0.1 | | | | 0.9 | | | | | | | | | | | | | 0.2 | 5.3 | 6.1 | | 0.9 | |
| 2006 | 0.8 | 0.6 | 1.8 | 2.0 | 4.1 | 1.8 | 6.7 | 6.3 | 2.3 | 1.0 | 0.3 | | | | | | 1.6 | | | | | | | | | | | | | 0.4 | 4.4 | 8.9 | | 1.1 | |
| 2007 | 3.0 | 2.7 | 4.3 | 6.5 | 4.2 | 3.8 | 2.9 | 1.3 | 1.6 | 2.0 | | | | | | | 0.8 | | | | | | | | | | 0.1 | 0.1 | 3.4 | 5.3 | 6.4 | | 1.2 | | |
| 2008 | 1.0 | | | | | 0.3 | 0.3 | 2.1 | 3.6 | 1.1 | | | | | | | 0.7 | | | | | | | | | | | 0.4 | 0.1 | 3.6 | 1.1 | | 0.4 | | |
| 2009 | 0.9 | 0.5 | 1.8 | 1.6 | 2.4 | 1.7 | 5.1 | 5.7 | 1.6 | 0.3 | | | | | | | 1.2 | | | | | | | | | | | | | 0.3 | 2.9 | 16.4 | | 1.5 | |
| 2010 | 3.3 | 1.8 | 3.3 | 5.0 | 8.5 | 4.5 | 6.6 | | 0.1 | | | | | | | | 0.7 | | | | | | | | | | | | 0.7 | 4.3 | 11.9 | | 1.3 | | |
| 2011 | 4.5 | 1.0 | 3.6 | 1.0 | 2.8 | 3.2 | 6.9 | 2.4 | 1.4 | 3.7 | 2.3 | 0.1 | | | | | 1.7 | | | | | | | | | | 0.1 | | 1.1 | 6.9 | | 0.6 | | | |
| 2012 | 4.4 | 2.5 | 0.3 | 2.3 | 9.0 | 4.3 | 0.6 | 0.9 | 1.9 | 1.6 | 0.7 | | | | | | 0.6 | | | | | | | | | | | 0.4 | 4.6 | 5.7 | | 0.8 | | | |
| 2013 | 1.6 | 3.9 | 1.7 | 2.2 | 4.1 | 2.8 | 1.9 | 8.9 | 4.1 | 4.0 | 0.6 | | | | | | 1.9 | | | | | | | | | | | 0.3 | 0.4 | 2.6 | | 0.3 | | | |
| 2014 | 2.0 | 1.8 | 0.3 | 2.4 | 4.4 | 2.1 | 4.2 | 4.1 | 3.1 | 4.1 | 1.4 | 0.4 | | | | | 1.7 | | | | | | | | | | | 0.1 | 7.4 | 29.6 | | 2.9 | | | |
| 2015 | 5.5 | 1.0 | | | 3.6 | 4.5 | 3.3 | 4.1 | 1.3 | 2.7 | 1.6 | 0.1 | | | | | 1.3 | | | | | | | | | | | | | 2.9 | 6.0 | 7.0 | 1.1 | | |
| 2016 | 6.5 | 4.0 | 4.4 | 4.1 | 10.4 | 6.1 | 3.6 | 3.1 | 3.6 | 9.7 | 4.6 | 0.6 | | | | | 2.5 | | | | | | | | | | | | 2.1 | 2.6 | 4.7 | 4.6 | 1.0 | | |
| 2017 | 4.2 | 5.0 | 1.0 | 3.0 | 4.7 | 3.4 | 3.1 | 2.9 | 1.1 | 1.7 | 0.4 | 0.1 | 0.1 | | | | 1.0 | | | | | | | | | | | | | 0.3 | 1.3 | 3.7 | 0.4 | | |
| 2018 | 1.5 | 2.2 | 3.8 | 3.0 | 1.9 | 2.5 | 2.9 | 1.6 | 1.3 | 1.6 | 0.3 | | | | | | 0.8 | | | | | | | | | | | | | 0.3 | 0.9 | 6.9 | 0.6 | | |
| 2019 | 1.5 | 2.1 | 3.7 | 0.8 | 0.4 | 1.8 | 3.0 | 1.6 | 3.7 | 5.4 | 1.0 | 0.1 | | 0.1 | | | 1.5 | | | | | | | | | | | | | 0.3 | 1.0 | 4.0 | 0.4 | | |
| Mean | 3.0 | 2.1 | 2.6 | 2.7 | 4.7 | 3.1 | 3.6 | 3.2 | 2.2 | 2.7 | 0.9 | 0.1 | 0.02 | 0.01 | | | 1.3 | | | | | | | | | | | 0.01 | 0.05 | 0.5 | 3.0 | 7.3 | 5.2 | 1.0 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|------|----|-----|-----|-----|-----|-----|------|------|----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|------|-----|-----|------|------|------|----|
| 2005 | 3 | 2 | | 3 | 1 | 9 | | 2 | | 1 | | | | | | | 3 | | | | | | | | | | | | | 1 | 9 | 15 | | 25 | |
| 2006 | 5 | 2 | 2 | 1 | 1 | 11 | | 2 | 4 | 1 | | | | | | | 7 | | | | | | | | | | | | | | 14 | 15 | | 29 | |
| 2007 | | 2 | | | 5 | 7 | | | | 2 | | | | | | | 2 | | | | | | | | | | | | | | 10 | 16 | 8 | | 34 |
| 2008 | | | | | | | | | | 2 | | | | | | | 2 | | | | | | | | | | | | | | | | | | 13 |
| 2009 | | | | | 2 | 2 | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | 5 | 6 | | | 62 | |
| 2010 | 8 | 3 | 2 | 2 | 23 | 38 | | | | | | | | | | | | | | | | | | | | | | | | 3 | 13 | 37 | | 53 | |
| 2011 | 21 | | | | 4 | 25 | | | | 6 | 9 | | | | | | 15 | | | | | | | | | | | | | | 6 | 32 | | 38 | |
| 2012 | 25 | 2 | | 2 | 27 | 56 | | | | 2 | | | | | | | 2 | | | | | | | | | | | | | 2 | 12 | 19 | | 33 | |
| 2013 | 4 | 13 | | 1 | 6 | 24 | | | | 5 | 1 | | | | | | 6 | | | | | | | | | | | | | 2 | 3 | 8 | | 13 | |
| 2014 | 3 | 1 | | | | 4 | | | | 5 | 2 | 2 | | | | | 9 | | | | | | | | | | | | | | 23 | 80 | | 103 | |
| 2015 | 31 | | | | 2 | 33 | | | | 2 | 1 | | | | | | 3 | | | | | | | | | | | | | | 9 | 20 | 18 | 47 | |
| 2016 | 15 | 12 | | | 38 | 65 | | | | 12 | 1 | | | | | | 13 | | | | | | | | | | | | | 3 | 4 | 10 | 11 | 28 | |
| 2017 | 9 | 3 | | | | 12 | | | | 4 | 1 | | 1 | | | | 6 | | | | | | | | | | | | | | 2 | 5 | 3 | 10 | |
| 2018 | 2 | 1 | 3 | 3 | | 9 | | | | 2 | | | | | | | 2 | | | | | | | | | | | | | | 1 | 1 | 9 | 11 | |
| 2019 | 5 | 5 | | | | 10 | | | | 10 | 1 | | | 1 | | | 12 | | | | | | | | | | | | | | | 5 | 12 | 17 | |
| Mean | 9.4 | 3.8 | 1.4 | 1.7 | 9.9 | 21.8 | | 2.0 | 2.0 | 3.6 | 1.1 | 0.1 | 0.07 | 0.07 | | | 5.5 | | | | | | | | | | | | 0.07 | 1.5 | 8.3 | 21.0 | 10.6 | 34.4 | |

American Tree Sparrow is typically present at MBO from October until late April or early May. The earliest fall arrival was on 1 October 2007, but on average is just before mid-October. Numbers peaked in Week 13 in 9 of 10 years from 2005 to 2014; once the season was extended to Week 14, that was where the peak occurred in four of five years. After the migrants pass through, a fair number of individuals typically overwinter, with numbers often building again in March. On average spring counts are highest in Week 1 and then taper off over the next three weeks before dropping off more sharply in Week 5; sightings have extended into May in seven years, including an exceptionally late individual banded on 22 May 2019. Spring numbers have fluctuated irregularly over the years, but fall totals have been near to well below average over the past four years.

SCJU: Dark-eyed (Slate-colored) Junco / Junco ardoisé (*Junco hyemalis hyemalis*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|------|-------|-------|
| First | 4-5 | 3-28 | 3-28 | 3-29 | 3-28 | 3-29 | 3-28 | 3-28 | 3-28 | 3-29 | 3-28 | 3-28 | 3-28 | 3-28 | 3-29 | 3-28 | 8-29 | 9-28 | 9-9 | 9-16 | 9-18 | 9-8 | 8-10 | 9-11 | 9-24 | 9-26 | 9-22 | 9-22 | 9-21 | 8-10 | 9-21 | 9-12 |
| Peak | 4-5 | 4-27 | 3-28 | 4-22 | 4-21 | 4-17 | 5-5 | 4-6 | 4-16 | 4-14 | 4-21 | 4-22 | 4-26 | 4-8 | 4-14 | 4-16 | 10-28 | 10-27 | 10-6 | 10-22 | 10-25 | 10-8 | 10-25 | 10-6 | 10-15 | 10-18 | 10-22 | 11-5 | 10-17 | 11-1 | 10-22 | 10-20 |
| Last | 5-7 | 5-8 | 5-2 | 5-4 | 5-9 | 5-6 | 5-12 | 5-12 | 5-7 | 5-12 | 5-4 | 5-12 | 5-6 | 5-6 | 5-17 | 5-8 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 11-6 | 11-6 | 11-6 | 11-6 | 11-6 | 11-1 |
| Span | 33 | 42 | 36 | 37 | 43 | 39 | 46 | 46 | 41 | 45 | 38 | 46 | 40 | 40 | 50 | 41 | 63 | 33 | 52 | 45 | 43 | 53 | 82 | 50 | 37 | 35 | 46 | 46 | 47 | 89 | 47 | 51 |
| # days | 22 | 39 | 22 | 32 | 25 | 21 | 40 | 31 | 38 | 36 | 37 | 41 | 37 | 32 | 36 | 33 | 43 | 25 | 42 | 39 | 38 | 44 | 35 | 38 | 33 | 34 | 44 | 44 | 38 | 47 | 34 | 39 |
| % days | 37 | 57 | 31 | 46 | 36 | 30 | 57 | 44 | 54 | 53 | 53 | 59 | 53 | 46 | 51 | 47 | 49 | 27 | 46 | 43 | 42 | 48 | 38 | 42 | 36 | 37 | 45 | 45 | 39 | 48 | 35 | 41 |
| High | 9 | 55 | 11 | 22 | 24 | 23 | 65 | 24 | 24 | 18 | 76 | 24 | 85 | 23 | 19 | 33 | 180 | 25 | 90 | 90 | 110 | 130 | 26 | 130 | 51 | 131 | 42 | 50 | 50 | 39 | 58 | 80 |
| Total | 55 | 749 | 81 | 189 | 205 | 120 | 739 | 149 | 254 | 191 | 529 | 194 | 461 | 137 | 182 | 282 | 1368 | 199 | 731 | 837 | 1171 | 1956 | 295 | 1325 | 387 | 928 | 588 | 810 | 293 | 577 | 381 | 790 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|----|-----|------|------|--------|----|------|----|------|------|-----|-----|-----|------|------|------|------|------|------|------|------|
| 2005 | 4.3 | 4.5 | | 2.8 | 2.0 | 3.2 | | 3.3 | 1.6 | 2.3 | 1.1 | 0.3 | | | | | 0.9 | | | | | | | | 0.3 | 0.7 | 1.0 | 1.3 | 5.2 | 29.0 | 49.3 | 57.4 | 63.1 | | 15.5 |
| 2006 | 9.4 | 13.5 | 13.7 | 5.6 | 7.3 | 10.1 | 12.0 | 20.0 | 22.6 | 24.4 | 24.7 | 6.1 | | | | | 10.9 | | | | | | | | | | | 0.3 | 2.6 | 6.3 | 8.6 | 10.7 | | 2.2 | |
| 2007 | 4.6 | 3.7 | 6.8 | 6.7 | 5.9 | 5.3 | 4.4 | 3.0 | 0.3 | 3.0 | 0.7 | 0.1 | | | | | 1.2 | | | | | | | | 0.4 | 1.0 | 1.0 | 4.1 | 29.3 | 22.4 | 36.6 | 9.6 | | 8.0 | |
| 2008 | 3.6 | 1.5 | | 1.7 | | 2.0 | 4.1 | 2.6 | 4.9 | 11.4 | 3.4 | 0.6 | | | | | 2.7 | | | | | | | | | 0.9 | 1.1 | 2.9 | 9.7 | 20.6 | 36.0 | 48.4 | | 9.2 | |
| 2009 | 8.9 | 10.0 | 7.0 | 3.9 | 5.1 | 6.0 | 6.6 | 5.0 | 2.3 | 15.1 | 0.7 | 0.1 | 0.1 | | | | 3.0 | | | | | | | | 0.3 | 0.9 | 1.9 | 22.3 | 33.7 | 37.1 | 71.1 | | 12.9 | | |
| 2010 | 25.3 | 8.4 | 9.5 | 8.5 | 5.2 | 13.1 | 3.4 | 0.4 | 4.3 | 7.1 | 1.4 | 0.4 | | | | | 1.7 | | | | | | | | 0.3 | 0.3 | 6.4 | 6.3 | 69.4 | 70.7 | 69.0 | 57.0 | | 21.5 | |
| 2011 | 36.7 | 6.0 | 13.8 | 7.8 | 6.0 | 17.1 | 12.6 | 3.7 | 18.4 | 30.1 | 26.0 | 13.0 | 1.7 | | | | 10.6 | 0.3 | 0.1 | | 0.1 | | | | | 0.1 | 2.6 | 4.1 | 4.9 | 13.6 | 16.7 | | 3.2 | | |
| 2012 | 11.0 | 5.0 | 9.0 | 3.7 | 3.4 | 7.4 | 2.3 | 7.9 | 5.1 | 4.4 | 1.0 | 0.4 | 0.1 | | | | 2.1 | | | | | | | | 0.4 | 0.4 | 1.1 | 2.6 | 73.1 | 45.4 | 43.7 | 22.4 | | 14.6 | |
| 2013 | 11.6 | 10.7 | 10.4 | 13.4 | 8.8 | 10.5 | 3.6 | 9.4 | 5.9 | 9.1 | 7.1 | 1.1 | | | | | 3.6 | | | | | | | | | 0.1 | 4.3 | 10.9 | 18.9 | 13.4 | 7.7 | | 4.3 | | |
| 2014 | 13.4 | 22.0 | 16.3 | 15.1 | 10.4 | 15.2 | 5.3 | 6.3 | 9.3 | 4.1 | 2.1 | 0.4 | 0.4 | | | | 2.8 | | | | | | | | | | 7.9 | 9.9 | 18.1 | 53.4 | 43.3 | | 10.2 | | |
| 2015 | 20.1 | 18.0 | 3.0 | | 11.6 | 16.7 | 3.6 | 6.4 | 4.1 | 34.3 | 26.1 | 1.0 | | | | | 7.6 | | | | | | | | | | 2.4 | 6.1 | 16.1 | 11.9 | 19.3 | 13.9 | 14.3 | 6.0 | |
| 2016 | 11.3 | 7.0 | 8.6 | 7.0 | 6.5 | 7.9 | 3.4 | 3.0 | 4.7 | 10.6 | 3.6 | 2.3 | 0.1 | | | | 2.8 | | | | | | | | | | 1.7 | 9.0 | 16.1 | 16.3 | 16.4 | 21.3 | 34.9 | 8.3 | |
| 2017 | 23.9 | 22.5 | 16.1 | 5.7 | 8.3 | 13.9 | 12.7 | 10.9 | 5.6 | 13.1 | 22.0 | 1.6 | | | | | 6.6 | | | | | | | | | | 0.9 | 1.1 | 3.3 | 4.9 | 15.1 | 6.7 | 9.9 | 3.0 | |
| 2018 | 12.5 | 7.7 | 6.0 | 5.4 | 5.2 | 7.2 | 7.0 | 5.6 | 3.0 | 2.9 | 0.6 | 0.6 | | | | | 2.0 | | | | 0.1 | | 0.3 | 0.1 | | 0.3 | 0.4 | 6.1 | 17.9 | 11.0 | 13.6 | 11.3 | 21.3 | 5.9 | |
| 2019 | 8.4 | 2.5 | 2.1 | 0.6 | 1.4 | 3.3 | 2.3 | 1.9 | 4.4 | 6.7 | 7.9 | 2.4 | 0.3 | 0.1 | | | 2.6 | | | | | | | | | | 0.4 | 1.0 | 3.3 | 3.3 | 18.1 | 14.6 | 13.7 | 3.9 | |
| Mean | 14.6 | 8.6 | 9.6 | 6.5 | 6.1 | 9.4 | 6.0 | 5.9 | 6.4 | 12.0 | 8.6 | 2.0 | 0.2 | 0.01 | | | 4.1 | 0.01 | <0.005 | | 0.02 | | 0.02 | 0.03 | 0.1 | 0.3 | 1.2 | 4.1 | 21.1 | 22.3 | 30.1 | 27.9 | 18.8 | 8.5 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|------|-----|-----|-----|-----|------|----|-----|------|-----|-----|-----|-----|----|----|-----|------|-----|-----|----|----|------|----|-----|-----|-----|-----|-----|------|------|------|------|------|-------|-----|
| 2005 | 13 | 3 | | 2 | 2 | 20 | | | 1 | 3 | 1 | | | | | | 5 | | | | | | | | 2 | | 2 | 3 | 17 | 34 | 32 | 22 | 79 | | 191 |
| 2006 | 26 | 6 | 17 | 3 | 2 | 54 | | 3 | 20 | 9 | 14 | 2 | | | | | 48 | | | | | | | | | | | 1 | 3 | 5 | 15 | 9 | | 33 | |
| 2007 | 10 | 3 | 1 | | 6 | 20 | | | | | | | | | | | | | | | | | | | | 2 | 3 | 1 | 6 | 44 | 29 | 38 | 4 | | 127 |
| 2008 | | | | | | | | | | 9 | | | | | | | 9 | | | | | | | | | | 1 | 1 | 10 | 23 | 53 | 54 | 94 | | 236 |
| 2009 | | | | | | | | | | 8 | 1 | 1 | | | | | 10 | | | | | | | | | | | 3 | 7 | 21 | 46 | 109 | 175 | | 361 |
| 2010 | 45 | 2 | 1 | | 2 | 50 | | | | 6 | 2 | | | | | | 8 | | | | | | | | | | | 16 | 8 | 127 | 158 | 134 | 66 | | 509 |
| 2011 | 147 | | | | 3 | 150 | | | | 24 | 10 | 1 | 1 | | | | 36 | | | | | | | | | | | 6 | 7 | 9 | 24 | 12 | | 58 | |
| 2012 | 63 | 11 | | 7 | 9 | 90 | | | | | | | 1 | | | | 1 | | | | | | | | 2 | 2 | 1 | 5 | 80 | 43 | 47 | 18 | | 198 | |
| 2013 | 24 | 6 | | 6 | 6 | 42 | | | | 9 | 2 | 1 | | | | | 12 | | | | | | | | | | | 1 | 10 | 19 | 21 | 6 | 3 | | 60 |
| 2014 | 21 | 7 | | | | 28 | | | | 3 | | | 1 | | | | 4 | | | | | | | | | | | | 23 | 14 | 37 | 97 | 71 | | 242 |
| 2015 | 87 | 4 | | | 6 | 97 | | | | 19 | 23 | | | | | | 42 | | | | | | | | | | | 6 | 13 | 23 | 12 | 6 | 6 | 8 | 74 |
| 2016 | 35 | 13 | | | 7 | 55 | | | | 11 | 1 | | | | | | 12 | | | | | | | | | | | 2 | 23 | 26 | 19 | 29 | 46 | 64 | 209 |
| 2017 | 90 | 11 | | | | 101 | | | | 10 | 5 | | | | | | 15 | | | | | | | | | | | 2 | 4 | 5 | 2 | 23 | 7 | 8 | 51 |
| 2018 | 35 | 11 | 1 | 2 | | 49 | | | | | | | | | | | | | | | 1 | | | | | | 1 | 1 | 1 | 10 | 2 | 4 | 3 | 9 | 32 |
| 2019 | 28 | | | | | 28 | | | | 8 | 11 | | 1 | | | | 20 | | | | | | | | | | | 4 | 3 | | 11 | 3 | 19 | 40 | |
| Mean | 44.6 | 6.4 | 4.0 | 2.9 | 3.9 | 56.0 | | 1.5 | 10.5 | 7.7 | 4.8 | 0.4 | 0.3 | | | | 14.8 | | | | | 0.07 | | 0.1 | 0.3 | 0.6 | 2.5 | 9.2 | 29.3 | 31.2 | 41.3 | 39.7 | 21.6 | 161.4 | |

All Dark-eyed Junco observations at MBO to date have been of the Slate-colored subspecies. Juncos are generally common at MBO from around early October to late April. In fall, there have been sightings prior to Week 7 in six years, but only once after 2012. The two August sightings are suggestive of breeding nearby; in 2011 there was also an observation in July. Fall numbers typically spike sharply in early October, peaking between mid-October and early November. Counts taper off over the course of winter and early spring, rebound briefly around mid-April, and then become scarce by early May, with only one sightings as late as 17 May. Numbers have fluctuated over time, so the lower counts over the past couple of years are not yet cause for concern.

EWCS: White-crowned Sparrow / Bruant à couronne blanche (*Zonotrichia leucophrys leucophrys*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|------|------|-------|
| First | 5-11 | 5-4 | 5-8 | 5-4 | 4-26 | 5-2 | 4-27 | 5-4 | 5-6 | 4-27 | 5-6 | 4-27 | 4-28 | 5-6 | 4-15 | 5-1 | 9-21 | 9-20 | 9-21 | 9-21 | 9-21 | 9-13 | 9-7 | 9-5 | 9-23 | 9-24 | 9-24 | 9-13 | 9-6 | 9-26 | 9-18 | 9-17 |
| Peak | 5-12 | 5-14 | 5-10 | 5-9 | 5-20 | 5-15 | 5-11 | 5-12 | 5-10 | 5-11 | 5-6 | 5-10 | 5-16 | 5-8 | 5-7 | 5-11 | 10-11 | 9-30 | 10-8 | 10-3 | 10-10 | 10-6 | 10-3 | 10-4 | 9-24 | 10-11 | 10-8 | 9-30 | 10-1 | 10-9 | 10-8 | 10-5 |
| Last | 5-28 | 5-30 | 5-26 | 5-25 | 5-23 | 5-19 | 5-22 | 5-17 | 5-22 | 5-30 | 5-26 | 5-22 | 5-23 | 5-21 | 5-27 | 5-24 | 10-27 | 10-23 | 10-30 | 10-27 | 10-26 | 10-30 | 10-21 | 10-29 | 10-22 | 10-29 | 10-30 | 11-4 | 10-12 | 11-2 | 11-4 | 10-27 |
| Span | 18 | 27 | 19 | 22 | 28 | 18 | 26 | 14 | 17 | 34 | 21 | 26 | 26 | 16 | 43 | 24 | 37 | 34 | 40 | 37 | 36 | 48 | 45 | 55 | 30 | 36 | 37 | 53 | 37 | 38 | 48 | 41 |
| # days | 8 | 17 | 9 | 19 | 12 | 12 | 12 | 9 | 12 | 13 | 18 | 15 | 14 | 9 | 23 | 13 | 25 | 34 | 28 | 28 | 27 | 31 | 16 | 42 | 25 | 30 | 29 | 28 | 18 | 25 | 15 | 27 |
| % days | 14 | 25 | 13 | 27 | 17 | 17 | 17 | 13 | 17 | 19 | 26 | 21 | 20 | 13 | 33 | 20 | 28 | 37 | 31 | 31 | 30 | 34 | 18 | 46 | 27 | 33 | 30 | 29 | 18 | 26 | 15 | 29 |
| High | 2 | 7 | 5 | 16 | 11 | 20 | 6 | 10 | 8 | 10 | 7 | 10 | 12 | 5 | 14 | 10 | 13 | 45 | 42 | 20 | 100 | 25 | 50 | 69 | 13 | 15 | 15 | 11 | 13 | 13 | 5 | 30 |
| Total | 10 | 54 | 22 | 111 | 40 | 68 | 35 | 27 | 45 | 49 | 59 | 37 | 44 | 19 | 58 | 45 | 114 | 334 | 340 | 166 | 497 | 167 | 136 | 331 | 129 | 111 | 120 | 79 | 111 | 132 | 28 | 186 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|------|------|-----|-----|-----|------|----|----|------|------|-----|-----|-----|-----|-----|------|-----|-----|-----|----|----|----|----|----|-----|-----|-----|-----|------|------|------|-----|-----|-----|-----|
| 2005 | | | | | | | | | | | | | 0.7 | 0.4 | 0.3 | | 0.2 | | | | | | | | | | | 0.4 | 5.0 | 5.7 | 5.8 | 1.4 | 0.3 | | 1.3 |
| 2006 | 0.07 | | | | | 0.02 | | | | | | 1.3 | 3.6 | 2.4 | 0.3 | 0.1 | 0.8 | | | | | | | | | | | 3.6 | 17.9 | 12.1 | 9.0 | 5.1 | | | 3.7 |
| 2007 | | | | | | | | | | | | 0.1 | 2.0 | 0.6 | 0.4 | | 0.3 | | | | | | | | | | | 0.6 | 10.9 | 20.3 | 15.0 | 1.4 | 0.4 | | 3.7 |
| 2008 | | | | | | | | | | | | 3.4 | 8.3 | 3.4 | 0.7 | | 1.6 | | | | | | | | | | | 1.0 | 4.3 | 13.7 | 3.6 | 0.9 | 0.3 | | 1.8 |
| 2009 | | | | | | | | | | 0.1 | 0.3 | 1.0 | 4.1 | 0.1 | | 0.6 | | | | | | | | | | | 0.9 | 8.7 | 42.9 | 17.6 | 0.7 | 0.3 | | 5.5 | |
| 2010 | 0.05 | 0.4 | | | | 0.06 | | | | | | 1.4 | 6.6 | 1.7 | | 1.0 | | | | | | | | | | 0.1 | 1.1 | 4.1 | 10.3 | 5.6 | 2.3 | 0.3 | | 1.8 | |
| 2011 | 0.1 | | | | | 0.03 | | | | 0.1 | 0.6 | 3.4 | 0.9 | | | 0.5 | | | | | | | | | 0.6 | | | 4.4 | 13.4 | 0.3 | 0.7 | | | 1.5 | |
| 2012 | 0.1 | | | | | 0.04 | | | | | 0.4 | 3.3 | 0.1 | | | 0.4 | | | | | | | | | 0.6 | 0.4 | 1.4 | 5.0 | 28.4 | 5.4 | 4.6 | 1.4 | | 3.6 | |
| 2013 | | | | | | | | | | | 0.9 | 1.6 | 4.0 | | | 0.6 | | | | | | | | | | | 2.7 | 8.0 | 5.4 | 1.6 | 0.7 | | | 1.4 | |
| 2014 | | | | | | | | | 0.1 | 0.7 | 5.0 | 0.9 | 0.1 | 0.2 | 0.7 | | | | | | | | | | | | 0.9 | 1.1 | 2.7 | 7.0 | 2.9 | 1.3 | | 1.2 | |
| 2015 | | | | | | | | | | | 2.1 | 2.9 | 3.1 | 0.3 | | 0.8 | | | | | | | | | | | 0.3 | 2.1 | 8.3 | 3.4 | 2.1 | 0.9 | | 1.2 | |
| 2016 | | | | | | | | | | 0.3 | | 3.3 | 1.7 | | | 0.5 | | | | | | | | | | | 1.4 | 1.7 | 5.1 | 1.4 | 1.1 | 0.3 | | 0.1 | 0.8 |
| 2017 | | | | | | | | | | 0.9 | 0.3 | 1.4 | 3.4 | 0.3 | | 0.6 | | | | | | | | | | 0.9 | 0.1 | | 6.7 | 6.1 | 2.0 | | | 1.1 | |
| 2018 | | | | | | | | | | | 1.6 | 0.7 | 0.4 | | | 0.3 | | | | | | | | | | | 2.1 | 7.7 | 5.9 | 2.9 | | 0.3 | 1.3 | | |
| 2019 | 0.2 | | | | | 0.04 | | | 0.6 | 0.4 | 0.6 | 2.4 | 1.1 | 2.9 | 0.3 | 0.8 | | | | | | | | | | 0.1 | | 0.1 | 1.7 | 1.1 | 0.7 | 0.1 | 0.3 | 0.3 | |
| Mean | 0.04 | 0.04 | | | | 0.02 | | | 0.04 | 0.03 | 0.1 | 1.0 | 3.0 | 2.0 | 0.2 | 0.02 | 0.7 | | | | | | | | | 0.1 | 0.2 | 1.0 | 5.7 | 12.1 | 5.6 | 1.8 | 0.3 | 0.1 | 2.0 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|-----|----|----|----|----|------|-----|-----|-----|-----|-----|------|-----|-----|----|----|----|----|----|----|----|-----|-----|-----|------|-----|-----|-----|-----|------|
| 2005 | | | | | | | | | | | | | 1 | 3 | 1 | | 5 | | | | | | | | | | | 2 | 6 | 4 | 7 | 1 | | | 20 |
| 2006 | | | | | | | | | | | | 3 | | 5 | | | 8 | | | | | | | | | | 2 | 27 | 17 | 2 | 2 | | | | 50 |
| 2007 | | | | | | | | | | | | | 3 | 3 | | | 6 | | | | | | | | | | 2 | 22 | 35 | 18 | 3 | | | | 80 |
| 2008 | | | | | | | | | | | | 3 | 15 | 10 | 2 | | 30 | | | | | | | | | | 6 | 7 | 19 | 7 | | | | | 39 |
| 2009 | | | | | | | | | | | | | 5 | 20 | | | 25 | | | | | | | | | | 1 | 14 | 46 | 9 | | 1 | | | 71 |
| 2010 | | | | | | | | | | | | 4 | 11 | 6 | | | 21 | | | | | | | | | 1 | 5 | 8 | 22 | 7 | | 2 | | | 45 |
| 2011 | 1 | | | | | 1 | | | | | | 1 | 7 | 2 | | | 10 | | | | | | | | | | | 4 | 10 | 1 | | | | | 15 |
| 2012 | | | | | | | | | | | | | 8 | | | | 8 | | | | | | | | | | 1 | 9 | 35 | 3 | 5 | | | | 53 |
| 2013 | | | | | | | | | | | | 1 | 1 | 14 | | | 16 | | | | | | | | | | 3 | 5 | 3 | 1 | | | | | 12 |
| 2014 | | | | | | | | | | | | | 5 | 2 | 1 | | 8 | | | | | | | | | | 4 | 5 | 6 | 8 | | | | | 31 |
| 2015 | | | | | | | | | | | | 3 | 1 | 5 | | | 9 | | | | | | | | | | 1 | 1 | 6 | 2 | 3 | 1 | | | 14 |
| 2016 | | | | | | | | | | | | | 7 | 2 | | | 9 | | | | | | | | | | 4 | 4 | 2 | | | | | | 10 |
| 2017 | | | | | | | | | | 1 | | 1 | 3 | | | 5 | | | | | | | | | | 1 | | 5 | 2 | 5 | | | | | 13 |
| 2018 | | | | | | | | | | | | 1 | | 2 | | | 3 | | | | | | | | | | | 2 | 5 | 4 | | | | | 11 |
| 2019 | 1 | | | | | 1 | | | | | | | 1 | 1 | 1 | | 3 | | | | | | | | | | 1 | | 3 | 2 | 1 | | | | 7 |
| Mean | 0.1 | | | | | 0.1 | | | | | 0.07 | 1.1 | 4.4 | 5.2 | 0.3 | | 11.1 | | | | | | | | | | 0.3 | 2.0 | 7.9 | 14.3 | 5.1 | 1.5 | 0.3 | | 31.4 |

All White-crowned Sparrows observed at MBO to date appear to be of the Eastern subspecies. It is a spring and fall migrant at MBO, with occasional individuals lingering into November and December in a few years. The first spring migrants have arrived in April in six years, always on or after 26 April except for an exceptionally early return on 15 April in 2019. The peak has almost always been in Week 7 or 8, more frequently on the late side since 2013. Even in years with a peak in Week 8, sightings are rare by Week 9, and none have ever been seen beyond 30 May. In fall, there have been sightings in the first week of September in three years, but on average nearly half of the season total is observed in Week 10, with most of the remainder in Weeks 9 and 11. Numbers have been considerably below average in recent years, especially with respect to banding totals.

WTSP: White-throated Sparrow / Bruant à gorge blanche (*Zonotrichia albicollis*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | |
|---------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|------|------|------|----|
| First | 4-17 | 4-9 | 4-13 | 4-17 | 4-19 | 3-28 | 3-30 | 4-12 | 3-30 | 4-14 | 3-30 | 3-28 | 3-28 | 4-13 | 4-17 | 4-7 | 8-6 | 8-1 | 8-1 | 8-2 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-12 | 8-2 | |
| Peak | 4-28 | 5-3 | 4-28 | 4-27 | 4-27 | 5-9 | 4-28 | 4-24 | 5-4 | 5-9 | 5-13 | 5-10 | 5-2 | 4-26 | 5-8 | 5-2 | 10-8 | 9-30 | 9-28 | 10-8 | 10-12 | 9-30 | 10-4 | 10-6 | 10-12 | 10-11 | 10-6 | 10-18 | 10-10 | 10-3 | 10-9 | 10-7 | |
| Last | 5-26 | 6-3 | 5-26 | 6-2 | 5-28 | 5-16 | 5-23 | 6-1 | 6-1 | 6-3 | 5-25 | 6-1 | 5-27 | 5-24 | 6-5 | 5-28 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 11-6 | 11-6 | 11-6 | 11-6 | 11-6 | 11-1 | |
| Span | 40 | 56 | 44 | 47 | 40 | 50 | 55 | 51 | 64 | 51 | 57 | 66 | 61 | 42 | 50 | 52 | 86 | 91 | 91 | 90 | 91 | 91 | 91 | 91 | 91 | 91 | 90 | 95 | 98 | 98 | 98 | 87 | 92 |
| # days | 31 | 46 | 21 | 38 | 24 | 33 | 34 | 33 | 44 | 40 | 41 | 54 | 50 | 25 | 43 | 37 | 77 | 84 | 73 | 69 | 86 | 79 | 69 | 86 | 77 | 80 | 80 | 96 | 85 | 86 | 73 | 80 | |
| % days | 53 | 67 | 30 | 54 | 35 | 47 | 49 | 47 | 63 | 59 | 59 | 77 | 71 | 36 | 61 | 54 | 88 | 92 | 80 | 76 | 95 | 87 | 76 | 95 | 85 | 88 | 82 | 98 | 87 | 88 | 74 | 86 | |
| High | 70 | 40 | 31 | 50 | 27 | 18 | 51 | 102 | 34 | 50 | 33 | 110 | 130 | 15 | 76 | 56 | 265 | 70 | 90 | 82 | 150 | 180 | 100 | 210 | 75 | 155 | 147 | 125 | 80 | 155 | 119 | 134 | |
| Total | 263 | 384 | 142 | 419 | 117 | 144 | 433 | 487 | 340 | 305 | 294 | 762 | 887 | 155 | 637 | 385 | 2528 | 1233 | 1751 | 1230 | 2535 | 2636 | 1136 | 3334 | 1414 | 2784 | 2266 | 2768 | 1690 | 1996 | 1568 | 2058 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|------|------|-----|-----|------|-----|-----|-----|------|------|------|------|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|-------|-------|------|------|------|------|------|
| 2005 | | | | | | | | | 0.3 | 2.3 | 20.4 | 5.6 | 7.7 | 1.4 | 0.1 | | 4.5 | 0.3 | | 0.2 | 0.6 | 2.7 | 2.4 | 3.0 | 3.7 | 17.1 | 28.6 | 54.3 | 88.2 | 111.7 | 45.0 | 22.3 | 16.6 | | 28.7 |
| 2006 | 0.4 | 0.07 | 0.08 | | | 0.1 | | 0.2 | 3.6 | 12.9 | 13.4 | 16.7 | 4.0 | 3.4 | 0.4 | 0.3 | 5.6 | | 0.3 | 0.2 | 5.1 | 0.9 | 2.6 | 4.0 | 8.1 | 10.3 | 14.1 | 18.0 | 32.0 | 25.0 | 21.1 | 23.9 | 11.0 | | 13.5 |
| 2007 | 0.1 | | | | | 0.04 | | | 0.1 | 1.0 | 8.4 | 4.9 | 3.3 | 1.6 | 1.0 | | 2.0 | | | | 1.3 | 0.9 | 0.6 | 0.7 | 4.4 | 11.1 | 31.9 | 40.7 | 60.1 | 38.3 | 35.6 | 17.0 | 7.6 | | 19.2 |
| 2008 | 0.8 | | | | | 0.2 | | | 0.1 | 6.0 | 19.9 | 11.3 | 17.6 | 2.3 | 2.6 | 0.1 | 6.0 | | 0.2 | 0.1 | 1.3 | 0.4 | 1.1 | 0.4 | 1.6 | 4.3 | 8.1 | 28.7 | 27.1 | 56.6 | 26.1 | 14.0 | 5.9 | | 13.5 |
| 2009 | 0.1 | | | | | 0.03 | | | | 2.0 | 6.7 | 5.1 | 2.0 | 0.6 | 0.3 | | 1.7 | | | | 2.3 | 3.6 | 3.1 | 4.4 | 4.1 | 10.1 | 18.9 | 37.0 | 68.3 | 103.0 | 62.9 | 22.6 | 21.9 | | 27.9 |
| 2010 | 4.0 | 1.6 | 1.4 | 0.3 | 0.9 | 1.9 | 0.7 | 0.7 | 0.9 | 4.9 | 3.4 | 3.4 | 6.4 | 0.1 | | | 2.1 | | 0.3 | 0.2 | 1.6 | 4.0 | 3.1 | 1.1 | 5.1 | 9.7 | 17.1 | 50.7 | 102.7 | 70.1 | 56.6 | 32.6 | 22.0 | | 29.0 |
| 2011 | 2.7 | 2.0 | 0.2 | 0.2 | 0.1 | 0.9 | 0.1 | | 0.1 | 1.3 | 15.9 | 25.9 | 14.1 | 4.3 | 0.1 | | 6.2 | | 1.3 | 0.7 | 0.6 | 0.3 | 0.6 | 0.4 | 0.6 | 5.7 | 11.1 | 15.1 | 26.0 | 51.1 | 21.1 | 21.3 | 8.3 | | 12.5 |
| 2012 | 0.5 | | | | | 0.2 | | | 0.1 | 23.0 | 20.9 | 16.4 | 8.4 | 0.6 | | 0.1 | 7.0 | | 0.8 | 0.4 | 3.0 | 1.3 | 3.0 | 2.9 | 10.3 | 14.4 | 41.6 | 64.0 | 103.6 | 140.7 | 58.0 | 26.9 | 6.7 | | 36.6 |
| 2013 | 2.3 | 1.3 | 1.1 | 2.0 | 1.5 | 1.5 | 0.3 | 1.0 | 1.6 | 7.6 | 14.9 | 12.3 | 8.6 | 2.0 | 0.1 | 0.3 | 4.9 | 0.3 | | 0.1 | 3.0 | 0.7 | 1.1 | 1.1 | 0.7 | 1.0 | 11.9 | 28.1 | 36.6 | 43.9 | 47.4 | 17.7 | 8.7 | | 15.5 |
| 2014 | 1.2 | 0.5 | 0.3 | 0.9 | 0.2 | 0.6 | | | 0.4 | 5.3 | 12.0 | 13.0 | 9.3 | 1.6 | 1.0 | 1.2 | 4.5 | 0.3 | 0.3 | 0.3 | 0.9 | 1.0 | 0.7 | 1.1 | 2.0 | 6.1 | 15.9 | 57.3 | 62.0 | 80.6 | 94.4 | 53.0 | 22.7 | | 30.6 |
| 2015 | 7.8 | 2.0 | | | 0.2 | 5.3 | 0.3 | 0.3 | 1.1 | 4.4 | 5.6 | 11.7 | 16.1 | 2.1 | 0.3 | | 4.2 | | 0.5 | 0.3 | 1.0 | 0.7 | 0.1 | 0.9 | 1.9 | 6.6 | 16.7 | 31.7 | 46.3 | 68.0 | 70.4 | 39.4 | 26.6 | 13.4 | 23.1 |
| 2016 | 1.3 | 0.4 | 0.3 | 1.0 | 0.8 | 0.7 | 0.9 | 0.3 | 1.9 | 11.1 | 24.6 | 23.1 | 42.3 | 3.4 | 0.6 | 0.7 | 10.9 | | 1.3 | 0.6 | 3.3 | 3.7 | 4.0 | 4.1 | 5.0 | 3.4 | 11.3 | 39.9 | 67.7 | 81.3 | 53.9 | 52.7 | 38.9 | 26.3 | 28.2 |
| 2017 | 6.1 | 4.5 | 1.4 | 2.5 | 2.0 | 3.2 | 1.1 | 1.4 | 3.1 | 8.6 | 36.1 | 51.1 | 22.0 | 2.9 | 0.3 | | 12.7 | 0.3 | | 0.1 | 0.6 | 1.0 | 1.0 | 2.3 | 1.9 | 3.9 | 12.1 | 30.0 | 49.9 | 54.9 | 40.9 | 23.1 | 10.4 | 9.6 | 17.2 |
| 2018 | 1.4 | 0.5 | 0.4 | 0.1 | | 0.5 | | | 0.1 | 0.7 | 9.9 | 8.6 | 1.9 | 0.9 | 0.1 | | 2.2 | | 0.3 | 0.1 | 0.4 | 1.3 | 1.1 | 1.6 | 2.6 | 5.3 | 9.6 | 29.6 | 95.7 | 66.4 | 30.3 | 22.3 | 7.3 | 11.7 | 20.4 |
| 2019 | 1.2 | | | | | 0.3 | | | 0.1 | 11.1 | 13.0 | 27.7 | 28.0 | 8.3 | 2.0 | 0.7 | 9.1 | | | | | 0.3 | 0.4 | 0.4 | 1.1 | 3.0 | 3.9 | 9.4 | 24.1 | 57.6 | 42.6 | 32.7 | 29.4 | 19.0 | 16.0 |
| Mean | 2.3 | 0.5 | 0.5 | 0.5 | 0.5 | 1.0 | 0.2 | 0.3 | 0.9 | 6.9 | 15.0 | 15.8 | 12.8 | 2.4 | 0.6 | 0.2 | 5.6 | 0.1 | 0.3 | 0.2 | 1.7 | 1.5 | 1.7 | 1.9 | 3.5 | 7.5 | 16.8 | 35.6 | 59.1 | 69.5 | 47.1 | 28.1 | 16.3 | 16.0 | 22.1 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|-----|----|----|-----|-----|------|------|------|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|-------|-----|
| 2005 | | | | | | | | | | 2 | 16 | 5 | 6 | | | | 29 | | | | 3 | 6 | 4 | 3 | 1 | 18 | 44 | 86 | 104 | 67 | 10 | 3 | 5 | | 354 | |
| 2006 | 2 | | | | | 2 | | | 1 | 6 | 4 | 18 | 7 | 4 | | 2 | 42 | | | | 4 | 2 | 2 | 4 | 2 | 13 | 18 | 14 | 57 | 31 | 13 | 19 | 8 | | 187 | |
| 2007 | | | | | | | | | | | | 7 | 5 | 1 | | | 13 | | | | 2 | 3 | | | 2 | 21 | 32 | 60 | 96 | 54 | 25 | 21 | 2 | | 318 | |
| 2008 | | | | | | | | | | 8 | 27 | 13 | 29 | 2 | | | 79 | | | | 8 | 1 | | 3 | 4 | 13 | 20 | 50 | 74 | 100 | 26 | 15 | 3 | | 317 | |
| 2009 | | | | | | | | | | 2 | 7 | 16 | 7 | 2 | | | 34 | | | | 11 | 11 | 1 | | 2 | 18 | 31 | 62 | 100 | 103 | 32 | 35 | 22 | | 428 | |
| 2010 | 5 | 1 | | | | 6 | | | | 2 | 3 | 10 | 7 | | | | 22 | | 2 | 2 | 5 | 4 | 2 | | 2 | 7 | 25 | 85 | 70 | 63 | 41 | 25 | 22 | | 351 | |
| 2011 | 11 | | | | 1 | 12 | | | | 3 | 8 | 30 | 7 | 3 | | | 51 | | 2 | 2 | 3 | 1 | 1 | 1 | 2 | 9 | 13 | 15 | 49 | 64 | 21 | 27 | 10 | | 216 | |
| 2012 | 1 | | | | | 1 | | | | 18 | 11 | 24 | 4 | | | | 57 | | 2 | 2 | 11 | 4 | 3 | 2 | 10 | 8 | 53 | 60 | 112 | 158 | 55 | 20 | 10 | | 506 | |
| 2013 | 6 | | | 1 | 1 | 8 | | | | 5 | 12 | 10 | 9 | 3 | | 1 | 40 | | | | 3 | 2 | | 2 | 1 | 1 | 15 | 23 | 55 | 78 | 61 | 15 | 7 | | 263 | |
| 2014 | 3 | | | | | 3 | | | | 6 | 6 | 16 | 10 | 2 | | | 40 | | 1 | 1 | 2 | 6 | 1 | 3 | 2 | 10 | 13 | 66 | 88 | 79 | 127 | 62 | 25 | | 484 | |
| 2015 | 24 | 1 | | | | 25 | | | | 2 | 2 | 12 | 22 | 1 | | | 39 | | 2 | 2 | 3 | 1 | | 2 | 2 | 7 | 13 | 25 | 51 | 88 | 88 | 23 | 15 | 8 | 326 | |
| 2016 | 2 | 1 | | | | 3 | | | | 12 | 29 | 25 | 69 | 3 | | | 138 | | 5 | 5 | 8 | 3 | 5 | 2 | 1 | 1 | 20 | 64 | 100 | 175 | 77 | 40 | 42 | 28 | 566 | |
| 2017 | 14 | 2 | | | | 16 | | | | 9 | 39 | 32 | 27 | 3 | | | 110 | | | | 3 | 1 | 1 | | 3 | 10 | 12 | 51 | 87 | 51 | 34 | 19 | 4 | 6 | 282 | |
| 2018 | 4 | 1 | | | | 5 | | | | 3 | 10 | 15 | 4 | 2 | 1 | | 35 | | 1 | 1 | 2 | 6 | 1 | 3 | 4 | 6 | 19 | 47 | 134 | 95 | 41 | 13 | 6 | 8 | 385 | |
| 2019 | 4 | | | | | 4 | | | | 13 | 18 | 36 | 33 | 13 | 1 | | 114 | | | | | 1 | 1 | 1 | 1 | 2 | 3 | 5 | 18 | 43 | 68 | 60 | 31 | 17 | 7 | 257 |
| Mean | 5.4 | 0.5 | | 0.1 | 0.2 | 6.1 | | | 0.5 | 6.1 | 12.8 | 17.9 | 16.4 | 2.6 | 0.1 | 0.2 | 56.2 | | 1.0 | 1.0 | 4.5 | 3.5 | 1.5 | 1.7 | 2.7 | 9.7 | 22.2 | 48.4 | 81.3 | 84.9 | 47.4 | 24.5 | 13.2 | 11.4 | 349.3 | |

White-throated Sparrow is among the most abundant birds at MBO in both spring and fall, and in most years is also present in smaller numbers in summer and winter. The first wave of spring migrants typically arrives around Week 4, with numbers on average more than doubling again the following the week, and remaining similarly high in Week 6. Counts then drop substantially in Week 8, and by the end of spring, White-throated Sparrow is always scarce, if not absent. Small numbers usually breed at or near MBO, except in 2007, 2009, and 2019. Local pairs and their offspring are observed in August; migrants start to arrive in early-mid September, accelerating to a sharp peak that is always between Weeks 9 and 11. Late migrants are almost always still on the move in November, with a few lingering from December through early April. Spring numbers have been exceptionally high in three of the past four years, whereas fall counts were generally highest from 2009 to 2016, but have been near or below average since 2017.

VESP: Vesper Sparrow / Bruant vespéral (*Poecetes gramineus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|---|
| First | | | 4-24 | | 5-31 | | 4-24 | 4-22 | | | | 5-19 | 5-9 | | | 5-6 | | | | | | | | | | | | | | | | | |
| Peak | | | 4-24 | | 5-31 | | 4-24 | 4-22 | | | | 5-19 | 5-9 | | | 5-6 | | | | | | | | | | | | | | | | | |
| Last | | | 5-6 | | 5-31 | | 4-25 | 5-5 | | | | 5-19 | 5-9 | | | 5-10 | | | | | | | | | | | | | | | | | |
| Span | | | 13 | | 1 | | 2 | 14 | | | | 1 | 1 | | | 5 | | | | | | | | | | | | | | | | | |
| # days | | | 2 | | 1 | | 2 | 2 | | | | 1 | 1 | | | 2 | | | | | | | | | | | | | | | | | |
| % days | | | 3 | | 1 | | 3 | 3 | | | | 1 | 1 | | | 2 | | | | | | | | | | | | | | | | | |
| High | | | 2 | | 1 | | 2 | 1 | | | | 1 | 1 | | | 1 | | | | | | | | | | | | | | | | | |
| Total | | | 3 | | 1 | | 3 | 2 | | | | 1 | 1 | | | 1 | | | | | | | | | | | | | | | | | 0 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|------|------|------|------|------|----|------|------|------|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | 0.3 | | 0.1 | | | | | 0.04 | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | 0.1 | 0.01 | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | 0.3 | 0.1 | | | | | | 0.04 | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | 0.1 | | 0.1 | | | | | 0.03 | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | 0.01 | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | 0.1 | | | 0.01 | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | 0.05 | 0.01 | 0.02 | 0.01 | 0.01 | | 0.01 | 0.01 | | | | | | | | | | | | | | | | | | | | |

Vesper Sparrow is a rare spring migrant at MBO, with 11 sightings over six years. Except for a late sighting on 31 May 2009, all other observations have occurred between 22 April and 19 May.

SAVS: Savannah Sparrow / Bruant des prés (*Passerculus sandwichensis*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|------|------|-------|------|------|-------|------|------|------|------|
| First | 4-24 | 4-19 | 4-23 | 4-18 | 4-18 | 4-29 | 4-24 | 4-20 | 4-28 | 5-7 | 4-28 | 5-18 | | 4-25 | 4-13 | 4-25 | 9-28 | 9-13 | 9-14 | 8-4 | | 10-6 | | | 9-29 | 10-3 | | 10-2 | | 8-23 | | 9-16 |
| Peak | 4-30 | 4-20 | 5-5 | 4-24 | 5-4 | 4-29 | 4-24 | 4-20 | 5-4 | 5-27 | 4-28 | 5-18 | | 5-10 | 5-7 | 5-2 | 9-28 | 9-13 | 9-14 | 9-27 | | 10-6 | | | 9-29 | 10-3 | | 10-2 | | 8-23 | | 9-22 |
| Last | 6-3 | 6-5 | 5-28 | 6-4 | 6-5 | 5-31 | 4-28 | 5-6 | 5-17 | 6-3 | 6-5 | 6-2 | | 5-10 | 6-5 | 5-26 | 9-28 | 9-30 | 9-14 | 10-23 | | 10-6 | | | 10-19 | 10-3 | | 10-19 | | 8-23 | | 10-1 |
| Span | 41 | 48 | 36 | 48 | 49 | 33 | 5 | 17 | 20 | 28 | 39 | 16 | | 16 | 54 | 32 | 1 | 18 | 1 | 81 | | 1 | | | 21 | 1 | | 18 | | 1 | 16 | |
| # days | 15 | 13 | 32 | 36 | 29 | 4 | 3 | 3 | 5 | 6 | 8 | 4 | | 4 | 17 | 13 | 1 | 2 | 1 | 8 | | 1 | | | 3 | 1 | | 3 | | 1 | 2 | |
| % days | 25 | 19 | 46 | 51 | 42 | 6 | 4 | 4 | 7 | 9 | 11 | 6 | | 6 | 24 | 19 | 1 | 2 | 1 | 9 | | 1 | | | 3 | 1 | | 3 | | 1 | 3 | |
| High | 3 | 3 | 6 | 7 | 3 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | | 2 | 4 | 3 | 1 | 1 | 2 | 3 | | 1 | | | 1 | 1 | | 1 | | 1 | 1 | |
| Total | 20 | 19 | 80 | 146 | 47 | 4 | 3 | 3 | 6 | 7 | 8 | 4 | | 5 | 30 | 25 | 1 | 2 | 2 | 15 | | 1 | | | 3 | 1 | | 3 | | 1 | 2 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|------|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|----|----|------|----|----|------|------|------|------|------|-----|-----|-----|------|------|
| 2005 | | | | | | | | | | 0.2 | 0.7 | 0.7 | 0.6 | 0.3 | 0.1 | 0.4 | 0.3 | | 0.06 | 0.03 | | | | | | | | | | | | | | | | 0.01 |
| 2006 | | | | | | | | | | 0.9 | | 0.7 | 0.3 | 0.4 | 0.3 | 0.1 | 0.3 | | 0.08 | 0.05 | | | | | | | 0.1 | | 0.1 | | | | | | | 0.02 |
| 2007 | | | | | | | | | | 0.6 | 1.4 | 3.9 | 2.7 | 2.0 | 0.9 | | 1.1 | 0.1 | 0.2 | 0.2 | | | | | | | 0.3 | | | | | | | | | 0.02 |
| 2008 | | | | | | | | | | 3.1 | 4.7 | 5.3 | 4.6 | 2.9 | 0.1 | 0.1 | 2.1 | | 0.8 | 0.4 | 0.1 | | | | | | | 0.7 | 0.3 | 0.7 | 0.3 | | | | | 0.2 |
| 2009 | | | | | | | | | | 0.9 | 1.1 | 1.3 | 1.3 | 1.0 | 1.0 | 0.1 | 0.7 | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | 0.1 | 0.1 | 0.06 | | | | | | | | | | | | | 0.1 | | | | | 0.01 | |
| 2011 | | | | | | | | | | 0.1 | 0.3 | | | | | | 0.04 | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | 0.1 | | 0.3 | | | | | 0.04 | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | 0.1 | 0.3 | 0.1 | 0.3 | | | | 0.09 | | | | | | | | | | | 0.1 | | 0.1 | 0.1 | | | | 0.03 | |
| 2014 | | | | | | | | | | 0.1 | 0.1 | 0.3 | 0.1 | 0.3 | 0.2 | 0.1 | | | | | | | | | | | | 0.1 | | | | | | | 0.01 | |
| 2015 | | | | | | | | | | 0.3 | 0.3 | 0.1 | | 0.1 | 0.3 | 0.1 | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | 0.4 | | 0.1 | 0.06 | | | | | | | | | | | 0.1 | 0.1 | | 0.1 | | | | | 0.03 |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | 0.1 | 0.1 | 0.4 | | | | | 0.07 | | | | | | | 0.1 | | | | | | | | | | | | 0.01 |
| 2019 | | | | | | | | | 0.1 | 0.3 | 1.0 | 0.1 | 0.7 | 0.9 | 1.1 | 0.4 | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 0.01 | 0.4 | 0.6 | 0.9 | 0.7 | 0.5 | 0.3 | 0.2 | 0.4 | 0.01 | 0.08 | 0.05 | 0.01 | | | 0.01 | | | 0.03 | 0.09 | 0.05 | 0.06 | 0.04 | | | | 0.02 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|-----|----|-----|-----|------|-----|----|-----|----|-----|-----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---|---|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | 1 | | 1 | | | | | 2 | | | | | | | | | | 1 | | 1 | | | | | | | 2 | |
| 2007 | | | | | | | | | | | | 2 | 1 | | 2 | | 5 | | | | | | | | | | 2 | | | | | | | | | 2 | |
| 2008 | | | | | | | | | | 1 | | 1 | | | | | 2 | | | | | | | | | | | 3 | 2 | 3 | 1 | | | | | 9 | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | 1 | 1 | | | 2 | | | | | | | | | | | | | 1 | 1 | | | | | 2 | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | 1 |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | | 1 | | | | | | 3 |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | 1 | | 1 | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 0.1 | | 0.3 | 0.1 | 0.07 | 0.2 | | 0.8 | | | | | | | | | | 0.2 | 0.3 | 0.3 | 0.3 | 0.2 | | | | | 1.3 | | |

Savannah Sparrow is mostly an uncommon and rare fall migrant at MBO, with summer records limited to the first four years. The first spring record is mostly around mid-late April, with sightings generally peaking in early-mid May, but extending into the last few days of the season in more than half of years. In fall, there have been only two August sightings, and two more in the second week of September; all others have been between 28 September and 23 October. Counts were exceptionally high in all three seasons in 2008; aside from that year, there has been somewhat of a decline over time in spring (offset by 2019 observations being the highest since 2009), but fall sightings are generally too scarce to identify any trend.

SOSP: Song Sparrow / Bruant chanteur (*Melospiza melodia*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|-------|-------|-----|
| First | 4-5 | 3-29 | 3-28 | 4-1 | 3-28 | 3-28 | 3-29 | 3-28 | 4-4 | 4-1 | 4-10 | 3-28 | 4-3 | 4-1 | 3-28 | 3-31 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 |
| Peak | 4-9 | 4-19 | 4-24 | 4-18 | 4-20 | 4-6 | 4-24 | 4-18 | 4-19 | 4-24 | 4-28 | 4-22 | 4-18 | 4-27 | 4-7 | 4-18 | 9-28 | 8-11 | 8-3 | 10-17 | 9-26 | 8-2 | 8-19 | 8-24 | 8-3 | 10-11 | 10-6 | 8-4 | 9-19 | 8-11 | 10-14 | 9-4 | |
| Last | 6-3 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-4 | 6-4 | 6-5 | 6-5 | 6-5 | 6-5 | 6-4 | 10-30 | 10-29 | 10-30 | 10-30 | 10-30 | 10-30 | 10-29 | 10-29 | 10-29 | 10-30 | 11-6 | 11-5 | 11-6 | 11-5 | 11-6 | 10-31 | |
| Span | 60 | 69 | 70 | 66 | 70 | 70 | 69 | 70 | 63 | 65 | 56 | 70 | 64 | 66 | 70 | 67 | 91 | 90 | 91 | 91 | 91 | 91 | 90 | 90 | 90 | 90 | 98 | 97 | 98 | 97 | 98 | 93 | |
| # days | 59 | 68 | 69 | 65 | 69 | 70 | 69 | 70 | 62 | 64 | 55 | 70 | 63 | 65 | 70 | 66 | 87 | 90 | 90 | 88 | 90 | 89 | 87 | 88 | 86 | 90 | 91 | 92 | 90 | 93 | 95 | 90 | |
| % days | 100 | 99 | 99 | 93 | 100 | 100 | 99 | 100 | 89 | 94 | 79 | 100 | 90 | 93 | 100 | 95 | 99 | 99 | 99 | 97 | 99 | 98 | 96 | 97 | 95 | 99 | 93 | 94 | 92 | 95 | 97 | 96 | |
| High | 25 | 35 | 35 | 25 | 27 | 16 | 24 | 24 | 42 | 36 | 19 | 32 | 16 | 19 | 22 | 26 | 36 | 60 | 32 | 29 | 40 | 26 | 43 | 29 | 50 | 21 | 28 | 22 | 42 | 26 | 29 | 34 | |
| Total | 842 | 963 | 796 | 712 | 711 | 638 | 538 | 794 | 789 | 878 | 507 | 858 | 556 | 574 | 831 | 732 | 974 | 1933 | 923 | 881 | 1063 | 773 | 773 | 876 | 1229 | 737 | 634 | 578 | 647 | 739 | 722 | 899 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|------|------|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|------|
| 2005 | | | | | | | | 13.5 | 17.3 | 17.0 | 13.1 | 17.7 | 12.0 | 12.4 | 12.0 | 13.4 | 14.3 | 9.9 | 10.6 | 10.2 | 20.9 | 12.9 | 13.6 | 9.4 | 8.6 | 10.4 | 8.1 | 17.6 | 14.2 | 16.8 | 7.7 | 2.3 | 2.3 | | 11.1 |
| 2006 | | | | | | | 6.7 | 20.0 | 21.0 | 19.1 | 15.0 | 14.3 | 13.0 | 10.0 | 11.3 | 10.0 | 14.0 | 7.6 | 16.4 | 12.4 | 35.0 | 47.4 | 40.9 | 32.9 | 22.9 | 20.0 | 17.9 | 12.6 | 14.7 | 12.7 | 8.6 | 6.9 | 3.9 | | 21.2 |
| 2007 | 0.1 | 0.1 | | | 0.1 | 0.09 | 7.0 | 8.9 | 6.4 | 24.1 | 14.9 | 16.9 | 12.7 | 9.1 | 8.0 | 5.7 | 11.4 | 6.0 | 14.3 | 9.8 | 25.0 | 18.0 | 9.9 | 10.4 | 5.9 | 8.0 | 7.7 | 9.1 | 8.6 | 11.3 | 7.7 | 6.9 | 3.4 | | 10.1 |
| 2008 | 0.4 | | | | | 0.1 | 1.0 | 7.0 | 13.0 | 20.0 | 11.1 | 11.7 | 12.3 | 9.0 | 8.0 | 8.6 | 10.2 | 6.0 | 9.2 | 7.6 | 13.7 | 9.0 | 7.4 | 7.6 | 4.4 | 5.3 | 10.0 | 14.9 | 15.9 | 16.6 | 11.0 | 4.9 | | 9.7 | |
| 2009 | | | | | 0.6 | 0.2 | 10.0 | 12.7 | 11.4 | 16.6 | 13.4 | 8.1 | 9.6 | 8.0 | 6.9 | 6.7 | 10.3 | 3.3 | 3.8 | 3.6 | 12.4 | 12.7 | 11.6 | 10.7 | 5.7 | 9.9 | 12.4 | 16.3 | 25.9 | 17.0 | 10.6 | 4.3 | 2.4 | | 11.7 |
| 2010 | 0.3 | | | | 1.5 | 0.4 | 7.3 | 11.7 | 10.9 | 11.0 | 10.1 | 10.0 | 9.0 | 7.3 | 7.0 | 6.9 | 9.1 | 1.3 | 4.7 | 3.6 | 16.0 | 13.4 | 9.7 | 6.1 | 9.1 | 8.6 | 9.0 | 9.9 | 8.4 | 7.1 | 5.9 | 5.4 | 1.7 | | 8.5 |
| 2011 | 0.1 | | | | | 0.03 | 2.7 | 6.4 | 11.3 | 15.0 | 11.3 | 6.3 | 5.9 | 6.4 | 7.4 | 4.1 | 7.7 | 3.0 | 9.5 | 6.7 | 14.1 | 12.9 | 17.3 | 5.9 | 4.3 | 8.1 | 6.9 | 11.3 | 11.3 | 7.6 | 2.6 | 6.3 | 2.0 | | 8.5 |
| 2012 | 0.2 | | | | 2.6 | 0.6 | 11.4 | 13.0 | 16.0 | 14.1 | 17.7 | 11.1 | 9.0 | 6.7 | 6.6 | 7.7 | 11.3 | 2.5 | 8.8 | 5.6 | 13.3 | 18.1 | 13.0 | 14.4 | 5.7 | 8.3 | 11.3 | 6.9 | 11.0 | 12.6 | 5.6 | 3.9 | 1.1 | | 9.6 |
| 2013 | 0.1 | 0.3 | 0.2 | 0.2 | | 0.1 | | 5.6 | 13.3 | 26.0 | 16.4 | 15.1 | 10.9 | 9.3 | 7.9 | 8.3 | 11.3 | 5.0 | 6.8 | 6.0 | 36.6 | 21.6 | 19.3 | 11.4 | 7.1 | 5.3 | 11.6 | 19.3 | 18.0 | 15.4 | 6.6 | 1.7 | 1.7 | | 13.5 |
| 2014 | | | | | | | 0.8 | 6.3 | 15.0 | 19.4 | 15.3 | 17.9 | 16.0 | 13.1 | 12.3 | 11.0 | 12.9 | 6.7 | 4.0 | 5.1 | 15.7 | 9.9 | 7.3 | 6.3 | 6.3 | 6.6 | 5.9 | 8.6 | 9.7 | 10.1 | 9.6 | 6.3 | 3.1 | | 8.1 |
| 2015 | 0.5 | | | | | 0.3 | | 0.1 | 8.4 | 13.9 | 14.1 | 11.3 | 7.4 | 7.4 | 5.4 | 4.3 | 7.2 | 1.7 | 3.3 | 2.6 | 12.1 | 5.7 | 5.7 | 4.6 | 5.7 | 5.4 | 7.3 | 8.1 | 9.1 | 14.7 | 6.4 | 3.4 | 1.6 | 0.6 | 6.5 |
| 2016 | | | | | 1.2 | 0.3 | 8.1 | 8.9 | 11.7 | 20.4 | 14.7 | 13.6 | 15.4 | 12.1 | 10.4 | 7.1 | 12.3 | 6.3 | 5.8 | 6.0 | 14.1 | 7.4 | 4.3 | 5.0 | 5.0 | 3.1 | 6.9 | 8.7 | 7.3 | 6.7 | 4.9 | 4.9 | 2.6 | 1.7 | 5.9 |
| 2017 | | | | | | | 0.9 | 7.9 | 10.0 | 12.6 | 9.9 | 7.6 | 10.7 | 7.1 | 6.6 | 6.3 | 7.9 | 2.7 | 4.0 | 3.4 | 11.0 | 7.1 | 5.0 | 6.0 | 4.3 | 4.4 | 7.4 | 15.7 | 10.1 | 8.4 | 6.4 | 4.6 | 1.3 | 0.6 | 6.6 |
| 2018 | | | | | | | 2.0 | 4.9 | 8.0 | 11.9 | 14.1 | 10.6 | 9.9 | 6.7 | 8.3 | 5.7 | 8.2 | 4.0 | 3.0 | 3.4 | 14.1 | 13.4 | 6.4 | 6.7 | 6.1 | 5.7 | 10.6 | 8.7 | 9.6 | 9.6 | 5.4 | 5.1 | 1.9 | 2.1 | 7.5 |
| 2019 | | | | | 0.5 | 0.1 | 8.4 | 12.1 | 13.0 | 16.4 | 12.1 | 12.7 | 10.1 | 11.4 | 11.4 | 10.9 | 11.9 | 2.3 | 3.3 | 2.9 | 11.0 | 10.7 | 9.0 | 5.7 | 3.3 | 3.7 | 4.9 | 5.3 | 8.0 | 9.0 | 13.0 | 10.3 | 6.7 | 2.6 | 7.4 |
| Mean | 0.1 | 0.04 | 0.03 | 0.01 | 0.5 | 0.2 | 4.8 | 9.1 | 12.4 | 17.2 | 13.6 | 12.3 | 10.9 | 9.1 | 8.6 | 7.6 | 10.6 | 5.9 | 8.7 | 7.4 | 17.7 | 14.7 | 12.0 | 9.5 | 7.0 | 7.5 | 8.9 | 11.2 | 12.0 | 11.6 | 7.8 | 5.5 | 2.7 | 1.5 | 9.7 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|------|------|------|------|------|-----|-----|------|------|------|------|------|-----|-----|-----|-------|
| 2005 | | | | | | | | 5 | 3 | 7 | 7 | 2 | | 2 | 3 | 1 | 30 | | 4 | 4 | 17 | 17 | 23 | 13 | 24 | 13 | 23 | 27 | 18 | 25 | 9 | 5 | 1 | | 215 |
| 2006 | | | | | | | | 2 | 5 | 7 | | 1 | 2 | 1 | 1 | 1 | 20 | | 10 | 10 | 34 | 78 | 49 | 27 | 16 | 21 | 16 | 10 | 13 | 11 | 6 | 13 | 8 | | 302 |
| 2007 | | | | | 1 | 1 | | | | 9 | | | 3 | | 2 | | 14 | | 3 | 3 | 57 | 20 | 9 | 9 | 6 | 7 | 9 | 11 | 15 | 18 | 17 | 16 | 4 | | 198 |
| 2008 | | | | | | | | | | 8 | 2 | | 1 | 1 | 2 | 1 | 15 | | | | 21 | 12 | 11 | 8 | 7 | 11 | 10 | 13 | 24 | 32 | 32 | 13 | 5 | | 199 |
| 2009 | | | | | | | | | | 1 | 6 | 2 | 1 | | 2 | 1 | 13 | 3 | 7 | 10 | 25 | 32 | 37 | 30 | 10 | 10 | 34 | 28 | 50 | 33 | 12 | 12 | 9 | | 322 |
| 2010 | | | | | 3 | 3 | | | | 14 | 1 | 2 | | 5 | 4 | 1 | 27 | 2 | 18 | 20 | 34 | 49 | 27 | 10 | 16 | 10 | 6 | 16 | 9 | 10 | 15 | 16 | 1 | | 219 |
| 2011 | 1 | | | | | 1 | | | | 3 | 1 | | 1 | 1 | 1 | | 7 | 1 | 17 | 18 | 31 | 16 | 22 | 9 | 5 | 4 | 6 | 10 | 30 | 12 | 6 | 15 | 4 | | 170 |
| 2012 | | | | | 2 | 2 | | | | 10 | 4 | 2 | 4 | 2 | 1 | | 23 | 1 | 25 | 26 | 56 | 37 | 14 | 16 | 2 | 14 | 13 | 9 | 19 | 19 | 8 | 8 | 2 | | 217 |
| 2013 | 1 | 1 | | | | 2 | | | | 9 | 2 | 5 | | 1 | | 2 | 19 | 4 | 25 | 29 | 95 | 33 | 22 | 17 | 8 | 4 | 7 | 19 | 21 | 22 | 12 | 3 | 4 | | 267 |
| 2014 | | | | | | | | | | 10 | 6 | 3 | 2 | | 2 | 2 | 25 | 2 | 5 | 7 | 26 | 20 | 8 | 13 | 5 | 6 | 5 | 5 | 14 | 8 | 7 | 11 | 8 | | 136 |
| 2015 | 1 | | | | | 1 | | | | 3 | | | 2 | 5 | 3 | | 13 | | 9 | 9 | 30 | 6 | 21 | 13 | 11 | 4 | 7 | 12 | 5 | 21 | 5 | 8 | 3 | | 146 |
| 2016 | | | | | 6 | 6 | | | | 9 | 5 | 6 | 1 | 2 | 5 | 1 | 29 | 5 | 5 | 10 | 36 | 12 | 7 | 7 | 5 | 1 | 8 | 13 | 11 | 10 | 9 | 7 | 6 | 4 | 136 |
| 2017 | | | | | | | | | | 8 | 1 | | 2 | 1 | | | 12 | | 8 | 8 | 22 | 17 | 7 | 11 | 6 | 6 | 5 | 21 | 13 | 19 | 6 | 5 | | 139 | |
| 2018 | | | | | | | | | | 12 | 9 | 3 | 2 | | | | 26 | 4 | 4 | 8 | 57 | 44 | 12 | 7 | 2 | 4 | 4 | 12 | 5 | 8 | 10 | 6 | 3 | 2 | 176 |
| 2019 | | | | | 4 | 4 | | | | 13 | 5 | 1 | | 3 | 1 | 1 | 24 | | 7 | 7 | 29 | 16 | 12 | 7 | 2 | 3 | 4 | 6 | 6 | 10 | 19 | 4 | 6 | 3 | 127 |
| Mean | 0.2 | 0.08 | | | 1.5 | 1.4 | | 3.5 | 4.0 | 8.2 | 3.3 | 1.8 | 1.4 | 1.6 | 1.8 | 0.7 | 19.8 | 1.5 | 9.8 | 11.3 | 38.0 | 27.3 | 18.7 | 13.1 | 8.3 | 7.9 | 10.5 | 14.1 | 16.9 | 17.2 | 11.5 | 9.5 | 4.3 | 2.0 | 197.9 |

Song Sparrow is a common species at MBO throughout spring, summer, and most of fall, tapering off in early November and with only scattered sightings in winter. Spring numbers have peaked in Week 4 in nine years, and in the week before or after in four others; the banding peak is even more distinct, occurring in Week 4 in every year except 2009 and 2015. Fall numbers are most often highest in the first week of August, which has featured the season's banding peak every year since 2011. Numbers then taper off until early September as local juveniles presumably disperse, then build again until the peak of migrants pass through in late September and early October. Although the mean daily count is similar in spring and fall, ten times as many individuals have been banded in fall. Spring numbers have fluctuated over time, but summer and especially fall totals have been substantially below average for the past 5-6 years.

LISP: Lincoln's Sparrow / Bruant de Lincoln (*Melospiza lincolni*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| First | 5-12 | 5-6 | 5-12 | 5-6 | 5-3 | 5-13 | 5-12 | 5-9 | 5-19 | 5-5 | 5-9 | 5-7 | 5-4 | 5-6 | 5-7 | 5-8 | 9-11 | 8-30 | 9-1 | 8-29 | 9-14 | 8-24 | 9-12 | 8-29 | 9-9 | 9-8 | 9-11 | 9-13 | 9-1 | 9-4 | 9-18 | 9-6 |
| Peak | 5-12 | 5-16 | 5-13 | 5-12 | 5-3 | 5-13 | 5-13 | 5-13 | 5-19 | 5-5 | 5-17 | 5-7 | 5-17 | 5-6 | 5-20 | 5-12 | 9-21 | 9-10 | 9-24 | 9-27 | 9-20 | 9-16 | 9-25 | 10-4 | 9-9 | 9-15 | 9-24 | 9-24 | 9-9 | 10-1 | 9-18 | 9-20 |
| Last | 5-20 | 5-19 | 5-31 | 5-28 | 5-23 | 5-15 | 5-28 | 5-31 | 5-27 | 5-24 | 5-30 | 5-28 | 5-30 | 5-16 | 5-31 | 5-25 | 10-24 | 10-21 | 10-13 | 10-12 | 10-13 | 10-17 | 10-3 | 10-17 | 10-19 | 10-27 | 10-17 | 10-12 | 10-21 | 10-14 | 10-9 | 10-15 |
| Span | 9 | 14 | 20 | 23 | 21 | 3 | 17 | 23 | 9 | 20 | 22 | 22 | 27 | 11 | 25 | 18 | 44 | 53 | 43 | 45 | 30 | 55 | 22 | 50 | 41 | 50 | 37 | 30 | 51 | 41 | 22 | 41 |
| # days | 4 | 5 | 6 | 9 | 5 | 2 | 6 | 6 | 5 | 7 | 11 | 11 | 10 | 2 | 20 | 7 | 11 | 25 | 18 | 19 | 24 | 18 | 9 | 19 | 10 | 21 | 11 | 13 | 15 | 12 | 6 | 15 |
| % days | 7 | 7 | 9 | 13 | 7 | 3 | 9 | 9 | 7 | 10 | 16 | 16 | 14 | 3 | 29 | 11 | 12 | 27 | 20 | 21 | 26 | 20 | 10 | 21 | 11 | 23 | 11 | 13 | 15 | 12 | 6 | 17 |
| High | 1 | 2 | 2 | 3 | 1 | 1 | 4 | 3 | 3 | 6 | 3 | 2 | 4 | 1 | 11 | 3 | 4 | 6 | 3 | 7 | 5 | 2 | 3 | 13 | 1 | 3 | 4 | 2 | 5 | 4 | 1 | 4 |
| Total | 4 | 7 | 8 | 12 | 5 | 2 | 12 | 10 | 8 | 14 | 18 | 15 | 14 | 2 | 54 | 12 | 18 | 45 | 27 | 33 | 41 | 21 | 13 | 44 | 10 | 35 | 15 | 16 | 33 | 19 | 6 | 25 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|-----|-----|-----|-----|------|------|-----|-----|----|----|----|----|------|-----|-----|-----|-----|-----|-----|-----|------|------|-----|------|
| 2005 | | | | | | | | | | | | 0.1 | 0.4 | | | | 0.07 | | | | | | | | | 0.1 | 0.6 | 1.1 | | | 0.5 | 0.1 | 0.1 | | 0.2 |
| 2006 | | | | | | | | | | | | 0.1 | | 0.9 | | | 0.1 | | | | | | | | 0.6 | 2.9 | 0.6 | 1.1 | 0.4 | 0.1 | 0.4 | 0.3 | | | 0.5 |
| 2007 | | | | | | | | | | | | | 0.7 | 0.3 | | 0.1 | 0.1 | | | | | | | | 0.1 | 0.6 | 0.9 | 0.6 | 0.6 | 0.9 | 0.3 | | | | 0.3 |
| 2008 | | | | | | | | | | | | 0.3 | 0.7 | 0.4 | 0.3 | | 0.2 | | | | | | | | 0.3 | 0.9 | 0.3 | 0.9 | 1.9 | 0.3 | 0.3 | | | | 0.4 |
| 2009 | | | | | | | | | | | | 0.3 | 0.1 | 0.1 | 0.1 | | 0.07 | | | | | | | | | | 1.1 | 2.3 | 0.9 | 0.9 | 0.7 | | | | 0.5 |
| 2010 | | | | | | | | | | | | | 0.3 | | | | 0.03 | | | | | | | 0.1 | | 0.3 | 0.7 | 0.3 | 0.3 | 0.9 | 0.3 | 0.1 | | | 0.2 |
| 2011 | | | | | | | | | | | | | 1.0 | 0.4 | 0.3 | | 0.2 | | | | | | | | | | 0.7 | 1.0 | | 0.1 | | | | | 0.1 |
| 2012 | | | | | | | | | | | | | 1.0 | 0.1 | 0.1 | 0.1 | 0.1 | | | | | | | | 0.1 | 0.1 | 0.9 | 1.0 | 0.4 | 3.6 | | 0.1 | | | 0.5 |
| 2013 | | | | | | | | | | | | | | 0.7 | 0.4 | | 0.1 | | | | | | | | | 0.1 | 0.1 | 0.6 | 0.1 | 0.1 | 0.1 | | | | 0.1 |
| 2014 | | | | | | | | | | | | 0.9 | 0.9 | 0.1 | 0.1 | | 0.2 | | | | | | | | | 0.3 | 1.3 | 1.3 | 0.3 | 0.7 | 0.9 | 0.1 | 0.1 | | 0.4 |
| 2015 | | | | | | | | | | | | | 0.6 | 1.6 | 0.3 | 0.1 | 0.3 | | | | | | | | | 0.3 | 0.1 | 1.3 | 0.1 | | 0.1 | 0.1 | | | 0.2 |
| 2016 | | | | | | | | | | | | 0.3 | 0.9 | 0.6 | 0.4 | | 0.2 | | | | | | | | | | 0.3 | 0.9 | 0.4 | 0.6 | 0.1 | | | | 0.2 |
| 2017 | | | | | | | | | | | | 0.4 | 0.4 | 1.0 | | 0.1 | 0.2 | | | | | | | | 0.1 | 1.0 | 1.4 | 0.4 | 1.3 | 0.3 | | 0.1 | | | 0.3 |
| 2018 | | | | | | | | | | | | 0.1 | | 0.1 | | | 0.03 | | | | | | | | 0.1 | 0.1 | | 0.6 | 1.0 | 0.6 | 0.3 | | | | 0.2 |
| 2019 | | | | | | | | | | | | 0.6 | 1.1 | 3.7 | 2.1 | 0.1 | 0.8 | | | | | | | | | | 0.1 | 0.1 | 0.4 | 0.1 | | | | | 0.06 |
| Mean | | | | | | | | | | | | 0.2 | 0.5 | 0.7 | 0.3 | 0.05 | 0.2 | | | | | | | 0.01 | 0.1 | 0.4 | 0.6 | 0.9 | 0.5 | 0.6 | 0.3 | 0.09 | 0.02 | | 0.3 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|------|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|------|---|
| 2005 | | | | | | | | | | | | | 1 | 1 | | | 2 | | | | | | | | | | 4 | 7 | | | | | | | 11 | |
| 2006 | | | | | | | | | | | | 1 | | 4 | | | 5 | | | | | | | | 1 | 6 | 1 | 5 | 2 | 1 | 1 | | | | 17 | |
| 2007 | | | | | | | | | | | | | 4 | 1 | | 1 | 6 | | | | | | | | 1 | 4 | 2 | 3 | 4 | 4 | 2 | | | | 20 | |
| 2008 | | | | | | | | | | | | 2 | 2 | 3 | 2 | | 9 | | | | | | | | 1 | 3 | 2 | 2 | 5 | 1 | 1 | | | | 15 | |
| 2009 | | | | | | | | | | | | 1 | 1 | 1 | 1 | | 4 | | | | | | | | | | 5 | 4 | 2 | 2 | 2 | | | | 15 | |
| 2010 | | | | | | | | | | | | | 2 | | | | 2 | | | | | | | 1 | | 1 | 2 | 1 | 1 | 3 | 2 | | | | 11 | |
| 2011 | | | | | | | | | | | | | 5 | 3 | 2 | | 10 | | | | | | | | | | 2 | 3 | | | | | | | 5 | |
| 2012 | | | | | | | | | | | | | 6 | 1 | 1 | 1 | 9 | | | | | | | | 1 | 1 | 2 | 4 | 2 | 11 | | 1 | | | 22 | |
| 2013 | | | | | | | | | | | | | | 5 | 2 | | 7 | | | | | | | | | 1 | | 1 | | 1 | | | | | 3 | |
| 2014 | | | | | | | | | | | | | 5 | 1 | 1 | | 7 | | | | | | | | | 1 | 2 | 3 | 2 | 1 | | 1 | 1 | | 11 | |
| 2015 | | | | | | | | | | | | | 3 | 6 | 2 | 1 | 12 | | | | | | | | | 1 | 1 | 4 | | | | | | | 6 | |
| 2016 | | | | | | | | | | | | 2 | 6 | 2 | 3 | | 13 | | | | | | | | | | 1 | 1 | 2 | 3 | 1 | | | | 8 | |
| 2017 | | | | | | | | | | | | 1 | 3 | 5 | | 1 | 10 | | | | | | | 1 | | 4 | 1 | 3 | 4 | 1 | | 1 | | | 15 | |
| 2018 | | | | | | | | | | | | | | 1 | | | 1 | | | | | | | | | 1 | | 1 | | 1 | | | | | 3 | |
| 2019 | | | | | | | | | | | | 1 | 1 | 12 | 9 | 1 | 24 | | | | | | | | | | 1 | 1 | 1 | 1 | | | | | | 3 |
| Mean | | | | | | | | | | | | 0.5 | 2.6 | 3.1 | 1.5 | 0.3 | 8.1 | | | | | | | 0.07 | 0.3 | 1.5 | 1.7 | 2.9 | 1.7 | 1.9 | 0.7 | 0.2 | 0.07 | | 11.0 | |

Lincoln's Sparrow is an uncommon spring and fall migrant at MBO. All spring sightings to date have been between 3 May and 31 May, with nearly two-thirds of all observations in Weeks 7 and 8. Fall migration extends over a longer period, within a 2-month window from 24 August to 24 October, although over the years, numbers have generally been distinctly higher from Week 7 to 10, with an early Week 6 peak in 2006 a notable exception to that general pattern. Spring totals have varied considerably over time, but even if excluding the exceptionally high numbers in 2019, there has been a slightly increasing trend. Conversely, fall counts have been below average for five of the past seven years, reaching record lows in 2019.

SWSP: Swamp Sparrow / Bruant des marais (*Melospiza georgiana*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|-------|-------|
| First | 4-9 | 4-10 | 4-21 | 4-20 | 4-19 | 4-7 | 4-12 | 4-17 | 4-12 | 4-15 | 4-14 | 4-9 | 4-11 | 4-14 | 4-15 | 4-13 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-2 | 8-5 | 8-1 | |
| Peak | 4-26 | 4-25 | 4-28 | 5-7 | 4-27 | 5-1 | 5-3 | 5-2 | 4-21 | 5-9 | 4-30 | 5-8 | 4-19 | 4-24 | 5-7 | 4-29 | 9-25 | 8-2 | 9-24 | 9-23 | 10-10 | 9-23 | 8-3 | 10-5 | 8-2 | 10-11 | 9-15 | 9-22 | 8-1 | 9-29 | 10-4 | 9-13 |
| Last | 6-3 | 6-5 | 6-4 | 6-4 | 6-4 | 6-5 | 6-1 | 6-5 | 6-5 | 6-4 | 6-2 | 6-5 | 6-5 | 6-5 | 6-5 | 6-4 | 10-24 | 10-23 | 10-30 | 10-23 | 10-29 | 10-29 | 10-25 | 10-28 | 10-25 | 10-29 | 11-5 | 11-6 | 11-5 | 11-4 | 10-31 | 10-29 |
| Span | 56 | 57 | 45 | 46 | 47 | 60 | 51 | 50 | 55 | 51 | 50 | 58 | 56 | 53 | 52 | 52 | 85 | 84 | 91 | 84 | 90 | 90 | 86 | 89 | 86 | 90 | 97 | 98 | 97 | 95 | 88 | 90 |
| # days | 54 | 54 | 21 | 42 | 45 | 47 | 38 | 44 | 50 | 49 | 45 | 48 | 46 | 44 | 49 | 45 | 59 | 52 | 57 | 50 | 53 | 48 | 41 | 52 | 58 | 59 | 63 | 58 | 47 | 48 | 48 | 53 |
| % days | 92 | 78 | 30 | 60 | 65 | 67 | 54 | 63 | 71 | 72 | 64 | 69 | 66 | 63 | 70 | 65 | 67 | 57 | 63 | 55 | 58 | 53 | 45 | 57 | 64 | 65 | 64 | 59 | 48 | 49 | 49 | 57 |
| High | 9 | 9 | 3 | 6 | 8 | 12 | 8 | 8 | 8 | 8 | 6 | 8 | 8 | 7 | 16 | 8 | 8 | 6 | 6 | 6 | 15 | 5 | 4 | 5 | 7 | 7 | 4 | 5 | 6 | 6 | 4 | 6 |
| Total | 164 | 152 | 34 | 133 | 117 | 107 | 131 | 126 | 177 | 186 | 120 | 171 | 128 | 118 | 182 | 136 | 152 | 115 | 137 | 101 | 123 | 81 | 74 | 105 | 129 | 124 | 106 | 106 | 102 | 90 | 73 | 108 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|------|-----|-----|-----|-----|--------|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2005 | | | | | | | | 0.5 | 1.9 | 4.5 | 5.4 | 4.3 | 2.6 | 2.7 | 1.4 | 1.2 | 2.8 | 2.0 | 2.4 | 2.2 | 2.6 | 2.4 | 1.3 | 0.9 | 0.9 | 1.3 | 2.0 | 3.3 | 2.3 | 2.7 | 2.7 | 0.4 | 0.1 | | 1.7 |
| 2006 | | | | | | | | 0.2 | 1.0 | 4.7 | 3.7 | 3.0 | 2.7 | 2.7 | 2.3 | 1.4 | 2.2 | 0.9 | 2.1 | 1.5 | 4.3 | 1.4 | 1.3 | 0.3 | 0.4 | 1.3 | 1.6 | 1.3 | 1.6 | 1.4 | 0.7 | 0.9 | | | 1.3 |
| 2007 | | | | | | | | | | 0.4 | 1.3 | 1.6 | 0.6 | 0.6 | 0.3 | 0.1 | 0.5 | 0.3 | | 0.2 | 2.0 | 1.9 | 1.3 | 0.7 | 0.6 | 0.6 | 0.4 | 1.3 | 4.0 | 3.1 | 2.0 | 1.1 | 0.6 | | 1.5 |
| 2008 | | | | | | | | | | 2.9 | 3.7 | 3.6 | 3.4 | 3.1 | 1.4 | 0.9 | 1.9 | 2.4 | 1.8 | 2.1 | 3.0 | 1.4 | 1.1 | 0.3 | 0.9 | 1.1 | 0.9 | 2.4 | 1.6 | 0.7 | 0.7 | 0.3 | | | 1.1 |
| 2009 | | | | | | | | | | 2.0 | 3.9 | 4.0 | 2.9 | 1.9 | 1.4 | 0.7 | 1.7 | 1.3 | 1.0 | 1.1 | 1.7 | 1.3 | 1.3 | 0.6 | 0.3 | 0.1 | 1.3 | 1.3 | 2.9 | 2.9 | 3.1 | 0.3 | 0.6 | | 1.4 |
| 2010 | 0.1 | | | | | 0.03 | | 0.6 | 2.3 | 3.1 | 4.4 | 1.9 | 1.1 | 0.6 | 0.7 | 0.6 | 1.5 | 0.7 | 1.7 | 1.3 | 2.3 | 1.1 | 0.4 | 0.3 | 0.3 | 0.6 | 0.3 | 1.4 | 0.9 | 1.6 | 1.1 | 0.9 | 0.4 | | 0.9 |
| 2011 | | | | | | | | | 0.3 | 0.4 | 2.0 | 5.3 | 4.3 | 3.1 | 3.0 | 0.3 | 1.9 | 1.7 | 1.8 | 1.7 | 1.4 | 0.3 | 0.6 | 0.3 | | 0.6 | 0.9 | 1.0 | 1.0 | 2.6 | 0.7 | 1.1 | 0.1 | | 0.8 |
| 2012 | | | | | | | | | 0.1 | 3.3 | 4.7 | 4.1 | 1.4 | 0.7 | 2.1 | 1.4 | 1.8 | 0.8 | 2.8 | 1.8 | 1.9 | 1.6 | 0.3 | 1.6 | 1.4 | 0.1 | 0.6 | 0.4 | 1.1 | 3.3 | 1.6 | 1.0 | 0.1 | | 1.2 |
| 2013 | | | | | | | | | 0.4 | 4.1 | 5.3 | 5.3 | 2.3 | 2.3 | 2.4 | 3.1 | 2.5 | 4.0 | 2.5 | 3.1 | 4.3 | 2.1 | 1.3 | 1.6 | 0.3 | 0.4 | 1.6 | 1.0 | 1.9 | 1.7 | 1.1 | 1.0 | 0.1 | | 1.4 |
| 2014 | | | | | | | | | 0.4 | 4.1 | 3.4 | 5.6 | 5.9 | 3.3 | 2.1 | 2.0 | 2.7 | 4.7 | 2.8 | 3.6 | 2.1 | 1.6 | 1.0 | 0.6 | 0.1 | 1.1 | 1.0 | 1.6 | 2.1 | 0.7 | 3.1 | 2.0 | 0.6 | | 1.4 |
| 2015 | | | | | | | | | 1.3 | 2.6 | 3.6 | 3.7 | 2.6 | 2.0 | 1.1 | 0.3 | 1.7 | 3.0 | 2.5 | 2.7 | 1.7 | 1.6 | 0.6 | 0.4 | 0.3 | 0.9 | 1.3 | 2.0 | 1.3 | 1.1 | 0.7 | 1.4 | 1.1 | 0.7 | 1.1 |
| 2016 | | | | | | | 0.1 | | 3.6 | 3.7 | 5.3 | 6.1 | 2.6 | 1.9 | 1.1 | 2.4 | 3.0 | 4.3 | 3.6 | 2.1 | 1.4 | 1.0 | 0.1 | 0.1 | 0.1 | 1.3 | 2.0 | 2.1 | 1.4 | 1.6 | 0.6 | 0.7 | 0.4 | 1.1 | |
| 2017 | | | | | | | | 1.9 | 4.9 | 3.6 | 2.6 | 2.1 | 1.6 | 0.7 | 1.0 | 1.8 | 2.7 | 1.5 | 2.0 | 4.1 | 1.7 | 0.9 | 0.9 | 0.4 | 0.6 | 0.3 | 1.0 | 1.6 | 1.6 | 1.0 | 0.3 | 0.1 | 0.1 | 1.0 | |
| 2018 | | | | | | | | 0.1 | 1.6 | 3.0 | 4.1 | 3.1 | 2.0 | 1.6 | 1.3 | 1.7 | | 0.5 | 0.3 | 0.7 | 0.9 | 0.9 | 0.7 | 0.6 | 0.3 | 2.1 | 0.3 | 2.6 | 1.0 | 1.7 | 0.6 | 0.1 | 0.4 | 0.9 | |
| 2019 | | | | | | | | 0.9 | 2.1 | 2.4 | 7.3 | 5.1 | 4.4 | 2.1 | 1.6 | 2.6 | 1.7 | 1.5 | 1.6 | 0.3 | 1.1 | 0.9 | 0.3 | 1.0 | 0.3 | 0.4 | 0.6 | 0.4 | 1.9 | | 1.0 | 2.0 | 0.3 | 0.7 | |
| Mean | 0.01 | | | | | <0.005 | | 0.09 | 0.7 | 2.9 | 3.6 | 4.1 | 3.1 | 2.2 | 1.6 | 1.1 | 2.0 | 1.8 | 2.0 | 1.9 | 2.3 | 1.5 | 0.9 | 0.6 | 0.5 | 0.6 | 1.1 | 1.4 | 1.8 | 1.8 | 1.5 | 0.9 | 0.5 | 0.4 | 1.2 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 2005 | | | | | | | | 1 | 1 | 4 | 4 | 4 | 1 | 3 | 1 | | 19 | | 2 | 2 | 4 | 6 | 3 | 2 | 2 | | 8 | 5 | 2 | 12 | 5 | 2 | 1 | | 52 |
| 2006 | | | | | | | | | | 3 | 2 | 1 | 1 | 2 | 2 | | 11 | | 4 | 4 | 4 | 3 | | | | 1 | 4 | 2 | 1 | 7 | 3 | 3 | | | 28 |
| 2007 | | | | | | | | | | 2 | | | | 1 | | | 3 | | | | 10 | 3 | 3 | 1 | 2 | | 2 | 7 | 13 | 10 | 5 | 4 | 2 | | 62 |
| 2008 | | | | | | | | | | 7 | 6 | 2 | 2 | 1 | | 1 | 19 | | | | 6 | 4 | 1 | 1 | 2 | | 2 | 4 | 4 | 2 | 2 | | | 28 | |
| 2009 | | | | | | | | | | 1 | 6 | 1 | | 2 | | 1 | 11 | | 2 | 2 | 4 | 2 | 1 | | 1 | 1 | 7 | 6 | 8 | 9 | 6 | 1 | 3 | | 49 |
| 2010 | | | | | | | | | | 5 | 5 | 2 | 4 | | | | 16 | 1 | 4 | 5 | 2 | 2 | 2 | | | 1 | | 2 | 4 | 3 | 2 | 1 | 1 | | 20 |
| 2011 | | | | | | | | | | 1 | 1 | 7 | 1 | 2 | | | 12 | 2 | 1 | 3 | 4 | 1 | | 1 | | 1 | 2 | 2 | 3 | 5 | 5 | 3 | 1 | | 28 |
| 2012 | | | | | | | | | | 7 | 7 | 3 | 2 | | | | 19 | | 5 | 5 | 6 | 3 | 1 | 1 | 1 | | 1 | 1 | 4 | 10 | 6 | 3 | | | 37 |
| 2013 | | | | | | | | | | 5 | 10 | 7 | 1 | | 2 | 1 | 26 | 1 | 1 | 2 | 6 | 3 | 2 | 1 | | 1 | 2 | 1 | 7 | 7 | 2 | | | 32 | |
| 2014 | | | | | | | | | | 1 | 2 | 2 | 10 | 1 | | | 16 | 1 | 2 | 3 | 4 | 3 | 2 | | 1 | | 2 | 5 | 5 | 1 | 12 | 5 | | | 40 |
| 2015 | | | | | | | | | | 1 | 1 | 1 | 3 | 1 | 1 | | 8 | 1 | 4 | 5 | 2 | | 1 | 1 | | 2 | 2 | 3 | 1 | 2 | 3 | 4 | 3 | 1 | 25 |
| 2016 | | | | | | | | | | 7 | 5 | 4 | 11 | | | | 27 | 3 | 7 | 10 | 1 | 1 | 1 | | | 2 | 7 | 5 | 4 | 2 | 1 | 2 | 2 | | 28 |
| 2017 | | | | | | | | | | 6 | 4 | 3 | 1 | 2 | | | 16 | 1 | 1 | 2 | 4 | 3 | 1 | 1 | 1 | 1 | 1 | 4 | 7 | 3 | | 2 | | 28 | |
| 2018 | | | | | | | | | | 2 | | 9 | 5 | 1 | 1 | | 18 | | 2 | 2 | 1 | 5 | 2 | 1 | 1 | | 2 | 1 | 2 | 3 | 3 | | 1 | 1 | 23 |
| 2019 | | | | | | | | | | 4 | 6 | 14 | 5 | 5 | 1 | | 35 | | 1 | 1 | 1 | 2 | 1 | | 2 | | 1 | 1 | 3 | 3 | | 1 | 6 | | 20 |
| Mean | | | | | | | | 0.5 | 0.5 | 3.7 | 3.9 | 4.0 | 3.1 | 1.4 | 0.5 | 0.2 | 17.1 | 0.7 | 2.4 | 3.1 | 3.9 | 2.7 | 1.4 | 0.7 | 0.9 | 0.5 | 2.5 | 3.4 | 4.6 | 5.4 | 3.7 | 2.0 | 1.3 | 0.8 | 33.3 |

Swamp Sparrow arrives at MBO slightly later in spring than Song Sparrow, occasionally as early as 7 April but more typically around mid-April. On average, the peak of spring migration is in Week 6, though it varies from Week 4 to 7. Summer counts are actually somewhat higher than at the end of spring, and continued to rise in early August, which was the peak of fall observations in six years. More commonly though, the fall peak is between Week 8 and 11, when migrants pass through after the local birds have largely dispersed or migrated. Spring totals have varied over time, but with the number banded showing a slight overall increase. In fall, both the mean daily count and number banded have been consistently below average over the past five years, reaching record lows in 2019.

EATO: Eastern Towhee / Tohi à flancs roux (*Pipilo erythrophthalmus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|------|------|------|------|
| First | | | 5-11 | | | | 6-2 | | | | | | | 4-26 | 5-26 | 5-16 | | | | | 8-2 | 8-12 | | | | 10-16 | | | | 10-1 | 11-6 | 9-19 |
| Peak | | | 5-11 | | | | 6-2 | | | | | | | 4-26 | 5-26 | 5-16 | | | | | 8-2 | 8-12 | | | | 10-16 | | | | 10-1 | 11-6 | 9-19 |
| Last | | | 5-11 | | | | 6-2 | | | | | | | 4-27 | 6-1 | 5-18 | | | | | 8-30 | 8-12 | | | | 10-16 | | | | 10-1 | 11-6 | 9-24 |
| Span | | | 1 | | | | 1 | | | | | | | 2 | 7 | 3 | | | | | 29 | 1 | | | | 1 | | | 1 | 1 | 7 | |
| # days | | | 1 | | | | 1 | | | | | | | 2 | 2 | 2 | | | | | 2 | 1 | | | | 1 | | | 1 | 1 | 1 | |
| % days | | | 1 | | | | 1 | | | | | | | 3 | 3 | 2 | | | | | 2 | 1 | | | | 1 | | | 1 | 1 | 1 | |
| High | | | 1 | | | | 1 | | | | | | | 1 | 1 | 1 | | | | | 1 | 1 | | | | 1 | | | 1 | 1 | 1 | |
| Total | | | 1 | | | | 1 | | | | | | | 2 | 2 | 0 | | | | | 2 | 1 | | | | 1 | | | 1 | 1 | 0 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|------|-----|------|----|------|------|--------|------|-----|----|------|------|-----|----|------|-----|----|----|------|------|-----|-----|------|--------|----|------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | 0.1 | | | | 0.01 | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | 0.1 | | | | | | | | | | 0.02 |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | | | | 0.01 |
| 2011 | | | | | | | | | | | | | | | | 0.1 | 0.01 | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | 0.01 |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | 0.3 | | | | | | 0.03 | | | | | | | | | | | | | | | | | | 0.01 |
| 2019 | | | | | | | | | | | | | | | 0.1 | 0.1 | 0.03 | | | | | | | | | | | | | | | | | 0.1 | | 0.01 |
| Mean | | | | | | | | | | | 0.02 | | 0.01 | | 0.01 | 0.02 | <0.005 | | | | 0.01 | 0.01 | | | 0.01 | | | | 0.01 | 0.01 | | | 0.03 | <0.005 | | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|------|----|----|-----|------|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | 0.07 | | | | 0.07 | | | | | | | | | | | | | | | | | | | | |

Eastern Towhee is a very rare migrant at MBO, with a total of only six sightings in each of spring and fall, and only one individual banded, in spring 2007. In both seasons there were sightings in 2018 and 2019, but more irregularly in earlier years. Spring sightings have ranged from 26 April to 2 June; fall observations have ranged even more broadly, from 2 August to 6 November.

BOBO: Bobolink / Goglu des prés (*Dolichonyx oryzivorus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|
| First | 5-8 | 5-13 | 5-6 | 5-5 | 5-5 | 5-13 | 5-6 | 5-8 | 5-14 | 5-14 | 5-6 | 5-12 | 5-12 | 5-9 | 5-7 | 5-9 | 8-21 | 8-3 | 8-1 | 9-9 | | | | | 8-3 | 8-20 | 8-21 | 8-8 | 8-22 | 8-29 | 8-22 | | 8-17 |
| Peak | 5-17 | 5-16 | 5-25 | 5-16 | 5-15 | 5-13 | 5-18 | 5-13 | 5-19 | 5-15 | 5-8 | 5-22 | 5-12 | 5-9 | 5-15 | 5-15 | 8-21 | 8-16 | 8-26 | 9-9 | | | | | 8-29 | 8-20 | 8-21 | 8-8 | 8-22 | 8-29 | 8-22 | | 8-23 |
| Last | 6-3 | 5-26 | 6-5 | 6-5 | 5-28 | 6-2 | 5-23 | 6-1 | 5-19 | 5-29 | 6-3 | 5-23 | 5-26 | 5-25 | 5-27 | 5-28 | 8-21 | 9-16 | 8-28 | 9-9 | | | | | 8-29 | 9-6 | 8-21 | 8-8 | 8-22 | 8-29 | 8-22 | | 8-27 |
| Span | 27 | 14 | 31 | 32 | 24 | 21 | 18 | 25 | 6 | 16 | 29 | 12 | 15 | 17 | 21 | 21 | 1 | 45 | 28 | 1 | | | | | 27 | 18 | 1 | 1 | 1 | 1 | 1 | | 11 |
| # days | 13 | 7 | 24 | 30 | 11 | 6 | 11 | 10 | 3 | 6 | 6 | 7 | 6 | 12 | 9 | 11 | 1 | 30 | 4 | 1 | | | | | 3 | 3 | 1 | 1 | 1 | 1 | 1 | | 4 |
| % days | 22 | 10 | 34 | 43 | 16 | 9 | 16 | 14 | 4 | 9 | 9 | 10 | 9 | 17 | 13 | 16 | 1 | 33 | 4 | 1 | | | | | 3 | 3 | 1 | 1 | 1 | 1 | 1 | | 5 |
| High | 3 | 2 | 8 | 7 | 3 | 4 | 7 | 5 | 2 | 2 | 4 | 2 | 1 | 1 | 2 | 4 | 1 | 45 | 3 | 1 | | | | | 2 | 15 | 2 | 1 | 1 | 1 | 2 | | 7 |
| Total | 20 | 9 | 97 | 113 | 13 | 10 | 33 | 18 | 4 | 8 | 9 | 9 | 6 | 12 | 10 | 25 | 1 | 331 | 6 | 1 | | | | | 4 | 23 | 2 | 1 | 1 | 1 | 2 | | 25 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|-----|-----|-----|-----|-----|------|-----|------|------|------|-----|------|------|-----|-----|------|----|----|-----|-----|-----|-----|------|------|
| 2005 | | | | | | | | | | | | 0.1 | 0.6 | 0.6 | 0.6 | 1.4 | 0.3 | 0.1 | | 0.06 | | | | | | | | | | | | | | | 0.01 |
| 2006 | | | | | | | | | | | | | 0.3 | 0.7 | 0.3 | | 0.1 | | | | 0.1 | 8.7 | 15.3 | 11.6 | 8.6 | 2.4 | 0.6 | | | | | | | 3.6 | |
| 2007 | | | | | | | | | | | | 0.1 | 1.9 | 3.9 | 5.3 | 2.7 | 1.4 | 1.1 | | 0.6 | 0.1 | | | 0.7 | | | | | | | | | | 0.07 | |
| 2008 | | | | | | | | | | | | 1.3 | 3.4 | 5.4 | 4.0 | 2.0 | 1.6 | | | | | | | | | 0.1 | | | | | | | | 0.01 | |
| 2009 | | | | | | | | | | | | 0.1 | 1.0 | 0.6 | 0.1 | | 0.2 | 1.0 | | 0.4 | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | 0.9 | 0.4 | | 0.1 | 0.1 | | 1.3 | 0.9 | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | 0.3 | 1.0 | 3.3 | 0.1 | | 0.5 | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | 0.3 | 1.6 | 0.4 | 0.1 | 0.1 | 0.3 | | | | | 0.3 | | | 0.3 | | | | | | | | | 0.04 | |
| 2013 | | | | | | | | | | | | | 0.1 | 0.4 | | | 0.06 | | | | | | 2.3 | | | | 1.0 | | | | | | | 0.3 | |
| 2014 | | | | | | | | | | | | | 0.4 | 0.6 | 0.1 | | 0.1 | | | | | | 0.3 | | | | | | | | | | | 0.02 | |
| 2015 | | | | | | | | | | | | 0.7 | 0.1 | 0.3 | | 0.1 | 0.1 | | | | | 0.1 | | | | | | | | | | | | 0.01 | |
| 2016 | | | | | | | | | | | | | 0.3 | 0.7 | 0.3 | | 0.1 | 0.5 | | 0.2 | | | | 0.1 | | | | | | | | | | 0.01 | |
| 2017 | | | | | | | | | | | | | 0.3 | 0.4 | 0.1 | | 0.09 | | | | | | | | 0.1 | | | | | | | | | 0.01 | |
| 2018 | | | | | | | | | | | | | 0.9 | 0.7 | 0.1 | | 0.2 | | | | | | | 0.3 | | | | | | | | | | 0.02 | |
| 2019 | | | | | | | | | | | | 0.1 | 0.4 | 0.4 | 0.4 | | 0.1 | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | 0.2 | 0.9 | 1.3 | 0.8 | 0.4 | 0.4 | 0.2 | 0.09 | 0.1 | 0.04 | 0.6 | 1.2 | 0.8 | 0.6 | 0.2 | 0.04 | | | | | | | 0.3 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|------|----|----|-----|------|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | 0.07 | | | | 0.07 | | | | | | | | | | | | | | | | | | | |

Bobolink is an increasingly scarce spring and fall migrant at MBO. In the early years, some large numbers were observed, with season totals as high as 113 individuals in spring in 2008, and 331 individuals in fall in 2006. However, the spring total has been 12 or fewer since 2013, and no more than two individuals have been observed in any fall since 2014. The spring peak is almost always in Week 7 or 8; in fall the largest numbers have been observed in Week 3, but generally sightings are too scattered to identify a meaningful peak to migration. There have been scattered summer sightings in five years.

EAME: Eastern Meadowlark / Sturnelle des prés (*Sturnella magna*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|------|------|------|------|------|------|------|------|-------|-----|
| First | | | 5-3 | | 4-25 | | 4-30 | | 4-5 | | | | | | | 4-23 | | | | 10-18 | | | | | | | | | | | 10-18 | |
| Peak | | | 5-3 | | 4-25 | | 4-30 | | 4-5 | | | | | | | 4-23 | | | | 10-18 | | | | | | | | | | | 10-18 | |
| Last | | | 5-19 | | 4-25 | | 4-30 | | 4-5 | | | | | | | 4-27 | | | | 10-24 | | | | | | | | | | | 10-24 | |
| Span | | | 17 | | 1 | | 1 | | 1 | | | | | | | 5 | | | | 7 | | | | | | | | | | | 7 | |
| # days | | | 2 | | 1 | | 1 | | 1 | | | | | | | 1 | | | | 2 | | | | | | | | | | | 2 | |
| % days | | | 3 | | 1 | | 1 | | 1 | | | | | | | 2 | | | | 2 | | | | | | | | | | | 2 | |
| High | | | 1 | | 1 | | 1 | | 1 | | | | | | | 1 | | | | 1 | | | | | | | | | | | 1 | |
| Total | | | 2 | | 1 | | 1 | | 1 | | | | | | | 0 | | | | 2 | | | | | | | | | | | 0 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|------|----|----|------|------|----|------|----|-----|--------|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|------|------|----|--------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | 0.1 | | 0.1 | | | 0.03 | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | 0.1 | | | | | 0.01 | | | | | | | | | | | | | | | | 0.1 | 0.1 | | 0.02 |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | 0.1 | | | | | 0.01 | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | 0.1 | | | | | | | | | 0.01 | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | 0.01 | | | 0.02 | 0.01 | | 0.01 | | | <0.005 | | | | | | | | | | | | | | | | 0.01 | 0.01 | | <0.005 |

Eastern Meadowlark is a very rare spring and fall migrant at MBO. Spring sightings occurred every other year from 2007 to 2013, always limited to just one or two individuals. Three of the five observations have been between 25 April and 3 May. The only two fall sightings were six days apart in late October 2008, presumably involving the same individual.

OROR: Orchard Oriole / Oriole des vergers (*Icterus spurius*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|---|
| First | | | | | | | | | | | | 5-23 | | | | 5-23 | | | | | | | | | | | | | | | | | |
| Peak | | | | | | | | | | | | 5-23 | | | | 5-23 | | | | | | | | | | | | | | | | | |
| Last | | | | | | | | | | | | 5-23 | | | | 5-23 | | | | | | | | | | | | | | | | | |
| Span | | | | | | | | | | | | 1 | | | | 1 | | | | | | | | | | | | | | | | | |
| # days | | | | | | | | | | | | 1 | | | | 1 | | | | | | | | | | | | | | | | | |
| % days | | | | | | | | | | | | 1 | | | | 1 | | | | | | | | | | | | | | | | | |
| High | | | | | | | | | | | | 1 | | | | 1 | | | | | | | | | | | | | | | | | |
| Total | | | | | | | | | | | | 1 | | | | 0 | | | | | | | | | | | | | | | | | 0 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|------|-----|--------|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | 0.01 | | <0.005 | | | | | | | | | | | | | | | | | | | |

Orchard Oriole has only been observed at MBO once, on 23 May 2016.

BAOR: Baltimore Oriole / Oriole de Baltimore (*Icterus galbula*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| First | 5-10 | 5-5 | 5-9 | 5-5 | 5-2 | 5-3 | 5-7 | 5-5 | 5-10 | 5-9 | 5-6 | 5-10 | 5-4 | 5-4 | 5-5 | 5-6 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 |
| Peak | 5-25 | 5-25 | 5-11 | 5-15 | 5-18 | 5-22 | 5-13 | 5-10 | 5-16 | 5-16 | 5-26 | 5-21 | 5-19 | 5-19 | 5-22 | 5-18 | 8-17 | 8-16 | 8-5 | 8-1 | 8-20 | 8-21 | 8-24 | 8-15 | 8-17 | 8-7 | 8-10 | 8-10 | 8-6 | 8-1 | 8-17 | 8-12 | |
| Last | 6-3 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-4 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-4 | 9-14 | 9-22 | 10-8 | 9-20 | 9-6 | 9-11 | 9-2 | 9-17 | 9-20 | 9-16 | 9-5 | 9-27 | 9-14 | 9-12 | 9-17 | 9-16 | |
| Span | 25 | 32 | 28 | 32 | 35 | 34 | 30 | 32 | 27 | 27 | 31 | 27 | 33 | 33 | 32 | 31 | 45 | 53 | 69 | 51 | 37 | 42 | 33 | 48 | 51 | 47 | 36 | 58 | 45 | 43 | 48 | 47 | |
| # days | 25 | 32 | 27 | 32 | 33 | 34 | 30 | 32 | 27 | 27 | 31 | 27 | 26 | 32 | 32 | 30 | 37 | 39 | 32 | 37 | 29 | 32 | 30 | 32 | 33 | 35 | 31 | 40 | 32 | 39 | 30 | 34 | |
| % days | 42 | 46 | 39 | 46 | 48 | 49 | 43 | 46 | 39 | 40 | 44 | 39 | 37 | 46 | 46 | 43 | 42 | 43 | 35 | 41 | 32 | 35 | 33 | 35 | 36 | 38 | 32 | 41 | 33 | 40 | 31 | 36 | |
| High | 10 | 15 | 17 | 14 | 12 | 10 | 20 | 30 | 18 | 15 | 14 | 14 | 18 | 12 | 14 | 16 | 12 | 27 | 23 | 12 | 8 | 15 | 12 | 13 | 12 | 6 | 11 | 21 | 12 | 16 | 17 | 14 | |
| Total | 152 | 222 | 201 | 221 | 198 | 221 | 239 | 325 | 243 | 244 | 244 | 217 | 214 | 207 | 220 | 225 | 148 | 352 | 131 | 171 | 117 | 137 | 131 | 187 | 163 | 107 | 92 | 237 | 127 | 223 | 109 | 162 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|------|-----|-----|-----|-----|--------|----|----|----|----|----|-----|------|------|------|-----|-----|-----|-----|-----|------|------|------|-----|-----|-----|-----|------|------|------|-----|-----|-----|-----|-----|
| 2005 | | | | | | | | | | | | 3.1 | 5.6 | 7.6 | 7.6 | 2.6 | 3.4 | 1.8 | 2.6 | 3.3 | 3.4 | 4.4 | 5.9 | 2.9 | 1.0 | 0.3 | | | | | | | | 1.7 | |
| 2006 | | | | | | | | | | | | 0.7 | 5.4 | 8.7 | 10.3 | 6.6 | 3.2 | 4.5 | 3.8 | 4.1 | 9.7 | 16.1 | 10.7 | 9.3 | 3.3 | 0.9 | 0.1 | 0.1 | | | | | | | 3.9 |
| 2007 | | | | | | | | | | | | | 7.1 | 7.9 | 9.3 | 4.4 | 2.9 | 5.6 | 1.5 | 3.7 | 7.7 | 5.4 | 2.3 | 2.4 | 0.4 | 0.3 | | 0.1 | | | | | | 1.4 | |
| 2008 | | | | | | | | | | | | 1.7 | 6.9 | 10.3 | 7.6 | 5.1 | 3.2 | 5.4 | 1.2 | 3.3 | 6.3 | 5.1 | 6.0 | 4.0 | 2.4 | 0.1 | 0.1 | 0.3 | | | | | | 1.9 | |
| 2009 | | | | | | | | | | | | 1.1 | 8.0 | 8.6 | 5.6 | 5.0 | 2.9 | 2.7 | 2.3 | 2.4 | 3.3 | 4.1 | 4.9 | 3.7 | 0.6 | 0.1 | | | | | | | | 1.3 | |
| 2010 | | | | | | | | | | | | 2.6 | 6.7 | 7.6 | 7.9 | 6.9 | 3.2 | 2.0 | 1.2 | 1.4 | 2.9 | 4.0 | 5.7 | 1.9 | 4.0 | 1.1 | | | | | | | | 1.5 | |
| 2011 | | | | | | | | | | | | 0.4 | 6.1 | 11.4 | 9.4 | 6.7 | 3.4 | 3.0 | 2.8 | 2.9 | 3.4 | 4.9 | 4.9 | 4.4 | 1.1 | | | | | | | | | 1.4 | |
| 2012 | | | | | | | | | | | | 5.6 | 17.9 | 9.7 | 7.7 | 5.6 | 4.6 | 1.8 | 1.5 | 1.6 | 4.3 | 7.3 | 8.3 | 6.3 | 0.4 | | 0.1 | | | | | | | 2.1 | |
| 2013 | | | | | | | | | | | | | 5.1 | 14.7 | 7.6 | 7.3 | 3.5 | 3.7 | 2.5 | 3.0 | 2.1 | 1.9 | 8.1 | 7.0 | 3.1 | 0.4 | 0.4 | 0.1 | | | | | | 1.8 | |
| 2014 | | | | | | | | | | | | | 9.6 | 12.0 | 8.0 | 6.2 | 3.6 | 3.7 | 3.8 | 3.7 | 2.0 | 4.3 | 2.6 | 3.6 | 2.6 | 0.1 | 0.1 | | | | | | | 1.2 | |
| 2015 | 0.1 | | | | | 0.08 | | | | | | 1.9 | 9.0 | 9.9 | 8.7 | 5.4 | 3.5 | 1.7 | 2.3 | 2.0 | 2.0 | 3.9 | 2.4 | 4.3 | 0.4 | 0.1 | | | | | | | | 0.9 | |
| 2016 | | | | | | | | | | | | | 5.4 | 10.7 | 10.4 | 4.4 | 3.1 | 4.8 | 2.0 | 3.4 | 11.7 | 7.9 | 5.9 | 5.4 | 2.1 | 0.3 | 0.4 | | 0.1 | | | | | 2.4 | |
| 2017 | | | | | | | | | | | | 0.1 | 3.0 | 11.7 | 8.9 | 6.9 | 3.1 | 1.3 | 3.0 | 2.3 | 4.1 | 5.1 | 2.9 | 4.3 | 1.3 | 0.3 | 0.1 | | | | | | | 1.3 | |
| 2018 | | | | | | | | | | | | 1.9 | 6.4 | 9.1 | 7.9 | 4.3 | 3.0 | 1.3 | 7.8 | 5.0 | 7.9 | 9.1 | 6.3 | 5.1 | 2.4 | 0.9 | 0.1 | | | | | | | 2.3 | |
| 2019 | | | | | | | | | | | | 1.1 | 5.0 | 8.9 | 10.1 | 6.3 | 3.1 | 2.7 | 1.0 | 1.7 | 3.0 | 3.0 | 7.3 | 1.7 | 0.4 | | 0.1 | | | | | | | 1.1 | |
| Mean | 0.01 | | | | | <0.005 | | | | | | 1.1 | 7.0 | 9.8 | 8.5 | 5.9 | 3.3 | 3.5 | 2.5 | 3.0 | 4.9 | 5.7 | 5.5 | 4.6 | 1.8 | 0.4 | 0.1 | 0.04 | 0.01 | 0.01 | | | | 1.7 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|-----|-----|-----|-----|------|----|
| 2005 | | | | | | | | | | | | | 3 | 3 | 6 | 2 | 14 | | | | | 6 | 7 | 13 | 5 | | | | | | | | | | 31 |
| 2006 | | | | | | | | | | | | | 3 | 6 | 2 | | 11 | | 1 | 1 | 14 | 25 | 18 | 4 | 1 | | | | | | | | | | 62 |
| 2007 | | | | | | | | | | | | | 8 | 3 | 7 | | 18 | | | | 17 | 1 | | | | | | | | | | | | | 18 |
| 2008 | | | | | | | | | | | | 1 | 5 | 7 | 1 | | 14 | | | | 16 | 14 | 9 | 5 | 4 | | | | | | | | | | 48 |
| 2009 | | | | | | | | | | | | | 7 | 6 | 2 | | 15 | | 7 | 7 | 7 | 3 | 1 | 1 | | | | | | | | | | | 12 |
| 2010 | | | | | | | | | | | | | 3 | 5 | 6 | 2 | 16 | 2 | 4 | 6 | 7 | 3 | 1 | 2 | 2 | | | | | | | | | | 15 |
| 2011 | | | | | | | | | | | | | | 7 | | | 7 | 4 | 5 | 9 | 8 | 5 | 1 | 2 | | | | | | | | | | | 16 |
| 2012 | | | | | | | | | | | | 1 | 6 | 1 | | 1 | 9 | | 1 | 1 | 8 | 11 | 1 | 3 | | | | | | | | | | | 23 |
| 2013 | | | | | | | | | | | | | 1 | 4 | | 2 | 7 | | 3 | 3 | 1 | | 10 | 10 | 4 | | | | | | | | | | 25 |
| 2014 | | | | | | | | | | | | | 11 | 6 | 1 | 1 | 19 | | 4 | 4 | 4 | 2 | | 1 | | | | | | | | | | | 7 |
| 2015 | | | | | | | | | | | | 1 | 5 | 6 | 2 | 1 | 15 | | 1 | 1 | 5 | 1 | | 4 | | | | | | | | | | | 10 |
| 2016 | | | | | | | | | | | | | 4 | 7 | 2 | | 13 | | 2 | 2 | 19 | 13 | 3 | 1 | | | | | | | | | | | 36 |
| 2017 | | | | | | | | | | | | | | 12 | | | 12 | 1 | 3 | 4 | 12 | 1 | 1 | 2 | | | | | | | | | | | 16 |
| 2018 | | | | | | | | | | | | 1 | 3 | 2 | 1 | 2 | 9 | | 17 | 17 | 23 | 17 | 2 | 2 | 1 | | | | | | | | | | 45 |
| 2019 | | | | | | | | | | | | | 2 | 2 | 4 | | 8 | | 1 | 1 | 3 | 2 | 6 | | | | | | | | | | | | 11 |
| Mean | | | | | | | | | | | | 0.3 | 4.1 | 5.1 | 2.3 | 0.7 | 12.5 | 0.5 | 3.3 | 3.7 | 9.6 | 6.9 | 4.0 | 3.3 | 1.1 | | | | | | | | | 25.0 | |

Baltimore Oriole always arrives at MBO between 2 May and 10 May, mostly peaking in Week 8 or Week 9. Numbers taper off in early June and are somewhat lower in summer, although at least a couple of breeding pairs are usually present. Fall counts always peak at some point in August, with banding totals much higher overall in Week 1, suggesting that a fair proportion of August sightings involve local juveniles prior to their dispersal or migration. Numbers generally drop off sharply in Weeks 5 and 6, and there have been sightings in the final third of September only twice, and once each in early October and early November. Spring counts have been quite consistent over the years, whereas in summer and fall they have fluctuated more, but also without any clear trends.

RWBL: Red-winged Blackbird / Carouge à épauettes (*Agelaius phoeniceus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|------|
| First | 4-5 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 3-29 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 |
| Peak | 4-30 | 4-16 | 5-10 | 5-13 | 4-27 | 4-21 | 4-19 | 4-29 | 4-9 | 4-20 | 4-17 | 4-18 | 4-14 | 4-27 | 4-17 | 4-23 | 10-21 | 10-20 | 10-24 | 10-17 | 10-27 | 10-30 | 10-27 | 10-10 | 10-29 | 10-12 | 10-31 | 10-26 | 10-13 | 9-28 | 10-28 | 10-20 | |
| Last | 6-3 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-4 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-4 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 11-6 | 11-6 | 11-6 | 11-6 | 11-6 | 11-1 |
| Span | 60 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 68 | 70 | 70 | 70 | 70 | 70 | 69 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 90 | 98 | 98 | 98 | 97 | 98 | 93 |
| # days | 59 | 69 | 70 | 70 | 69 | 70 | 70 | 69 | 70 | 67 | 70 | 70 | 70 | 70 | 70 | 69 | 62 | 64 | 69 | 66 | 74 | 71 | 73 | 76 | 71 | 78 | 78 | 81 | 77 | 71 | 73 | 72 | |
| % days | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99 | 100 | 99 | 100 | 100 | 100 | 100 | 100 | 100 | 70 | 70 | 76 | 73 | 81 | 78 | 80 | 84 | 78 | 86 | 80 | 83 | 79 | 72 | 74 | 78 | |
| High | 55 | 140 | 225 | 95 | 70 | 92 | 90 | 180 | 110 | 100 | 80 | 72 | 95 | 40 | 64 | 101 | 175 | 430 | 2501 | 550 | 2500 | 1100 | 1200 | 1009 | 850 | 450 | 665 | 400 | 836 | 502 | 770 | 929 | |
| Total | 1496 | 3011 | 4348 | 3185 | 2373 | 2593 | 2989 | 3423 | 3364 | 3014 | 2895 | 2459 | 2053 | 1682 | 1928 | 2721 | 2364 | 5024 | 9375 | 5805 | 7785 | 10217 | 10251 | 10557 | 5691 | 5966 | 5426 | 6324 | 7566 | 4354 | 5356 | 6804 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|------|-----|------|-----|------|------|------|------|------|------|------|------|-------|------|------|------|------|------|------|------|-------|------|------|------|-----|------|------|------|-------|-------|-------|-------|-------|-------|-------|
| 2005 | 2.0 | | | | | 0.6 | | 28.2 | 20.6 | 23.7 | 30.1 | 28.6 | 28.1 | 20.9 | 23.0 | 25.2 | 25.4 | 16.6 | 14.5 | 15.5 | 10.1 | 25.6 | 8.1 | 2.9 | 0.4 | 0.3 | 0.3 | 19.1 | 21.0 | 59.7 | 50.2 | 98.4 | 60.3 | | 26.9 |
| 2006 | 1.9 | 0.1 | 0.08 | | 0.7 | 0.6 | 24.6 | 37.5 | 56.6 | 46.1 | 79.3 | 41.4 | 49.6 | 36.4 | 37.6 | 26.4 | 43.6 | 26.5 | 17.8 | 21.7 | 120.1 | 34.6 | 0.7 | 16.7 | 0.6 | 3.0 | 1.1 | 20.3 | 7.6 | 57.0 | 132.0 | 174.4 | 149.6 | | 55.2 |
| 2007 | 0.4 | | | | 3.2 | 0.8 | 47.1 | 43.6 | 31.0 | 72.6 | 65.0 | 96.9 | 124.6 | 56.7 | 48.9 | 34.9 | 62.1 | 36.3 | 21.5 | 29.5 | 71.1 | 10.6 | 2.3 | 0.1 | 0.4 | 0.9 | 5.4 | 14.9 | 75.4 | 36.9 | 201.9 | 219.7 | 699.7 | | 103.0 |
| 2008 | 3.6 | | | | | 1.2 | 24.3 | 41.6 | 39.6 | 57.3 | 49.0 | 38.9 | 72.3 | 54.4 | 41.3 | 36.4 | 45.5 | 25.6 | 10.2 | 17.9 | 14.7 | 2.4 | 0.9 | 0.4 | 7.3 | | 23.9 | 35.6 | 31.6 | 50.3 | 175.7 | 275.7 | 210.9 | | 63.8 |
| 2009 | | | | 0.1 | 10.9 | 4.5 | 25.1 | 40.3 | 30.3 | 44.3 | 43.1 | 36.4 | 33.0 | 35.9 | 28.3 | 28.0 | 34.4 | 10.7 | 0.5 | 4.9 | 6.1 | 6.4 | 12.4 | 7.3 | 3.9 | 7.3 | 15.3 | 20.7 | 19.4 | 60.6 | 153.3 | 334.4 | 465.0 | | 85.5 |
| 2010 | 73.8 | 0.8 | | | 29.2 | 28.4 | 44.3 | 35.0 | 34.0 | 47.9 | 38.0 | 41.9 | 43.4 | 40.9 | 22.7 | 22.4 | 37.0 | 1.7 | 2.5 | 2.2 | 8.6 | 4.7 | 1.6 | 2.7 | 6.6 | 7.0 | 8.9 | 33.3 | 91.0 | 217.4 | 424.0 | 348.7 | 305.1 | | 112.3 |
| 2011 | 1.4 | | | | 5.9 | 1.6 | 31.4 | 29.3 | 42.9 | 59.1 | 45.0 | 53.9 | 46.6 | 48.0 | 39.3 | 31.6 | 42.7 | 19.3 | 9.3 | 13.6 | 27.4 | 30.6 | 2.1 | 19.1 | 3.1 | 5.4 | 8.3 | 20.3 | 101.0 | 260.6 | 219.3 | 306.1 | 461.0 | | 112.6 |
| 2012 | 43.5 | 5.5 | | | 18.2 | 21.9 | 42.1 | 29.1 | 42.1 | 55.0 | 86.0 | 71.0 | 57.6 | 41.1 | 32.4 | 32.4 | 48.9 | 8.8 | 4.5 | 6.6 | 12.6 | 6.9 | 2.0 | 8.3 | 1.3 | 3.0 | 9.1 | 50.0 | 278.0 | 269.9 | 347.3 | 265.4 | 254.4 | | 116.0 |
| 2013 | 13.5 | 0.7 | 0.6 | | 10.0 | 5.4 | 36.9 | 57.6 | 46.3 | 57.1 | 49.0 | 60.1 | 56.4 | 51.3 | 34.3 | 31.6 | 48.1 | 21.7 | 12.8 | 16.6 | 7.1 | 3.9 | 2.7 | 0.9 | 0.1 | 15.1 | 33.0 | 70.7 | 14.7 | 22.1 | 98.6 | 326.3 | 217.7 | | 62.5 |
| 2014 | 3.6 | 0.5 | 0.7 | 1.0 | 3.6 | 1.8 | 16.3 | 40.6 | 55.7 | 61.7 | 51.1 | 53.7 | 51.0 | 43.6 | 34.3 | 29.0 | 44.3 | 24.3 | 5.5 | 13.6 | 9.0 | 7.4 | 14.4 | 5.4 | 2.4 | 1.4 | 30.9 | 43.6 | 68.0 | 121.7 | 167.3 | 134.7 | 246.0 | | 65.6 |
| 2015 | 93.4 | 5.0 | | | 0.6 | 62.6 | 16.7 | 48.3 | 54.0 | 49.0 | 45.7 | 57.6 | 42.6 | 36.6 | 33.4 | 29.7 | 41.4 | 10.0 | 5.3 | 7.3 | 7.4 | 2.7 | 14.9 | 7.1 | 1.6 | 10.7 | 1.9 | 12.0 | 19.1 | 81.7 | 107.7 | 134.1 | 185.1 | 189.0 | 55.4 |
| 2016 | 8.5 | | 0.5 | | 16.6 | 5.5 | 36.6 | 28.0 | 27.9 | 44.4 | 38.9 | 41.7 | 40.9 | 34.1 | 32.1 | 26.7 | 35.1 | 14.3 | 4.0 | 9.1 | 13.7 | 7.4 | 4.3 | 4.0 | 6.0 | 24.6 | 17.9 | 17.0 | 24.3 | 80.9 | 232.0 | 175.4 | 190.7 | 105.3 | 64.5 |
| 2017 | 5.6 | | | 0.5 | 18.3 | 5.2 | 25.7 | 30.6 | 32.9 | 37.0 | 37.6 | 28.3 | 31.7 | 24.6 | 23.1 | 21.9 | 29.3 | 8.0 | 5.8 | 6.7 | 5.9 | 7.4 | 6.3 | 5.9 | 2.9 | 16.3 | 76.1 | 95.0 | 170.0 | 35.4 | 228.7 | 193.7 | 115.3 | 122.0 | 77.2 |
| 2018 | 0.1 | | | | 2.8 | 0.6 | 19.6 | 20.9 | 19.3 | 28.6 | 25.1 | 29.3 | 29.4 | 27.9 | 20.3 | 20.0 | 24.0 | 6.7 | 9.8 | 8.4 | 3.6 | 12.7 | 13.7 | 2.9 | 2.7 | 1.6 | 0.3 | 37.4 | 105.7 | 106.9 | 136.1 | 86.1 | 50.9 | 61.4 | 44.4 |
| 2019 | 3.0 | | | | 3.1 | 1.4 | 24.6 | 22.9 | 33.3 | 37.7 | 31.3 | 31.0 | 25.7 | 24.0 | 25.3 | 19.7 | 27.5 | 4.7 | 2.8 | 3.6 | 6.9 | 5.3 | 1.9 | 2.9 | 2.4 | 0.6 | 5.3 | 32.1 | 23.9 | 88.6 | 142.0 | 120.0 | 221.0 | 112.4 | 54.7 |
| Mean | 24.0 | 0.5 | 0.2 | 0.1 | 9.9 | 8.6 | 29.8 | 35.6 | 37.8 | 48.3 | 47.6 | 47.4 | 48.9 | 38.4 | 31.8 | 27.8 | 39.4 | 18.2 | 10.4 | 14.0 | 21.6 | 11.2 | 5.9 | 5.8 | 2.8 | 6.5 | 15.8 | 34.8 | 70.5 | 103.7 | 189.1 | 212.9 | 255.5 | 118.0 | 73.1 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|-----|----|----|-----|-----|------|------|------|------|-----|-----|------|-----|-----|-----|-----|-----|------|----|----|----|----|----|-----|-----|-----|-----|-----|-----|----|---|
| 2005 | | | | | | | | | | 2 | 24 | 21 | 9 | 11 | 5 | 1 | 73 | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | 4 | 18 | 35 | 42 | 25 | 20 | 21 | 4 | 169 | | 1 | 1 | 1 | | | | | | | | | | | 2 | | | 3 | |
| 2007 | | | | | | | | | | 12 | 11 | 27 | 65 | 22 | 12 | 6 | 155 | | | | 1 | | | | | | | | | | | | 1 | 1 | | 3 |
| 2008 | | | | | | | | | | 9 | 11 | 13 | 33 | 20 | 21 | 7 | 114 | | | | | | | | | | | | | | 5 | 1 | 1 | | 7 | |
| 2009 | | | | | | | | | | 2 | 3 | 5 | 21 | 16 | 2 | 1 | 50 | | 22 | 7 | 29 | | | | | | | | | | | 30 | | | 30 | |
| 2010 | 1 | | | | 14 | 15 | | | | 12 | 15 | 19 | 9 | 18 | 8 | 4 | 85 | | 3 | 3 | 6 | | | | | | | | | 1 | 10 | 1 | | 12 | | |
| 2011 | 1 | | | | | 1 | | | | 3 | 8 | 15 | 23 | 13 | 6 | 2 | 70 | | | | | 1 | | | | | | | | | 8 | 9 | | 18 | | |
| 2012 | 8 | 16 | | | 1 | 25 | | | | 21 | 12 | 49 | 19 | 9 | 2 | 4 | 116 | | 5 | | 5 | 1 | | | | | | | 2 | 10 | | | | 13 | | |
| 2013 | 10 | | | | | 10 | | | | 8 | 12 | 25 | 24 | 11 | 3 | | 83 | | 10 | 1 | 11 | | | | | | | | | | 1 | 1 | | 2 | | |
| 2014 | | | | | | | | | | 4 | 4 | 19 | 17 | 8 | 11 | | 63 | | 2 | | 2 | | | | | | | | | | | 3 | | 3 | | |
| 2015 | 6 | 1 | | | | 7 | | | | 2 | 9 | 17 | 18 | 6 | 5 | | 57 | | | | | | | | | | | | | | | 2 | 5 | | 7 | |
| 2016 | | | | | 10 | 10 | | | | 5 | 5 | 10 | 16 | 15 | 2 | 2 | 55 | | 1 | | 1 | | | | | | | | | 3 | 2 | 3 | | 8 | | |
| 2017 | | | | | | | | | | | 3 | 7 | 11 | 13 | 1 | 1 | 36 | | 1 | | 1 | | | | | | | | | | | 1 | | 1 | | |
| 2018 | | | | | | | | | | 2 | 3 | 16 | 23 | 13 | 7 | 5 | 69 | | 1 | | 1 | | | | | | | | | | | | | | 8 | |
| 2019 | | | | | 1 | 1 | | | | 6 | 3 | 8 | 9 | 8 | 5 | 1 | 40 | | 1 | | 1 | 1 | | | | | | | | | | 6 | 1 | 8 | | |
| Mean | 1.9 | 1.4 | | | 2.4 | 4.9 | | | 2.0 | 7.1 | 10.5 | 19.5 | 21.5 | 13.5 | 7.4 | 2.5 | 82.3 | | 3.1 | 0.8 | 3.9 | 0.3 | 0.07 | | | | | | 0.7 | 4.3 | 1.9 | 1.2 | 7.7 | | | |

Male Red-winged Blackbirds usually return to MBO at some point in March, with females following in April. Numbers always peak mid-season, between Weeks 4 and 7, then taper off as migrants continue on and only the local breeders remain. A good number nest in MBO's wetlands most years, but adults and juveniles largely move out over the first few weeks of August, with counts bottoming out in early September. Larger flocks start being seen in Weeks 7 or 8, with numbers building to a peak between Week 11 and 14. Small numbers linger into November almost annually, with scattered sightings through the remainder of winter. Despite fall counts being much larger, the vast majority of individuals banded have been in spring. In all seasons, numbers have been lower in recent years.

BHCO: Brown-headed Cowbird / Vacher à tête brune (*Molothrus ater*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| First | 4-5 | 4-2 | 3-28 | 4-11 | 3-30 | 3-28 | 4-10 | 3-28 | 3-31 | 4-6 | 3-29 | 3-29 | 4-11 | 4-4 | 4-10 | 4-3 | 8-1 | 8-24 | 8-2 | 8-1 | 8-2 | 8-30 | 8-3 | 8-3 | 8-3 | 8-5 | 9-22 | 8-2 | 8-2 | 9-27 | 8-9 | 8-13 |
| Peak | 4-9 | 4-24 | 5-14 | 4-26 | 4-3 | 3-28 | 4-27 | 4-22 | 5-29 | 4-22 | 4-14 | 5-17 | 5-3 | 4-22 | 4-21 | 4-24 | 9-27 | 9-28 | 10-22 | 10-18 | 10-17 | 9-26 | 8-3 | 10-7 | 9-25 | 9-29 | 10-12 | 9-26 | 8-9 | 9-27 | 8-14 | 9-23 |
| Last | 6-3 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-4 | 6-5 | 6-2 | 5-30 | 6-5 | 6-5 | 6-5 | 6-5 | 6-4 | 10-29 | 10-24 | 10-24 | 10-18 | 10-19 | 10-20 | 10-5 | 10-26 | 10-10 | 10-25 | 10-20 | 10-12 | 10-11 | 10-19 | 11-3 | 10-19 |
| Span | 60 | 65 | 70 | 56 | 68 | 70 | 57 | 69 | 67 | 58 | 63 | 69 | 56 | 63 | 57 | 63 | 90 | 62 | 84 | 79 | 79 | 52 | 64 | 85 | 69 | 82 | 29 | 72 | 71 | 23 | 87 | 69 |
| # days | 56 | 63 | 49 | 52 | 62 | 64 | 51 | 54 | 50 | 50 | 45 | 54 | 52 | 47 | 47 | 53 | 16 | 12 | 8 | 4 | 8 | 7 | 6 | 9 | 7 | 3 | 6 | 4 | 5 | 2 | 8 | 7 |
| % days | 95 | 91 | 70 | 74 | 90 | 91 | 73 | 77 | 71 | 74 | 64 | 77 | 74 | 67 | 67 | 77 | 18 | 13 | 9 | 4 | 9 | 8 | 7 | 10 | 8 | 3 | 6 | 4 | 5 | 2 | 8 | 8 |
| High | 12 | 41 | 16 | 14 | 14 | 12 | 20 | 20 | 5 | 7 | 9 | 8 | 8 | 8 | 12 | 14 | 19 | 42 | 5 | 3 | 3 | 24 | 4 | 4 | 11 | 2 | 15 | 25 | 2 | 1 | 3 | 11 |
| Total | 263 | 505 | 204 | 180 | 316 | 187 | 272 | 185 | 114 | 155 | 107 | 163 | 151 | 126 | 140 | 205 | 62 | 80 | 21 | 7 | 11 | 44 | 10 | 14 | 21 | 5 | 22 | 30 | 6 | 2 | 12 | 23 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|------|-----|-----|-----|-----|------|-----|-----|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|-----|-----|-----|-----|-----|------|------|-----|
| 2005 | | | | | | | 4.7 | 4.9 | 5.3 | 4.7 | 5.3 | 3.1 | 3.4 | 4.6 | 4.2 | 4.5 | 2.5 | 1.8 | 2.1 | 1.4 | 0.3 | 0.1 | | 0.1 | | | 2.1 | 4.3 | 0.2 | 0.2 | 0.4 | 0.3 | | 0.7 | |
| 2006 | 0.07 | | | | | 0.02 | 0.9 | 7.0 | 11.1 | 13.4 | 9.7 | 12.6 | 6.9 | 4.9 | 3.9 | 2.9 | 7.3 | 2.2 | 0.8 | 1.5 | | | | 0.9 | 0.3 | | | 0.1 | 8.0 | 0.4 | 0.1 | 1.1 | 0.4 | | 0.9 |
| 2007 | | | | | | | 1.3 | 1.0 | 0.4 | 3.6 | 0.9 | 5.1 | 7.6 | 3.1 | 3.6 | 2.6 | 2.9 | 1.0 | 1.2 | 1.1 | 0.4 | 0.1 | | | | | 1.0 | | 0.1 | 0.4 | 0.7 | 0.1 | | 0.2 | |
| 2008 | | | | | | | | | 2.3 | 2.6 | 5.9 | 3.0 | 4.6 | 3.1 | 2.9 | 1.4 | 2.6 | 0.2 | 1.2 | 0.7 | 0.3 | | | | 0.3 | | | | | | 0.4 | | | 0.08 | |
| 2009 | | | | | | | 2.4 | 2.8 | 3.1 | 6.0 | 7.1 | 5.3 | 6.3 | 5.7 | 3.6 | 3.1 | 4.6 | 0.7 | | 0.3 | 0.1 | 0.1 | 0.1 | | | 0.1 | 0.3 | | | 0.1 | 0.6 | | 0.1 | | |
| 2010 | | | | | 0.8 | 0.2 | 3.1 | 2.3 | 1.3 | 5.3 | 3.4 | 2.9 | 3.0 | 1.9 | 2.0 | 1.6 | 2.7 | | | | | | | 0.1 | | | | 5.3 | 0.3 | | 0.6 | | | 0.5 | |
| 2011 | | | | | | | 0.1 | 2.1 | 3.1 | 8.3 | 10.4 | 4.7 | 4.3 | 3.6 | 2.1 | 3.9 | 0.3 | 1.0 | 0.7 | 0.6 | | 0.1 | 0.3 | 0.1 | | | | | 0.3 | | | | 0.1 | | |
| 2012 | | | | | 1.0 | 0.2 | 1.4 | 0.4 | 4.3 | 5.9 | 3.7 | 3.3 | 2.6 | 2.1 | 2.0 | 0.7 | 2.6 | 0.3 | 0.3 | 0.2 | 0.1 | 0.1 | 0.1 | | | | 0.1 | 0.4 | 0.7 | | 0.1 | 0.1 | | 0.2 | |
| 2013 | | | | | | | 0.4 | 0.7 | 1.0 | 2.6 | 2.4 | 2.1 | 1.9 | 0.9 | 2.1 | 2.1 | 1.6 | 1.0 | 0.5 | 0.7 | 0.3 | | | | 0.3 | 1.6 | 0.1 | | 0.3 | | | | | 0.2 | |
| 2014 | | | | | | | | 1.0 | 0.6 | 4.3 | 4.4 | 2.6 | 2.4 | 3.3 | 2.0 | 1.8 | 2.3 | 0.3 | | 0.1 | 0.1 | | | | | | | | | | | | | 0.05 | |
| 2015 | | | | | | | 0.1 | 0.4 | 2.3 | 3.1 | 2.7 | 2.3 | 1.7 | 1.1 | 1.1 | 0.3 | 1.5 | | | | | | | | | | | | | | | | | 0.2 | |
| 2016 | | | | | | | 0.4 | 1.0 | 0.7 | 1.0 | 2.7 | 2.6 | 3.4 | 3.7 | 4.9 | 2.9 | 2.3 | 1.0 | | 0.5 | 0.1 | | | | | 0.3 | | | | | | | | 0.3 | |
| 2017 | | | | | | | | | 1.1 | 3.1 | 3.4 | 3.4 | 3.3 | 2.4 | 2.7 | 2.0 | 2.2 | | 0.5 | 0.3 | 0.3 | 0.4 | | | | | | | | | | | | 0.06 | |
| 2018 | | | | | | | | 0.7 | | 3.6 | 3.3 | 3.3 | 2.0 | 1.7 | 2.4 | 1.0 | 1.8 | | | 0.5 | 0.3 | | | | | | | | | | | | | 0.02 | |
| 2019 | | | | | | | 0.4 | 1.3 | 5.7 | 2.4 | 1.9 | 2.1 | 3.3 | 1.9 | 1.0 | 2.0 | 1.0 | 0.8 | 0.9 | | 0.6 | 0.3 | 0.1 | | 0.1 | | | | | | | | 0.1 | | |
| Mean | 0.01 | | | | 0.1 | 0.03 | 0.7 | 1.4 | 2.4 | 4.6 | 4.3 | 4.4 | 3.7 | 3.0 | 2.9 | 1.9 | 3.0 | 1.2 | 0.8 | 1.0 | 0.3 | 0.1 | 0.09 | 0.09 | 0.05 | 0.04 | 0.06 | 0.4 | 1.5 | 0.1 | 0.3 | 0.3 | 0.09 | 0.03 | 0.2 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|------|------|----|----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|---|
| 2005 | | | | | | | | | | | 1 | 2 | | | | | 3 | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | 2 | | 3 | 2 | | | | 7 | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | 1 | 1 | | 2 | 1 | 5 | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | 5 | 1 | | | 6 | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | 1 | 2 | 1 | 1 | | | 5 | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | 1 | 1 | | | | | 1 | | 2 | | | 1 | 4 | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | 3 | | | | 1 | | 4 | | | | | 1 | | | | | | | | | | | | | 1 | |
| 2012 | | | | | | | | | | | | | | 1 | | | 1 | | 1 | 1 | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | 1 | | | | 1 | | 1 | 1 | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | 1 | 1 | | | | 2 | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | 2 | | | | | | 2 | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | 1 | | | | | 2 | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | 2 | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | 1 | 1 | | 2 | 2 | | | 1 | | | | | | | | | | | | | 1 |
| 2019 | | | | | | | | | | | | | 1 | 1 | | | 2 | | | | | | 1 | | | | | | | | | | | | | 1 |
| Mean | | | | | 0.09 | 0.07 | | | 1.0 | | 0.5 | 0.7 | 0.9 | 0.3 | 0.3 | 0.1 | 3.0 | | 0.3 | 0.3 | 0.07 | 0.1 | | | | | | | | | | | | | 0.2 | |

Brown-headed Cowbird is uncommon at MBO in spring and summer, and rare in fall. The first migrants typically arrive between late March and the first few days of April, with peak counts most commonly occurring in Week 4, but occasionally as late as Week 9. There have been summer sightings in all years except 2010 and 2015, but they are generally less frequent than in spring. Fall observations have spanned all weeks of the season, but with notable counts limited to between mid-September and mid-October, typically when cowbirds are part of mixed blackbird flocks. Spring and summer numbers have declined considerably over time, but the trend has been less obvious in fall. Nearly 90% of Brown-headed Cowbirds banded at MBO have been in spring.

RUBL: Rusty Blackbird / Quiscale rouilleux (*Euphagus carolinus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|-------|------|-------|
| First | 4-30 | 4-7 | 4-23 | 4-26 | 3-31 | 4-14 | 4-7 | 4-18 | 4-19 | 4-13 | 4-12 | 3-31 | 4-11 | 4-3 | 4-12 | 4-13 | 9-11 | 9-6 | 9-22 | 9-29 | 9-19 | 9-15 | 8-30 | 9-11 | 9-16 | 9-17 | 9-18 | 9-5 | 9-12 | 9-27 | 9-17 | 9-12 |
| Peak | 5-2 | 4-19 | 5-9 | 5-29 | 5-12 | 4-21 | 4-29 | 4-21 | 5-1 | 5-9 | 5-2 | 4-19 | 4-30 | 5-3 | 5-7 | 5-2 | 9-27 | 9-25 | 9-30 | 10-12 | 10-8 | 10-2 | 9-25 | 10-1 | 9-25 | 9-23 | 10-7 | 10-4 | 10-13 | 10-23 | 9-25 | 10-2 |
| Last | 5-9 | 5-4 | 5-9 | 5-31 | 5-20 | 5-12 | 5-6 | 5-14 | 5-17 | 5-9 | 5-13 | 5-17 | 5-13 | 5-17 | 5-18 | 5-13 | 10-30 | 10-27 | 10-22 | 10-28 | 10-30 | 10-30 | 10-30 | 10-27 | 10-29 | 10-30 | 11-2 | 11-6 | 11-6 | 11-3 | 11-6 | 10-30 |
| Span | 10 | 28 | 17 | 36 | 51 | 29 | 30 | 27 | 29 | 27 | 32 | 48 | 33 | 45 | 37 | 32 | 50 | 52 | 31 | 30 | 42 | 46 | 62 | 47 | 44 | 44 | 46 | 63 | 56 | 38 | 51 | 50 |
| # days | 5 | 7 | 7 | 6 | 13 | 8 | 7 | 21 | 11 | 16 | 21 | 22 | 22 | 19 | 21 | 14 | 23 | 30 | 15 | 15 | 27 | 29 | 23 | 26 | 24 | 37 | 25 | 30 | 26 | 28 | 29 | 26 |
| % days | 8 | 10 | 10 | 9 | 19 | 11 | 10 | 30 | 16 | 24 | 30 | 31 | 31 | 27 | 30 | 20 | 26 | 33 | 16 | 16 | 30 | 32 | 25 | 29 | 26 | 41 | 26 | 31 | 27 | 29 | 30 | 28 |
| High | 7 | 2 | 4 | 7 | 7 | 3 | 6 | 6 | 9 | 45 | 19 | 10 | 68 | 10 | 19 | 15 | 68 | 166 | 52 | 17 | 55 | 28 | 46 | 50 | 17 | 24 | 16 | 65 | 24 | 35 | 65 | 49 |
| Total | 14 | 8 | 12 | 27 | 23 | 11 | 12 | 39 | 39 | 148 | 111 | 56 | 173 | 58 | 96 | 55 | 263 | 425 | 155 | 74 | 292 | 130 | 91 | 210 | 90 | 238 | 117 | 269 | 139 | 173 | 240 | 194 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|------|-----|------|------|------|------|-----|-----|------|-----|-----|-----|------|-----|-----|-----|-----|----|----|----|----|----|------|-----|-----|------|------|------|------|-----|-----|-----|-----|-----|
| 2005 | | | | | | | | | | | 0.6 | 1.3 | 0.1 | | | | 0.2 | | | | | | | | | 0.1 | 1.6 | 9.6 | 16.0 | 7.5 | 0.7 | 5.0 | 0.6 | | 3.0 | |
| 2006 | | 0.3 | 0.5 | | | 0.2 | | 0.2 | 0.1 | 0.4 | 0.1 | 0.3 | | | | | 0.1 | | | | | | | | | 1.6 | 1.9 | 30.3 | 11.0 | 5.0 | 4.7 | 4.9 | 1.4 | | 4.7 | |
| 2007 | 0.2 | | | | | 0.09 | | | | 0.4 | 0.4 | 0.3 | 0.6 | | | | 0.2 | | | | | | | | | | | 0.6 | 9.7 | 3.1 | 0.9 | 7.9 | | | 1.7 | |
| 2008 | | | | | | | | | | | 1.1 | | | | 1.0 | 1.6 | 0.4 | | | | | | | | | | | 2.1 | 2.7 | 4.3 | 1.1 | 0.3 | | 0.8 | | |
| 2009 | | | | | | | 0.1 | | | 0.7 | 0.9 | 0.4 | 1.0 | 0.1 | | | 0.3 | | | | | | | | | | | 5.4 | 8.9 | 14.9 | 10.0 | 0.9 | 1.7 | | 3.2 | |
| 2010 | 0.6 | | | | | 0.2 | | | 0.1 | 0.6 | 0.1 | 0.3 | 0.4 | | | | 0.2 | | | | | | | | | | 2.0 | 2.0 | 4.1 | 4.0 | 2.4 | 2.4 | 1.6 | | 1.4 | |
| 2011 | | | | | | | | 0.3 | | 0.1 | 1.1 | 0.1 | | | | | 0.2 | | | | | | | | 0.1 | 0.4 | 0.1 | 7.0 | 1.0 | 0.6 | 0.7 | 1.3 | 1.7 | | 1.0 | |
| 2012 | 0.6 | | | | | 0.2 | | | | 1.7 | 1.0 | 1.3 | 1.6 | | | | 0.6 | | | | | | | | | 0.1 | | 14.3 | 9.1 | 2.1 | 3.7 | 0.6 | | 2.3 | | |
| 2013 | | | | | | | | | | 0.7 | 3.3 | 1.4 | | 0.1 | | | 0.6 | | | | | | | | | | 0.3 | 3.1 | 1.3 | 6.0 | 0.9 | 1.0 | 0.3 | | 1.0 | |
| 2014 | 0.4 | | | | | 0.07 | | | 1.7 | 1.3 | 5.6 | 6.1 | 6.4 | | | | 2.2 | | | | | | | | | | 1.6 | 5.3 | 7.6 | 4.4 | 3.4 | 8.1 | 3.6 | | 2.6 | |
| 2015 | 1.0 | | | | | 0.7 | | | 1.7 | 3.0 | 3.4 | 6.7 | 1.0 | | | | 1.6 | | | | | | | | | | 0.6 | 0.4 | 2.1 | 4.6 | 1.9 | 3.9 | 2.3 | 1.0 | 1.2 | |
| 2016 | | | | | 0.08 | 0.02 | 0.9 | 0.1 | 0.4 | 3.0 | 1.1 | 0.1 | 2.1 | 0.1 | | | 0.8 | | | | | | | | | 0.3 | 0.3 | 6.6 | 6.4 | 12.0 | 5.6 | | 2.4 | 4.9 | 2.7 | |
| 2017 | 0.8 | | | | | 0.2 | | | 0.3 | 3.7 | 18.0 | 2.0 | 0.7 | | | | 2.5 | | | | | | | | | | | | | | | | | | 1.4 | |
| 2018 | | | | | | | 0.1 | | 0.3 | 2.6 | 3.7 | 0.9 | 0.7 | | | | 0.8 | | | | | | | | | | | | | | | | | | | 1.8 |
| 2019 | | 0.4 | | | | 0.08 | | | 0.6 | 3.3 | 1.1 | 5.3 | 3.1 | 0.3 | | | 1.4 | | | | | | | | | | 1.7 | 18.0 | 0.4 | 4.6 | 2.1 | 2.6 | 2.6 | 2.3 | 2.4 | |
| Mean | 0.3 | 0.1 | 0.05 | | 0.01 | 0.1 | 0.08 | 0.04 | 0.3 | 1.3 | 2.7 | 2.0 | 1.2 | 0.1 | 0.07 | 0.1 | 0.8 | | | | | | | | 0.01 | 0.2 | 0.8 | 5.9 | 5.7 | 5.6 | 3.2 | 4.0 | 1.6 | 2.4 | 2.1 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|------|----|----|-----|-----|-----|------|-----|------|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|------|-----|-----|-----|------|-----|-----|---|
| 2005 | | | | | | | | | | | | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | |
| 2006 | | | 1 | | | 1 | | | | 1 | | | | | | | 1 | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | 1 | 2 | | | | | | 3 | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | 1 | | | 3 | | | | 4 | | | | | | | | | | | | 1 | | | | | | | 2 |
| 2013 | | | | | | | | | | | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | 4 | | | | 4 | | | | | | | | | | | | | | | | | | 1 | 1 |
| 2017 | | | | | | | | | | | 1 | | | | | | 1 | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | 1 |
| 2019 | | | | | | | | | | | | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | 1 | 1 |
| Mean | | | 0.2 | | | 0.07 | | | 0.5 | 0.1 | 0.3 | 0.07 | 0.5 | 0.07 | | 1.1 | | | | | | | | | | | | | 0.07 | | | 0.1 | 0.07 | 0.4 | 0.4 | |

Rusty Blackbird is an uncommon spring and fall migrant at MBO, with occasional sightings lingering into November and even a few mid-winter records. The vast majority of spring records are between Week 4 and 7, but have extended as late as the last day of May. In fall, the earliest sighting to date was on 30 August; the peak is quite variable across years, between Weeks 8 and 12, but on average most numerous around the end of September. Rusty Blackbird is only rarely banded at MBO, most often in spring. Numbers fluctuate considerably from year to year, but have been at or well above average in spring for the past six years, whereas there is no clear long-term pattern in fall.

COGR: Common Grackle / Quiscale bronzé (*Quiscalus quiscula*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|------|------|-------|
| First | 4-5 | 4-2 | 3-29 | 3-30 | 3-28 | 3-28 | 4-3 | 3-30 | 3-28 | 4-3 | 4-3 | 3-29 | 3-31 | 3-28 | 3-28 | 3-30 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 |
| Peak | 5-20 | 4-16 | 5-13 | 4-21 | 5-19 | 5-12 | 5-24 | 5-7 | 5-17 | 4-20 | 4-13 | 4-18 | 5-28 | 4-22 | 4-19 | 5-3 | 9-18 | 9-2 | 10-18 | 10-17 | 9-26 | 8-29 | 8-24 | 9-11 | 10-6 | 9-18 | 10-7 | 10-27 | 10-18 | 9-5 | 10-2 | 9-25 |
| Last | 6-3 | 6-5 | 6-4 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-3 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-4 | 10-29 | 10-27 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-29 | 10-30 | 11-6 | 11-6 | 11-5 | 11-5 | 11-6 | 10-31 |
| Span | 60 | 65 | 68 | 68 | 70 | 70 | 64 | 68 | 70 | 62 | 64 | 69 | 67 | 70 | 70 | 67 | 90 | 88 | 91 | 91 | 91 | 91 | 91 | 91 | 90 | 91 | 98 | 98 | 97 | 97 | 98 | 93 |
| # days | 51 | 61 | 55 | 61 | 59 | 58 | 58 | 59 | 60 | 54 | 62 | 58 | 59 | 55 | 64 | 58 | 75 | 76 | 74 | 76 | 82 | 61 | 57 | 83 | 60 | 85 | 85 | 88 | 88 | 83 | 87 | 77 |
| % days | 86 | 88 | 79 | 87 | 86 | 83 | 83 | 84 | 86 | 79 | 89 | 83 | 84 | 79 | 91 | 84 | 85 | 84 | 81 | 84 | 90 | 67 | 63 | 91 | 66 | 93 | 87 | 90 | 85 | 89 | 83 | |
| High | 18 | 50 | 20 | 153 | 20 | 26 | 20 | 28 | 24 | 37 | 23 | 40 | 16 | 35 | 30 | 36 | 1000 | 564 | 502 | 670 | 487 | 593 | 95 | 1809 | 1200 | 612 | 574 | 300 | 650 | 630 | 959 | 710 |
| Total | 349 | 921 | 388 | 594 | 442 | 349 | 409 | 570 | 466 | 427 | 532 | 701 | 384 | 446 | 422 | 493 | 13251 | 4177 | 2843 | 3695 | 2136 | 2777 | 522 | 14004 | 3114 | 4916 | 5227 | 2588 | 6991 | 8061 | 4770 | 5271 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|------|------|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 2005 | | | | | | | | 8.2 | 0.9 | 4.8 | 2.6 | 3.4 | 8.9 | 10.3 | 7.0 | 8.0 | 5.9 | 3.5 | 3.7 | 3.6 | 3.7 | 4.7 | 10.7 | 82.0 | 137.4 | 425.0 | 366.3 | 333.6 | 150.0 | 142.0 | 124.5 | 132.7 | 39.9 | | 150.6 |
| 2006 | | | | | | | 0.3 | 4.8 | 9.9 | 5.7 | 19.0 | 35.4 | 27.9 | 14.3 | 9.4 | 5.6 | 13.3 | 4.8 | 8.4 | 6.8 | 12.7 | 10.1 | 9.6 | 48.6 | 205.0 | 111.0 | 65.9 | 83.6 | 9.3 | 21.6 | 3.0 | 6.7 | 9.7 | | 45.9 |
| 2007 | | | | 0.4 | 0.09 | 1.6 | 2.7 | 0.1 | 5.3 | 3.3 | 8.3 | 13.4 | 8.6 | 9.4 | 2.7 | 5.5 | 3.3 | 3.0 | 3.2 | 19.0 | 14.3 | 10.3 | 8.7 | 10.3 | 10.4 | 13.6 | 48.9 | 56.0 | 5.6 | 20.1 | 108.4 | 80.6 | | 31.2 | |
| 2008 | | | | | | 1.0 | 2.3 | 2.4 | 38.3 | 5.3 | 6.1 | 8.0 | 8.7 | 8.3 | 4.4 | 8.5 | 4.6 | 10.4 | 7.5 | 9.0 | 23.3 | 19.3 | 28.4 | 60.1 | 42.4 | 19.1 | 3.7 | 26.6 | 84.6 | 82.0 | 104.6 | 24.7 | | 40.6 | |
| 2009 | | | | 0.4 | 0.2 | 1.6 | 0.8 | 5.4 | 5.4 | 4.3 | 8.6 | 13.9 | 10.1 | 9.3 | 3.9 | 6.4 | 4.0 | 0.5 | 2.0 | 42.1 | 18.1 | 6.6 | 6.9 | 11.9 | 21.0 | 13.7 | 50.0 | 79.9 | 24.1 | 10.0 | 18.4 | 2.4 | | 23.5 | |
| 2010 | 1.9 | | | | 2.1 | 1.0 | 3.1 | 0.6 | 1.6 | 4.6 | 5.6 | 7.1 | 10.6 | 8.0 | 6.3 | 2.4 | 5.0 | | 1.3 | 0.9 | 13.1 | 8.0 | 24.0 | 20.4 | 184.4 | 8.9 | 32.1 | 4.4 | 25.3 | 7.7 | 33.0 | 31.6 | 3.7 | | 30.5 |
| 2011 | | | | 1.3 | 0.3 | 0.9 | 4.3 | 2.1 | 5.6 | 5.1 | 8.1 | 7.0 | 8.0 | 8.6 | 8.7 | 5.8 | 5.0 | 4.8 | 4.9 | 13.7 | 8.6 | 2.3 | 16.4 | 5.0 | 0.6 | 0.4 | 2.7 | 1.6 | 2.6 | 7.4 | 1.9 | 11.4 | | 5.7 | |
| 2012 | 2.0 | | | 16.6 | 4.1 | 3.3 | 1.3 | 4.7 | 6.4 | 10.4 | 15.9 | 17.1 | 10.7 | 7.6 | 4.0 | 8.1 | 0.8 | 1.0 | 0.9 | 7.1 | 69.0 | 186.0 | 114.9 | 129.7 | 319.0 | 21.0 | 3.4 | 109.7 | 524.7 | 377.3 | 79.6 | 59.1 | | 153.9 | |
| 2013 | 0.1 | | | 0.1 | 0.06 | 4.3 | 0.9 | 2.6 | 5.9 | 7.0 | 9.6 | 10.7 | 14.0 | 5.4 | 6.3 | 6.7 | 9.3 | 7.0 | 8.0 | 9.3 | 2.3 | 4.6 | 10.3 | 4.7 | 2.3 | 79.6 | 5.4 | 1.7 | 187.7 | 68.6 | 63.4 | 5.0 | | 34.2 | |
| 2014 | | | | | | 0.7 | 3.1 | 2.6 | 12.4 | 3.7 | 4.6 | 8.7 | 7.1 | 10.9 | 8.5 | 6.3 | 8.3 | 5.3 | 6.6 | 12.7 | 16.0 | 35.9 | 14.4 | 8.6 | 6.1 | 108.1 | 198.4 | 60.3 | 72.7 | 38.1 | 72.4 | 58.4 | | 54.0 | |
| 2015 | 0.9 | | | | | 0.6 | 1.9 | 3.6 | 9.0 | 8.4 | 10.7 | 11.4 | 8.1 | 7.9 | 11.3 | 3.7 | 7.6 | 2.7 | 6.0 | 4.6 | 22.3 | 8.3 | 12.7 | 33.0 | 62.9 | 17.4 | 4.1 | 1.0 | 9.6 | 187.4 | 121.4 | 52.4 | 99.1 | 115.0 | 53.3 |
| 2016 | | | | 1.4 | 0.3 | 0.4 | 5.6 | 2.1 | 15.6 | 11.3 | 11.0 | 18.3 | 16.9 | 12.4 | 6.6 | 10.0 | 16.0 | 13.3 | 14.6 | 17.3 | 17.4 | 54.1 | 11.9 | 12.7 | 8.9 | 33.4 | 3.9 | 55.9 | 26.7 | 15.6 | 10.4 | 93.9 | 7.7 | 26.4 | |
| 2017 | | | | 0.3 | 0.06 | 0.6 | 0.9 | 4.4 | 7.0 | 6.7 | 4.4 | 8.3 | 7.3 | 9.0 | 6.3 | 5.5 | 6.0 | 9.5 | 8.0 | 11.7 | 28.1 | 18.7 | 11.9 | 25.6 | 10.3 | 63.3 | 100.6 | 56.4 | 143.1 | 229.7 | 278.1 | 17.7 | 3.4 | 71.3 | |
| 2018 | 0.5 | | | | 0.1 | 2.3 | 0.6 | 0.9 | 9.4 | 11.1 | 6.0 | 8.4 | 9.0 | 10.3 | 5.7 | 6.4 | 3.7 | 3.5 | 3.6 | 7.9 | 13.3 | 15.3 | 116.4 | 162.3 | 235.9 | 32.0 | 27.7 | 135.4 | 98.0 | 102.0 | 72.1 | 28.4 | 104.9 | 82.3 | |
| 2019 | | | | 1.1 | 0.2 | 1.9 | 1.3 | 3.0 | 9.0 | 6.4 | 7.4 | 5.1 | 6.3 | 10.1 | 9.7 | 6.0 | 3.7 | 2.8 | 3.1 | 5.3 | 5.0 | 2.7 | 7.3 | 25.4 | 4.0 | 52.3 | 61.3 | 202.0 | 156.4 | 36.3 | 40.4 | 79.3 | 3.7 | 48.7 | |
| Mean | 0.5 | | | 1.3 | 0.4 | 1.7 | 2.7 | 3.4 | 9.6 | 7.5 | 9.8 | 11.6 | 9.8 | 9.0 | 5.7 | 7.1 | 4.7 | 5.3 | 5.0 | 13.8 | 16.4 | 27.5 | 35.4 | 69.7 | 81.5 | 60.3 | 61.9 | 64.5 | 112.0 | 84.2 | 71.6 | 40.9 | 46.9 | 56.6 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|------|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|------|----|
| 2005 | | | | | | | | | | | | 3 | 3 | 6 | 4 | 4 | 20 | | 1 | 1 | | | | | | 1 | | 5 | | | 1 | | | | 7 |
| 2006 | | | | | | | | | 1 | | 9 | 24 | 14 | 6 | 4 | 1 | 59 | | | | | | | | 2 | 33 | | | | | | | | | 35 |
| 2007 | | | | | | | | | | | | 5 | 4 | 4 | 5 | 18 | | | | | | | | | | | | | | | | | | | 1 |
| 2008 | | | | | | | | | | | | 2 | 1 | 6 | 2 | 11 | | | | | 2 | 1 | 1 | | 2 | | | | 7 | 8 | | | | | 21 |
| 2009 | | | | | | | | | 1 | | 1 | 12 | 3 | 4 | 1 | 22 | 2 | | 2 | 2 | | | | | | | | | 1 | | | | | | 3 |
| 2010 | | | | | | | | 2 | 2 | 3 | 5 | 1 | 2 | | | 15 | | | | | | 1 | | | 6 | | | | 10 | | 1 | 1 | | | 19 |
| 2011 | | | | | | | | | | | 1 | | 2 | 5 | 3 | 11 | 1 | | 1 | 1 | | | | | | | | | | | | | 1 | | 2 |
| 2012 | 2 | | | | 2 | | | | 5 | 8 | 5 | 5 | 2 | 1 | 26 | | | 1 | 1 | | | | 1 | | | | | | | 19 | 6 | 1 | | | 27 |
| 2013 | 1 | | | | 1 | | | | | 2 | 4 | 4 | | | 10 | | | 1 | 1 | | | | | | | | 1 | | 6 | | 8 | | | 15 | |
| 2014 | | | | | | | | 2 | | 1 | 5 | 2 | 9 | 10 | 29 | 4 | 2 | 6 | 4 | | | | | | | | | 5 | | | | 1 | | | 10 |
| 2015 | | | | | | | | | | 5 | 4 | 4 | 4 | | 17 | | | 2 | 2 | 1 | | 1 | | | | | | | 1 | | | | | | 3 |
| 2016 | | | | | | | | 2 | 5 | 7 | 5 | 6 | 1 | 26 | | | | | | 1 | 1 | | | | | | | 1 | | | | | | | 4 |
| 2017 | | | | | | | | 1 | 1 | 2 | 6 | 1 | 1 | 12 | | | | | | | | | 1 | | | | | | 1 | | | | | | 2 |
| 2018 | 1 | | | | 1 | | | | | | 8 | 5 | 21 | 5 | 39 | 1 | | 1 | | | | 1 | | | | | | | | | | | | 1 | |
| 2019 | | | | | | | | | | | 4 | 2 | 6 | 4 | 16 | 1 | 1 | 2 | | | | | | | | | | | | | | | | | 13 |
| Mean | 0.3 | | | | 0.3 | | | 0.5 | 0.3 | 1.3 | 3.9 | 5.3 | 3.7 | 5.3 | 2.2 | 22.1 | 0.6 | 0.5 | 1.1 | 0.7 | 0.3 | 0.2 | 0.07 | 0.7 | 2.3 | 0.07 | 0.7 | 0.8 | 3.1 | 1.1 | 0.7 | 0.2 | | 10.9 | |

Common Grackles usually start to arrive at MBO in March, but tend to increase notably around mid-late April, on average peaking in Week 7 (though ranging between Weeks 4 and 10 in individual years). Some generally breed at MBO, though numbers vary a fair bit among years. Common Grackle is abundant in fall overall, but is quite unpredictable, with mean daily counts of >100 individuals as early as Week 3 in some years and as late as Week 14 in others, but at least one year with a mean daily counts of <5 individuals at each week of fall. Not surprisingly, season totals vary significantly, most notably the contrast between the record low in 2011 and the record high the following fall. There were only a few records in November prior to standardized monitoring in Week 14, which has shown the species to be present during that period annually, including large numbers in 2015 and 2018. Although the mean daily count of Common Grackles in fall is eight times higher than in spring, more than twice as many individuals have been banded in spring.

OVEN: Ovenbird / Paruline couronnée (*Seiurus aurocapilla*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|------|------|------|------|------|------|------|------|-------|------|
| First | 5-24 | 5-9 | 5-8 | 5-7 | 5-9 | 5-7 | 5-9 | 5-7 | 5-12 | 5-10 | 5-13 | 5-5 | 5-3 | 5-9 | 5-7 | 5-9 | 8-6 | 8-2 | 8-3 | 8-2 | 8-1 | 8-2 | 8-1 | 8-1 | 8-3 | 8-5 | 8-1 | 8-1 | 8-2 | 8-1 | 8-1 | 8-2 |
| Peak | 5-28 | 5-18 | 5-21 | 5-13 | 5-13 | 5-18 | 5-24 | 5-11 | 5-17 | 5-26 | 5-14 | 5-26 | 5-18 | 5-11 | 5-18 | 5-18 | 9-5 | 8-23 | 8-3 | 8-14 | 8-18 | 8-30 | 8-27 | 8-24 | 8-9 | 8-16 | 9-18 | 8-1 | 8-20 | 8-4 | 8-2 | 8-18 |
| Last | 6-3 | 6-5 | 5-31 | 5-29 | 6-5 | 6-5 | 6-5 | 5-19 | 6-5 | 6-1 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-2 | 9-25 | 9-22 | 9-16 | 10-10 | 10-2 | 9-21 | 9-25 | 9-25 | 10-3 | 9-24 | 9-28 | 9-26 | 9-29 | 9-23 | 10-25 | 9-28 |
| Span | 11 | 28 | 24 | 23 | 28 | 30 | 28 | 13 | 25 | 23 | 24 | 32 | 34 | 28 | 30 | 25 | 51 | 52 | 45 | 70 | 63 | 51 | 56 | 56 | 62 | 51 | 59 | 57 | 59 | 54 | 86 | 58 |
| # days | 8 | 19 | 10 | 12 | 28 | 28 | 24 | 9 | 15 | 13 | 13 | 29 | 33 | 24 | 25 | 19 | 27 | 34 | 18 | 36 | 33 | 29 | 31 | 28 | 39 | 32 | 45 | 40 | 43 | 41 | 50 | 35 |
| % days | 14 | 28 | 14 | 17 | 41 | 40 | 34 | 13 | 21 | 19 | 19 | 41 | 47 | 34 | 36 | 28 | 31 | 37 | 20 | 40 | 36 | 32 | 34 | 31 | 43 | 35 | 46 | 41 | 44 | 42 | 51 | 38 |
| High | 2 | 2 | 4 | 4 | 4 | 4 | 6 | 3 | 2 | 3 | 2 | 4 | 6 | 3 | 5 | 4 | 6 | 6 | 2 | 5 | 4 | 4 | 5 | 3 | 4 | 5 | 7 | 5 | 11 | 6 | 6 | 5 |
| Total | 9 | 26 | 19 | 22 | 53 | 74 | 47 | 12 | 19 | 26 | 18 | 51 | 86 | 35 | 56 | 37 | 48 | 59 | 20 | 75 | 45 | 49 | 56 | 38 | 63 | 52 | 104 | 94 | 116 | 86 | 126 | 69 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-----|------|-----|-----|
| 2005 | | | | | | | | | | | | | | | 0.6 | 1.0 | 0.2 | 0.2 | 0.4 | 0.3 | 0.1 | 0.1 | 0.7 | 0.9 | 1.9 | 1.4 | 1.0 | 0.7 | | | | | | 0.5 | |
| 2006 | | | | | | | | | | | | | 0.3 | 1.0 | 1.3 | 1.1 | 0.4 | | 0.2 | 0.09 | 0.6 | 0.9 | 2.3 | 1.9 | 0.6 | 1.4 | 0.6 | 0.3 | | | | | | 0.6 | |
| 2007 | | | | | | | | | | | | 0.3 | 0.4 | 1.3 | 0.6 | 0.1 | 0.3 | 0.9 | | 0.5 | 0.4 | 0.3 | 0.4 | 0.6 | 0.7 | 0.3 | 0.1 | | | | | | | 0.2 | |
| 2008 | | | | | | | | | | | | 0.1 | 2.0 | 0.7 | 0.3 | | 0.3 | 0.6 | 0.6 | 0.3 | 0.3 | 1.0 | 1.6 | 1.0 | 2.0 | 2.3 | 1.3 | 1.0 | 0.1 | | 0.1 | | | 0.8 | |
| 2009 | | | | | | | | | | | | | 2.1 | 2.1 | 1.1 | 2.1 | 0.8 | 0.7 | 0.5 | 0.6 | 1.1 | 0.6 | 1.1 | 1.4 | 0.6 | 0.4 | 0.1 | 0.7 | 0.3 | | | | | 0.5 | |
| 2010 | | | | | | | | | | | | 0.1 | 1.7 | 3.0 | 2.7 | 3.0 | 1.1 | 1.0 | | 0.3 | 0.6 | 0.7 | 1.1 | 1.3 | 1.1 | 1.3 | 0.6 | 0.3 | | | | | | 0.5 | |
| 2011 | | | | | | | | | | | | | 0.6 | 2.1 | 2.4 | 1.6 | 0.7 | 0.3 | 0.8 | 0.6 | 1.0 | 0.9 | 0.9 | 1.9 | 1.1 | 0.9 | 0.7 | 0.7 | | | | | | 0.6 | |
| 2012 | | | | | | | | | | | | 0.1 | 1.3 | 0.3 | | | 0.2 | | 0.3 | 0.1 | 0.7 | 0.3 | 0.7 | 1.6 | 0.7 | 0.6 | 0.6 | 0.3 | | | | | | 0.4 | |
| 2013 | | | | | | | | | | | | | 0.3 | 0.7 | 0.7 | 1.0 | 0.3 | 1.0 | 0.3 | 0.6 | 0.9 | 1.3 | 0.9 | 1.7 | 1.0 | 0.9 | 1.4 | 0.7 | 0.1 | 0.1 | | | | 0.7 | |
| 2014 | | | | | | | | | | | | | 0.7 | 0.3 | 1.9 | 1.0 | 0.4 | | 1.8 | 1.0 | 0.3 | 0.7 | 1.6 | 1.1 | 1.6 | 1.3 | 0.6 | 0.3 | | | | | | 0.6 | |
| 2015 | | | | | | | | | | | | | 0.7 | 1.3 | 0.3 | 0.3 | 0.3 | | 2.5 | 1.4 | 3.0 | 1.1 | 2.4 | 1.7 | 0.6 | 0.9 | 2.6 | 2.3 | 0.3 | | | | | | 1.1 |
| 2016 | | | | | | | | | | | | 0.3 | 2.1 | 1.7 | 1.9 | 1.3 | 0.7 | 2.0 | 2.3 | 2.1 | 2.0 | 0.3 | 2.4 | 2.6 | 2.9 | 0.9 | 2.0 | 0.3 | 0.1 | | | | | | 1.0 |
| 2017 | | | | | | | | | | | | 1.0 | 2.9 | 3.1 | 3.4 | 1.9 | 1.2 | | 1.5 | 0.9 | 1.1 | 1.7 | 3.9 | 3.0 | 2.1 | 2.0 | 1.9 | 0.6 | 0.3 | | | | | | 1.2 |
| 2018 | | | | | | | | | | | | | 1.9 | 1.1 | 1.1 | 0.9 | 0.5 | 0.7 | 0.3 | 0.4 | 2.9 | 2.9 | 1.0 | 2.0 | 1.6 | 0.6 | 0.7 | 0.7 | | | | | | 0.9 | |
| 2019 | | | | | | | | | | | | 0.1 | 0.7 | 3.4 | 2.3 | 1.4 | 0.8 | | 1.5 | 0.9 | 2.3 | 2.3 | 2.1 | 3.1 | 2.3 | 2.6 | 1.0 | 1.6 | 0.6 | | | | 0.1 | | 1.3 |
| Mean | | | | | | | | | | | | 0.1 | 1.2 | 1.5 | 1.4 | 1.1 | 0.5 | 0.4 | 0.6 | 0.5 | 1.2 | 1.0 | 1.5 | 1.7 | 1.4 | 1.2 | 1.0 | 0.7 | 0.1 | 0.01 | 0.01 | | 0.01 | | 0.7 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|------|-----|------|----|
| 2005 | | | | | | | | | | | | | | | | | | | | | 1 | 1 | 4 | 6 | 7 | 6 | 6 | 3 | | | | | | | 34 | |
| 2006 | | | | | | | | | | | | | | | | | | | 1 | 1 | 4 | 6 | 8 | 10 | 3 | 9 | 4 | 2 | | | | | | | | 46 |
| 2007 | | | | | | | | | | | | | | 1 | 1 | | | | | | 1 | 2 | 2 | 2 | 3 | 2 | 1 | | | | | | | | 13 | |
| 2008 | | | | | | | | | | | | | | | | | | | | | 1 | 7 | 7 | 5 | 12 | 3 | 3 | 5 | 1 | | | | | | | 44 |
| 2009 | | | | | | | | | | | | | | | | | | 1 | 1 | | 8 | 2 | 6 | 8 | 2 | 3 | 1 | 4 | 2 | | | | | | | 36 |
| 2010 | | | | | | | | | | | | 1 | 3 | | | | 4 | | | | 4 | 5 | 8 | 7 | 6 | 7 | 1 | 2 | | | | | | | 40 | |
| 2011 | | | | | | | | | | | | | | 1 | | | 1 | | 2 | 2 | 5 | 6 | 6 | 12 | 7 | 4 | 3 | 4 | | | | | | | 47 | |
| 2012 | | | | | | | | | | | | | | | | | | 1 | 1 | | 4 | 2 | 4 | 9 | 4 | 4 | 3 | 2 | | | | | | | | 32 |
| 2013 | | | | | | | | | | | | | | | | | | 1 | 1 | | 3 | 8 | 4 | 10 | 6 | 5 | 6 | 3 | 1 | 1 | | | | | | 47 |
| 2014 | | | | | | | | | | | | | 1 | | | | 1 | | 5 | 5 | 1 | 5 | 8 | 7 | 10 | 6 | 2 | 2 | | | | | | | | 41 |
| 2015 | | | | | | | | | | | | | | | | 1 | 1 | | 7 | 7 | 13 | 7 | 9 | 9 | 2 | 6 | 12 | 10 | 2 | | | | | | | 70 |
| 2016 | | | | | | | | | | | | | 2 | 2 | 1 | | 5 | 1 | 4 | 5 | 9 | 1 | 11 | 12 | 15 | 6 | 9 | | 1 | | | | | | 64 | |
| 2017 | | | | | | | | | | | | | | | | | | | 3 | 3 | 8 | 9 | 13 | 10 | 8 | 10 | 7 | 4 | 2 | | | | | | | 71 |
| 2018 | | | | | | | | | | | | | 1 | | | 1 | 2 | 1 | 1 | 1 | 2 | 17 | 16 | 5 | 7 | 8 | 4 | 3 | 4 | | | | | | 64 | |
| 2019 | | | | | | | | | | | | | 2 | 3 | 2 | | 7 | | 3 | 3 | 12 | 12 | 10 | 16 | 10 | 13 | 6 | 9 | 4 | | | | 1 | | 93 | |
| Mean | | | | | | | | | | | | | 0.5 | 0.7 | 0.3 | 0.1 | 1.5 | 0.1 | 1.9 | 2.1 | 6.1 | 5.9 | 7.0 | 8.7 | 6.9 | 5.9 | 4.5 | 3.6 | 0.9 | 0.07 | | | 0.07 | | 49.5 | |

Ovenbird is regular at MBO from mid-spring to mid-fall. Except for 2005, the first Ovenbird of spring has always been in the first half of May; numbers on average vary relatively little over the final four weeks of the season. Most years at least one pair breeds in the adjacent forests and there are some summer sightings. There tends to be a modest fall peak around late August, but overall numbers are fairly steady over the first half of the season, then drop off sharply in Week 9, with only three records for October. Spring numbers have varied over time, but in fall there has been a substantial increase, with both observations and number of birds banded above average in each of the past five years.

WEWA: Worm-eating Warbler / Paruline vermivore (*Helmitheros vermivorum*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| First | | | | | | | | | | | | | | 5-13 | | 5-13 | | | | | | | | | | | | | | | | |
| Peak | | | | | | | | | | | | | | 5-13 | | 5-13 | | | | | | | | | | | | | | | | |
| Last | | | | | | | | | | | | | | 5-13 | | 5-13 | | | | | | | | | | | | | | | | |
| Span | | | | | | | | | | | | | | 1 | | 1 | | | | | | | | | | | | | | | | |
| # days | | | | | | | | | | | | | | 1 | | 1 | | | | | | | | | | | | | | | | |
| % days | | | | | | | | | | | | | | 1 | | 1 | | | | | | | | | | | | | | | | |
| High | | | | | | | | | | | | | | 1 | | 1 | | | | | | | | | | | | | | | | |
| Total | | | | | | | | | | | | | | 1 | | 0 | | | | | | | | | | | | | | | | 0 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|------|----|----|-----|--------|------|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | 0.1 | | | | | 0.01 | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | 0.01 | | | | <0.005 | | | | | | | | | | | | | | | | | | | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|------|----|----|-----|------|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | 0.07 | | | | 0.07 | | | | | | | | | | | | | | | | | | | | |

Only one Worm-eating Warbler has been found at MBO, an individual banded on 13 May 2018.

NOWA: Northern Waterthrush / Paruline des ruisseaux (*Parkesia noveboracensis*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | 5-14 | 5-11 | 5-5 | 5-6 | 4-27 | 5-1 | 5-1 | 5-2 | 5-2 | 5-5 | 5-6 | 5-9 | 4-28 | 5-4 | 4-22 | 5-3 | 8-6 | 8-9 | 8-7 | 8-9 | 8-8 | 8-6 | 8-1 | 8-4 | 8-3 | 8-1 | 8-2 | 8-9 | 8-1 | 8-1 | 8-1 | 8-4 |
| Peak | 5-21 | 5-24 | 5-25 | 5-28 | 5-21 | 5-22 | 5-22 | 5-21 | 5-22 | 5-12 | 5-18 | 5-21 | 5-17 | 5-22 | 5-20 | 5-21 | 8-29 | 8-22 | 8-9 | 8-31 | 8-26 | 9-3 | 9-2 | 9-1 | 8-28 | 8-23 | 8-28 | 9-2 | 8-20 | 8-10 | 9-7 | 8-26 |
| Last | 5-31 | 6-3 | 6-1 | 5-30 | 6-4 | 5-28 | 6-5 | 6-1 | 6-1 | 5-31 | 6-2 | 5-26 | 6-1 | 5-29 | 6-3 | 5-31 | 9-19 | 9-15 | 9-21 | 9-27 | 9-17 | 9-19 | 9-18 | 9-12 | 9-4 | 10-1 | 9-22 | 9-25 | 9-14 | 10-4 | 9-13 | 9-19 |
| Span | 18 | 24 | 28 | 25 | 39 | 28 | 36 | 31 | 31 | 27 | 28 | 18 | 35 | 26 | 43 | 29 | 45 | 38 | 46 | 50 | 41 | 45 | 49 | 40 | 33 | 62 | 52 | 48 | 45 | 65 | 44 | 47 |
| # days | 9 | 10 | 13 | 14 | 21 | 12 | 24 | 21 | 24 | 26 | 25 | 17 | 24 | 22 | 35 | 20 | 22 | 22 | 23 | 10 | 22 | 29 | 16 | 26 | 19 | 34 | 36 | 26 | 30 | 31 | 31 | 25 |
| % days | 15 | 14 | 19 | 20 | 30 | 17 | 34 | 30 | 34 | 38 | 36 | 24 | 34 | 31 | 50 | 29 | 25 | 24 | 25 | 11 | 24 | 32 | 18 | 29 | 21 | 37 | 37 | 27 | 31 | 32 | 32 | 27 |
| High | 2 | 4 | 5 | 8 | 13 | 4 | 7 | 6 | 12 | 8 | 12 | 16 | 8 | 9 | 28 | 9 | 3 | 7 | 2 | 4 | 4 | 10 | 6 | 4 | 6 | 5 | 5 | 5 | 6 | 3 | 4 | 5 |
| Total | 10 | 15 | 22 | 24 | 59 | 22 | 63 | 52 | 88 | 109 | 97 | 109 | 77 | 78 | 188 | 68 | 28 | 52 | 26 | 21 | 37 | 64 | 28 | 44 | 39 | 67 | 65 | 49 | 55 | 44 | 49 | 45 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|------|-----|-----|-----|-----|-----|-----|-----|-----|------|--------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|-----|
| 2005 | | | | | | | | | | | | | 0.3 | 0.7 | 0.1 | 0.4 | 0.2 | | 0.06 | 0.03 | 0.1 | 0.3 | 0.1 | 0.9 | 1.0 | 0.6 | 0.9 | 0.1 | | | | | | 0.3 | |
| 2006 | | | | | | | | | | | | | 0.1 | 0.6 | 1.3 | 0.1 | 0.2 | | | | | 0.9 | 0.3 | 3.9 | 1.6 | 0.7 | 0.1 | | | | | | | 0.6 | |
| 2007 | | | | | | | | | | | | 0.1 | 0.6 | 0.3 | 1.9 | 0.3 | 0.3 | | | | 0.1 | 0.7 | 0.1 | 0.9 | 0.7 | 0.6 | 0.4 | 0.1 | | | | | | 0.3 | |
| 2008 | | | | | | | | | | | | 0.3 | 0.6 | 0.3 | 1.9 | 0.4 | 0.3 | | | | | 0.3 | | | 0.6 | 1.3 | 0.7 | | 0.1 | | | | | 0.2 | |
| 2009 | | | | | | | | | | 0.4 | 0.4 | 0.1 | 4.6 | 2.1 | 0.7 | 0.9 | | | | | 0.7 | 0.4 | 1.0 | 1.7 | 0.9 | 0.6 | | | | | | | 0.4 | | |
| 2010 | | | | | | | | | | 0.1 | 0.1 | | 2.0 | 0.9 | | 0.3 | | | | 0.1 | 0.3 | 0.9 | 1.0 | 2.6 | 3.6 | 0.6 | 0.1 | | | | | | | 0.7 | |
| 2011 | | | | | | | | | | 0.1 | | 1.6 | 2.6 | 3.7 | 1.0 | 0.9 | | | | 0.3 | 0.3 | 0.3 | 0.3 | 2.1 | 0.6 | 0.1 | | | | | | | | 0.3 | |
| 2012 | | | | | | | | | | | 0.3 | 1.9 | 3.0 | 2.0 | 0.3 | 0.7 | | | | 0.7 | 1.3 | 1.1 | 0.4 | 1.3 | 1.3 | 0.1 | | | | | | | | 0.5 | |
| 2013 | | | | | | | | | | | 0.4 | 1.1 | 5.3 | 5.0 | 0.7 | 1.3 | | | | 0.3 | 0.6 | 0.9 | 2.9 | 1.0 | | | | | | | | | | 0.4 | |
| 2014 | | | | | | | | | | | 0.4 | 5.0 | 5.6 | 4.0 | 0.7 | 1.6 | | | | 1.1 | 1.4 | 1.1 | 3.0 | 0.6 | 1.1 | 0.9 | 0.1 | 0.1 | | | | | | 0.7 | |
| 2015 | | | | | | | | | | | 0.4 | 2.3 | 7.6 | 3.1 | 0.4 | 1.4 | | | | 1.0 | 0.3 | 0.1 | 2.4 | 1.4 | 2.1 | 1.3 | 0.6 | | | | | | | 0.7 | |
| 2016 | | | | | | | | | | | | 6.4 | 7.1 | 2.0 | | 1.6 | | | | | 0.1 | 1.1 | 1.1 | 2.1 | 1.7 | 0.1 | 0.6 | | | | | | | 0.5 | |
| 2017 | | | | | | | | | | 0.1 | 1.1 | 1.3 | 5.3 | 2.7 | 0.4 | 1.1 | | | | 0.4 | 1.9 | 1.7 | 1.6 | 1.3 | 0.6 | 0.4 | | | | | | | | 0.6 | |
| 2018 | | | | | | | | | | | 0.1 | 2.9 | 5.0 | 3.1 | | 1.1 | | | | 0.3 | 0.9 | 1.1 | 0.3 | 1.1 | 0.6 | 0.6 | 0.7 | 0.6 | 0.1 | | | | | 0.4 | |
| 2019 | | | | | | | | | | 0.3 | 0.7 | 2.6 | 4.3 | 9.7 | 7.6 | 1.7 | 2.7 | | | | 0.6 | 1.6 | 1.1 | 0.9 | 1.1 | 1.1 | 0.6 | | | | | | | 0.5 | |
| Mean | | | | | | | | | | 0.02 | 0.1 | 0.4 | 1.9 | 4.0 | 2.8 | 0.5 | 1.0 | | 0.01 | <0.005 | 0.3 | 0.8 | 0.7 | 1.4 | 1.4 | 1.1 | 0.4 | 0.2 | 0.06 | 0.01 | | | | | 0.5 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|------|-----|-----|-----|------|-----|-----|------|-----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|----|
| 2005 | | | | | | | | | | | | | | 3 | | 1 | 4 | | 1 | 1 | 1 | 2 | | 1 | 4 | 4 | 4 | 1 | | | | | | | 17 | |
| 2006 | | | | | | | | | | | | | 1 | | 4 | | 5 | | | | | 4 | 2 | 20 | 8 | 4 | 1 | | | | | | | | 39 | |
| 2007 | | | | | | | | | | | | 1 | 1 | 2 | 9 | 2 | 15 | | | | 1 | 2 | 1 | 5 | 4 | 2 | | 1 | | | | | | | 16 | |
| 2008 | | | | | | | | | | | | 1 | 1 | 2 | 8 | | 12 | | | | | 2 | | 3 | 8 | 5 | | 1 | | | | | | | 19 | |
| 2009 | | | | | | | | | | 2 | | 1 | 1 | 15 | 7 | 1 | 26 | | | | | 2 | 2 | 6 | 4 | 3 | 4 | | | | | | | | 21 | |
| 2010 | | | | | | | | | | 1 | | | 8 | 3 | | 12 | | | | 1 | 2 | 6 | 7 | 17 | 17 | 2 | 1 | | | | | | | | 53 | |
| 2011 | | | | | | | | | | | | 2 | 8 | 15 | 3 | 28 | | | | 2 | 2 | | 2 | 15 | 2 | | | | | | | | | | 23 | |
| 2012 | | | | | | | | | | | | 6 | 15 | 6 | 1 | 28 | | | | 5 | 7 | 6 | 3 | 8 | 5 | 1 | | | | | | | | | 35 | |
| 2013 | | | | | | | | | | | 1 | 4 | 23 | 14 | 1 | 43 | | | | 2 | 4 | 5 | 17 | 5 | | | | | | | | | | | 33 | |
| 2014 | | | | | | | | | | 2 | 16 | 15 | 13 | 2 | 48 | | | | 7 | 4 | 6 | 18 | 4 | 8 | 5 | 1 | 1 | | | | | | | | 54 | |
| 2015 | | | | | | | | | | 2 | 7 | 23 | 9 | 1 | 42 | | | | 6 | 1 | 1 | 13 | 6 | 11 | 4 | 2 | | | | | | | | | 44 | |
| 2016 | | | | | | | | | | | | 13 | 18 | 6 | | 37 | | | | | 1 | 6 | 7 | 12 | 7 | | 3 | | | | | | | | 36 | |
| 2017 | | | | | | | | | | | 2 | 2 | 18 | 6 | 1 | 29 | | | | 2 | 8 | 8 | 8 | 7 | 3 | 1 | | | | | | | | | 37 | |
| 2018 | | | | | | | | | | | 1 | 7 | 15 | 7 | | 30 | | | | 2 | 4 | 4 | 2 | 6 | 3 | 4 | 4 | 4 | | | | | | | 33 | |
| 2019 | | | | | | | | | | 1 | 2 | 8 | 1 | 26 | 21 | 2 | 61 | | | | 2 | 8 | 3 | 6 | 7 | 7 | 4 | | | | | | | | | 37 |
| Mean | | | | | | | | | | 0.07 | 0.3 | 1.2 | 4.1 | 12.7 | 8.5 | 1.0 | 28.0 | | 0.07 | 0.07 | 2.1 | 3.5 | 3.3 | 7.9 | 7.7 | 5.4 | 2.0 | 0.9 | 0.4 | | | | | | 33.1 | |

Northern Waterthrush is a regular spring and fall migrant at MBO; the only summer record in 2005 was likely an early fall migrant. Spring arrival averages in early May, but has ranged over more than three weeks, from 22 April to 14 May. The peak of migration has been remarkably consistent, occurring 11 times in Week 8, and four times in Week 9, all between 2006 and 2011. Fall is somewhat more variable, with the peak ranging from Week 2 to Week 6, but most commonly around late August and early September; sightings beyond the middle of the season are rare, and there has been only one record in October. In both spring and fall, numbers have increased over time, with observations and numbers banded above average in most years since 2013.

GWWA: Golden-winged Warbler / Paruline à ailes dorées (*Vermivora chrysoptera*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| First | | | | | | | | 5-18 | | | | | | 5-13 | | 5-15 | | | 9-11 | 8-10 | | | | | | | | 8-23 | | | 8-25 | |
| Peak | | | | | | | | 5-18 | | | | | | 5-13 | | 5-15 | | | 9-11 | 8-10 | | | | | | | | 8-23 | | | 8-25 | |
| Last | | | | | | | | 5-18 | | | | | | 5-13 | | 5-15 | | | 9-11 | 8-11 | | | | | | | | 8-23 | | | 8-25 | |
| Span | | | | | | | | 1 | | | | | | 1 | | 1 | | | 1 | 2 | | | | | | | | 1 | | | 1 | |
| # days | | | | | | | | 1 | | | | | | 1 | | 1 | | | 1 | 2 | | | | | | | | 1 | | | 1 | |
| % days | | | | | | | | 1 | | | | | | 1 | | 1 | | | 1 | 2 | | | | | | | | 1 | | | 1 | |
| High | | | | | | | | 1 | | | | | | 1 | | 1 | | | 1 | 1 | | | | | | | | 1 | | | 1 | |
| Total | | | | | | | | 1 | | | | | | 1 | | 0 | | | 1 | 2 | | | | | | | | 1 | | | 0 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Golden-winged Warbler is very rare at MBO. There have been two spring sightings, both in mid-May, and one individual banded in June. The four fall records are scattered over the span of just over one month, and include two birds banded, one of which was observed again on the following day.

BWWA: Blue-winged Warbler / Paruline à ailes bleues (*Vermivora cyanoptera*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | | | | | 5-14 | | | | | | | | 5-19 | | | 5-16 | 8-27 | | | | | | | | | | | | | | | 8-27 |
| Peak | | | | | 5-14 | | | | | | | | 5-19 | | | 5-16 | 8-27 | | | | | | | | | | | | | | | 8-27 |
| Last | | | | | 5-14 | | | | | | | | 5-19 | | | 5-16 | 8-27 | | | | | | | | | | | | | | | 8-27 |
| Span | | | | | 1 | | | | | | | | 1 | | | 1 | 1 | | | | | | | | | | | | | | | 1 |
| # days | | | | | 1 | | | | | | | | 1 | | | 1 | 1 | | | | | | | | | | | | | | | 1 |
| % days | | | | | 1 | | | | | | | | 1 | | | 1 | 1 | | | | | | | | | | | | | | | 1 |
| High | | | | | 1 | | | | | | | | 1 | | | 1 | 1 | | | | | | | | | | | | | | | 1 |
| Total | | | | | 1 | | | | | | | | 1 | | | 0 | 1 | | | | | | | | | | | | | | | 0 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|------|------|----|-----|--------|------|-----|----|----|----|----|------|----|----|----|----|----|-----|-----|-----|-----|--------|------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | | 0.01 |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | 0.1 | | | | | 0.01 | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | 0.1 | | | | 0.01 | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | 0.01 | 0.01 | | | <0.005 | | | | | | | 0.01 | | | | | | | | | | <0.005 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|------|----|----|-----|------|-----|-----|----|----|----|----|------|----|----|----|----|----|-----|-----|-----|-----|------|----|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | 1 |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | 1 | | | | | 1 | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | 0.07 | | | | 0.07 | | | | | | | 0.07 | | | | | | | | | | 0.07 | |

Blue-winged Warbler is very rare at MBO, with two sightings in mid-May, and one in late August. Two of the three individuals to date have been banded.

BAWW: Black-and-white Warbler / Paruline noir et blanc (*Mniotilta varia*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|------|------|------|
| First | 5-9 | 5-3 | 5-8 | 5-6 | 4-28 | 5-6 | 5-3 | 5-4 | 5-1 | 5-10 | 5-8 | 5-7 | 5-3 | 5-3 | 5-8 | 5-5 | 8-1 | 8-5 | 8-1 | 8-1 | 8-1 | 8-2 | 8-1 | 8-1 | 8-5 | 8-1 | 8-2 | 8-1 | 8-4 | 8-1 | 8-2 | 8-1 |
| Peak | 5-16 | 5-25 | 5-11 | 5-17 | 5-12 | 5-18 | 5-7 | 5-9 | 5-19 | 5-11 | 5-13 | 5-11 | 5-16 | 5-11 | 5-21 | 5-14 | 8-27 | 8-16 | 8-19 | 8-20 | 8-24 | 8-20 | 8-30 | 8-15 | 8-13 | 8-18 | 8-4 | 8-19 | 8-16 | 8-26 | 9-5 | 8-20 |
| Last | 5-29 | 6-5 | 6-5 | 5-31 | 5-25 | 5-29 | 5-25 | 5-21 | 5-25 | 6-3 | 5-28 | 5-29 | 5-26 | 5-23 | 5-30 | 5-28 | 9-28 | 10-1 | 9-12 | 10-3 | 9-13 | 9-18 | 9-25 | 9-16 | 9-24 | 10-5 | 10-16 | 9-17 | 9-19 | 10-7 | 9-29 | 9-25 |
| Span | 21 | 34 | 29 | 26 | 28 | 24 | 23 | 18 | 25 | 25 | 21 | 23 | 24 | 21 | 23 | 24 | 59 | 58 | 43 | 64 | 44 | 48 | 56 | 47 | 51 | 66 | 76 | 48 | 47 | 68 | 59 | 56 |
| # days | 10 | 22 | 12 | 20 | 14 | 14 | 14 | 8 | 6 | 13 | 9 | 17 | 12 | 18 | 17 | 14 | 33 | 22 | 28 | 34 | 25 | 30 | 32 | 24 | 26 | 33 | 41 | 32 | 28 | 39 | 29 | 30 |
| % days | 17 | 32 | 17 | 29 | 20 | 20 | 20 | 11 | 9 | 19 | 13 | 24 | 17 | 26 | 24 | 20 | 38 | 24 | 31 | 37 | 27 | 33 | 35 | 26 | 29 | 36 | 42 | 33 | 29 | 40 | 30 | 33 |
| High | 2 | 7 | 3 | 6 | 3 | 16 | 2 | 5 | 4 | 6 | 4 | 4 | 4 | 8 | 8 | 5 | 4 | 4 | 5 | 4 | 7 | 11 | 6 | 3 | 3 | 4 | 4 | 4 | 10 | 7 | 3 | 5 |
| Total | 13 | 57 | 20 | 47 | 24 | 41 | 18 | 23 | 13 | 29 | 12 | 27 | 20 | 40 | 49 | 29 | 53 | 47 | 52 | 52 | 60 | 71 | 66 | 35 | 40 | 46 | 71 | 52 | 87 | 70 | 39 | 56 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|-----|------|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|
| 2005 | | | | | | | | | | | | | 0.4 | 0.6 | 0.9 | | 0.2 | 0.3 | 0.2 | 0.2 | 0.6 | 1.0 | 1.0 | 2.1 | 0.9 | 0.4 | 1.1 | 0.1 | 0.3 | | | | | 0.6 | |
| 2006 | | | | | | | | | | | | 0.4 | 0.4 | 3.9 | 2.6 | 0.9 | 0.8 | 0.1 | 0.08 | 0.09 | 0.1 | 1.0 | 1.0 | 1.3 | 0.7 | 1.1 | 1.1 | | 0.3 | | | | | 0.5 | |
| 2007 | | | | | | | | | | | | | 0.1 | 0.9 | 1.6 | 0.1 | 0.1 | 0.3 | 0.3 | 0.3 | 0.3 | 1.9 | 1.9 | 2.0 | 1.1 | 0.3 | 0.1 | 0.1 | | | | | | 0.6 | |
| 2008 | | | | | | | | | | | | 0.6 | 2.7 | 2.4 | 0.4 | 0.6 | 0.7 | | | | 0.7 | 0.9 | 1.7 | 1.4 | 0.6 | 0.9 | 1.0 | 0.1 | | 0.1 | | | | 0.6 | |
| 2009 | | | | | | | | | | 0.3 | | 0.1 | 1.3 | 1.6 | 0.1 | | 0.3 | | | | 1.4 | 1.0 | 3.0 | 2.6 | 0.3 | 0.1 | 0.1 | | | | | | | 0.7 | |
| 2010 | | | | | | | | | | | | 0.4 | 0.4 | 4.1 | 0.9 | | 0.6 | | | | 1.1 | 1.0 | 3.1 | 1.4 | 1.4 | 1.0 | 1.0 | | | | | | | 0.8 | |
| 2011 | | | | | | | | | | | | 0.6 | 0.7 | 0.9 | 0.4 | | 0.3 | | 0.8 | 0.4 | 0.9 | 1.1 | 1.1 | 2.3 | 2.3 | 0.7 | 0.7 | 0.3 | | | | | | 0.7 | |
| 2012 | | | | | | | | | | | | 0.7 | 2.1 | 0.4 | | | 0.3 | | | | 1.0 | 0.7 | 1.1 | 1.1 | 0.4 | 0.3 | 0.3 | | | | | | | 0.4 | |
| 2013 | | | | | | | | | | 0.3 | | | | | | | 0.2 | | | | 0.1 | 1.0 | 1.0 | 1.0 | 0.9 | 0.6 | 0.6 | 1.3 | 0.3 | | | | | | 0.4 |
| 2014 | | | | | | | | | | | | | | 3.0 | 0.6 | 0.3 | 0.3 | 0.4 | | | | 0.7 | 0.3 | 1.0 | 1.1 | 0.6 | 0.7 | 0.4 | 1.3 | | 0.4 | | | | 0.5 |
| 2015 | | | | | | | | | | | | 0.1 | 1.0 | 0.3 | 0.3 | | 0.2 | | | | 1.6 | 2.1 | 1.9 | 1.4 | 1.4 | 0.3 | 0.9 | 0.1 | | 0.4 | | | | | 0.7 |
| 2016 | | | | | | | | | | | | 0.3 | 1.7 | 1.1 | 0.7 | | 0.4 | | | | 0.7 | 1.0 | 1.9 | 1.6 | 1.0 | 0.6 | 0.7 | | | | | | | | 0.5 |
| 2017 | | | | | | | | | | | | 0.3 | 0.6 | 1.7 | 0.3 | | 0.3 | | 0.3 | 0.1 | 0.4 | 0.3 | 4.4 | 3.4 | 1.4 | 1.7 | 0.6 | 0.1 | | | | | | | 0.9 |
| 2018 | | | | | | | | | | | | 1.1 | 3.4 | 1.0 | 0.1 | | 0.6 | | 0.3 | 0.1 | 1.1 | 1.9 | 1.3 | 2.3 | 1.4 | 0.3 | 1.0 | 0.1 | 0.4 | 0.1 | | | | | 0.7 |
| 2019 | | | | | | | | | | | | 0.3 | 0.6 | 3.7 | 2.3 | 0.1 | 0.7 | | | | 0.3 | 0.6 | 1.0 | 0.4 | 0.9 | 0.7 | 0.6 | 0.4 | 0.7 | | | | | | 0.4 |
| Mean | | | | | | | | | | | 0.04 | 0.3 | 1.3 | 1.7 | 0.7 | 0.1 | 0.4 | 0.1 | 0.2 | 0.1 | 0.8 | 1.0 | 1.8 | 1.6 | 0.9 | 0.6 | 0.7 | 0.2 | 0.1 | 0.05 | 0.03 | | | | 0.6 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|------|
| 2005 | | | | | | | | | | | | | | | | | 1 | | | | 1 | 2 | 3 | 6 | 5 | | 4 | | 1 | | | | | | 22 |
| 2006 | | | | | | | | | | | | | | | | | 2 | | | | | 3 | 3 | 5 | 2 | 4 | 1 | | | | | | | | 18 |
| 2007 | | | | | | | | | | | | | | | | | 4 | | | | 3 | 2 | 1 | 2 | 1 | | | | | | | | | | 9 |
| 2008 | | | | | | | | | | | | 1 | 1 | 3 | 1 | | 6 | | | | 4 | 5 | 5 | 4 | 1 | 3 | 5 | | 1 | | | | | | 28 |
| 2009 | | | | | | | | | | | | | | | | | 2 | | | | 3 | 3 | 10 | 8 | | | 1 | | | | | | | | 25 |
| 2010 | | | | | | | | | | | | | | | | | 2 | | | | 6 | 3 | 12 | 2 | 8 | 4 | 4 | | | | | | | | 39 |
| 2011 | | | | | | | | | | | | 2 | | | 1 | 2 | 5 | | 3 | 3 | 2 | 3 | 4 | 5 | 4 | 1 | 2 | 1 | | | | | | | 22 |
| 2012 | | | | | | | | | | | | | | | | | 2 | | | | 5 | 2 | 3 | 2 | 1 | 1 | 2 | | | | | | | | 16 |
| 2013 | | | | | | | | | | | | | | | | | 1 | | | | 1 | 4 | 4 | 4 | 3 | 1 | 6 | | | | | | | | 23 |
| 2014 | | | | | | | | | | | | | | | | | 4 | | | | 3 | | 1 | 2 | 1 | 1 | 2 | 4 | | 1 | | | | | 15 |
| 2015 | | | | | | | | | | | | | | | | | 3 | | | | 6 | 6 | 7 | 4 | 4 | | 4 | 1 | | | 1 | | | | 33 |
| 2016 | | | | | | | | | | | | | | | | | 4 | | | | 3 | 4 | 4 | 5 | | | 3 | | | | | | | | 19 |
| 2017 | | | | | | | | | | | | | | | | | 1 | | 1 | 1 | 2 | 1 | 17 | 6 | 3 | 2 | 1 | 1 | | | | | | | 33 |
| 2018 | | | | | | | | | | | | 1 | 6 | | | | 7 | | 1 | 1 | 4 | 6 | 4 | 6 | 6 | 1 | 4 | | 2 | 1 | | | | | 34 |
| 2019 | | | | | | | | | | | | 1 | 1 | 7 | 2 | | 11 | | | | 2 | 4 | 2 | 2 | 3 | 2 | 3 | 2 | 1 | | | | | | 21 |
| Mean | | | | | | | | | | | | 0.3 | 1.2 | 1.5 | 0.7 | | 3.7 | 0.3 | 0.3 | | 3.0 | 3.2 | 5.3 | 4.2 | 2.8 | 1.3 | 2.8 | 0.6 | 0.3 | 0.2 | 0.07 | | | | 23.8 |

Black-and-white Warbler is a regular but uncommon spring and fall migrant, and in early years also appeared to breed at MBO. The first sightings of the year are usually in early May; the peak of migration is typically in Week 7 or 8, on average shifting a bit earlier over time. There were sightings in both June and July in the first three years, but only scattered July sightings since, which may be early fall migrants. Fall numbers are on average relatively stable over the first half of the season, aside from a peak in the second half of August. Numbers have fluctuated over the years without any clear trends.

TEWA: Tennessee Warbler / Paruline obscure (*Leiothlypis peregrina*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|------|-------|------|-------|------|------|------|------|------|------|------|
| First | 5-18 | 5-16 | 5-13 | 5-8 | 5-15 | 5-7 | 5-13 | 5-5 | 5-14 | 5-14 | 5-7 | 5-13 | 5-12 | 5-10 | 5-18 | 5-12 | 8-6 | 8-2 | 8-4 | 8-1 | 8-2 | 8-1 | 8-3 | 8-1 | 8-2 | 8-4 | 8-3 | 8-4 | 8-1 | 8-2 | 8-2 | |
| Peak | 5-28 | 5-21 | 5-21 | 5-20 | 5-23 | 5-21 | 5-22 | 5-17 | 5-22 | 5-23 | 5-16 | 5-22 | 5-19 | 5-22 | 5-24 | 5-21 | 8-22 | 9-13 | 8-4 | 9-13 | 9-22 | 9-9 | 9-30 | 8-24 | 9-3 | 8-22 | 9-14 | 8-17 | 9-9 | 9-18 | 9-22 | 9-5 |
| Last | 5-28 | 5-29 | 6-1 | 6-1 | 6-3 | 5-28 | 5-30 | 5-28 | 5-28 | 6-3 | 5-31 | 6-4 | 6-2 | 6-2 | 6-5 | 5-31 | 10-8 | 9-30 | 10-10 | 10-3 | 9-28 | 10-1 | 10-10 | 10-5 | 10-11 | 10-8 | 10-3 | 10-4 | 10-7 | 10-4 | 10-6 | 10-5 |
| Span | 11 | 14 | 20 | 25 | 20 | 22 | 18 | 24 | 15 | 21 | 25 | 23 | 22 | 24 | 19 | 20 | 64 | 60 | 68 | 64 | 58 | 62 | 71 | 64 | 72 | 68 | 61 | 63 | 65 | 65 | 66 | 65 |
| # days | 4 | 9 | 13 | 15 | 19 | 11 | 15 | 21 | 15 | 21 | 21 | 20 | 18 | 23 | 17 | 16 | 40 | 38 | 24 | 48 | 24 | 48 | 64 | 49 | 57 | 58 | 43 | 30 | 43 | 55 | 45 | 44 |
| % days | 7 | 13 | 19 | 21 | 28 | 16 | 21 | 30 | 21 | 31 | 30 | 29 | 26 | 33 | 24 | 23 | 45 | 42 | 26 | 53 | 26 | 53 | 70 | 54 | 63 | 64 | 44 | 31 | 44 | 56 | 46 | 48 |
| High | 6 | 5 | 17 | 6 | 30 | 6 | 33 | 45 | 30 | 72 | 41 | 39 | 130 | 100 | 52 | 41 | 8 | 13 | 2 | 14 | 4 | 9 | 23 | 20 | 56 | 32 | 14 | 5 | 13 | 21 | 34 | 18 |
| Total | 12 | 21 | 68 | 32 | 166 | 28 | 153 | 248 | 126 | 344 | 347 | 266 | 502 | 353 | 324 | 199 | 84 | 135 | 33 | 147 | 38 | 144 | 390 | 171 | 476 | 315 | 162 | 67 | 129 | 229 | 231 | 183 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|------|------|------|------|-----|-----|------|------|------|-----|-----|-----|------|------|------|-----|-----|------|-----|------|-----|-----|-----|-----|-----|
| 2005 | | | | | | | | | | | | | | 0.1 | 1.6 | | 0.2 | | 0.2 | 0.09 | 0.4 | 1.6 | 1.3 | 1.7 | 0.7 | 1.0 | 2.1 | 1.4 | 0.7 | 1.3 | | | | | 1.0 | |
| 2006 | | | | | | | | | | | | | | 1.4 | 1.6 | | 0.3 | | 0.08 | 0.05 | 1.3 | 0.7 | 0.3 | 3.9 | 3.6 | 2.9 | 5.7 | 0.9 | 0.1 | | | | | | 1.5 | |
| 2007 | | | | | | | | | | | | | 0.9 | 7.0 | 1.4 | 0.4 | 1.0 | | | | 0.3 | 0.3 | 0.7 | 0.3 | 0.7 | 0.6 | 0.6 | 0.9 | 0.1 | 0.1 | 0.1 | | | | 0.4 | |
| 2008 | | | | | | | | | | | | 0.1 | 0.9 | 1.9 | 1.0 | 0.7 | 0.5 | | | | 1.4 | 0.7 | 0.1 | 1.1 | 2.1 | 3.6 | 4.3 | 4.0 | 3.1 | 0.4 | | | | | 1.6 | |
| 2009 | | | | | | | | | | | | | 0.4 | 12.9 | 8.7 | 1.7 | 2.4 | | 0.3 | 0.1 | 0.6 | 0.6 | 1.1 | 0.3 | 0.6 | 0.1 | 0.9 | 1.1 | 0.1 | | | | | | 0.4 | |
| 2010 | | | | | | | | | | | | 0.4 | 1.0 | 2.3 | 0.3 | | 0.4 | 0.3 | 0.2 | 0.2 | 1.9 | 1.4 | 1.9 | 3.0 | 2.7 | 3.3 | 2.0 | 3.0 | 1.4 | | | | | | 1.6 | |
| 2011 | | | | | | | | | | | | | 1.1 | 6.6 | 14.0 | 0.1 | 2.2 | | 0.3 | 0.1 | 2.0 | 1.7 | 2.1 | 4.3 | 10.4 | 11.9 | 8.3 | 6.1 | 7.3 | 1.4 | 0.1 | | | | 4.3 | |
| 2012 | | | | | | | | | | | | 0.3 | 7.6 | 18.0 | 9.6 | | 3.5 | | | | 0.7 | 1.3 | 2.3 | 6.6 | 3.4 | 4.9 | 3.0 | 1.3 | 0.3 | 0.7 | | | | | 1.9 | |
| 2013 | | | | | | | | | | | | | 0.3 | 9.6 | 8.1 | | 1.8 | | | | 1.3 | 0.9 | 2.4 | 13.9 | 24.9 | 10.6 | 6.1 | 6.3 | 1.1 | 0.4 | 0.1 | | | | 5.2 | |
| 2014 | | | | | | | | | | | | | 0.9 | 12.6 | 28.1 | 8.8 | 5.1 | | 0.3 | 0.1 | 2.4 | 2.3 | 3.1 | 14.1 | 10.4 | 5.0 | 3.7 | 2.3 | 0.6 | 1.0 | | | | | 3.5 | |
| 2015 | | | | | | | | | | | | 0.1 | 21.6 | 21.4 | 6.1 | 0.3 | 5.0 | | | | 0.4 | 0.6 | 1.0 | 1.3 | 4.0 | 3.6 | 5.9 | 4.3 | 2.0 | 0.1 | | | | | 1.7 | |
| 2016 | | | | | | | | | | | | | 1.4 | 11.1 | 23.3 | 2.1 | 3.8 | | | | 0.7 | 0.7 | 2.1 | 0.6 | 0.3 | 0.6 | 1.7 | 1.4 | 1.3 | 0.1 | | | | | 0.7 | |
| 2017 | | | | | | | | | | | | | 0.1 | 46.3 | 19.0 | 6.3 | 7.2 | | | | 1.3 | 2.0 | 0.7 | 2.7 | 1.1 | 4.7 | 2.7 | 1.0 | 1.7 | 0.4 | | | | | 1.3 | |
| 2018 | | | | | | | | | | | | | 2.4 | 27.1 | 19.7 | 1.1 | 5.0 | | 0.3 | 0.1 | 2.1 | 2.4 | 1.7 | 3.4 | 2.4 | 2.3 | 5.0 | 7.0 | 5.9 | 0.4 | | | | | 2.3 | |
| 2019 | | | | | | | | | | | | | | 2.9 | 34.0 | 9.4 | 4.6 | 1.0 | 1.0 | | 0.4 | 0.6 | 0.7 | 0.7 | 0.9 | 1.4 | 2.3 | 4.7 | 15.1 | 6.0 | 0.6 | | | | | 2.4 |
| Mean | | | | | | | | | | | | 0.07 | 2.6 | 12.1 | 11.8 | 2.0 | 2.9 | 0.05 | 0.1 | 0.08 | 1.2 | 1.2 | 1.4 | 3.9 | 4.6 | 3.8 | 3.8 | 3.7 | 2.1 | 0.5 | 0.03 | | | | 2.0 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|-----|------|------|-----|------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|-----|-----|------|-----|-----|-----|------|-----|
| 2005 | | | | | | | | | | | | | | 1 | 3 | | 4 | | | | 3 | 7 | 3 | 7 | 2 | 1 | 13 | 6 | 2 | 2 | | | | | 46 | |
| 2006 | | | | | | | | | | | | | | 1 | 1 | | 2 | | | | 5 | 3 | 1 | 10 | 7 | 9 | 20 | 1 | 1 | | | | | | 57 | |
| 2007 | | | | | | | | | | | | | 1 | 12 | 3 | | 16 | | | | | 2 | 2 | 1 | 2 | 2 | 3 | 4 | | 1 | 1 | | | | 18 | |
| 2008 | | | | | | | | | | | | | 2 | 1 | 3 | | 6 | | | | 9 | 3 | 1 | 6 | 6 | 16 | 18 | 16 | 11 | | | | | | 86 | |
| 2009 | | | | | | | | | | | | | 36 | 44 | 2 | 82 | | 1 | 1 | 2 | 1 | 5 | 1 | 1 | | 5 | 7 | 1 | | | | | | | 23 | |
| 2010 | | | | | | | | | | | | | 1 | 6 | | | 7 | | 1 | 1 | 10 | 6 | 11 | 10 | 17 | 20 | 11 | 20 | 9 | | | | | | 114 | |
| 2011 | | | | | | | | | | | | | 1 | 23 | 46 | 1 | 71 | | | | 8 | 6 | 5 | 23 | 52 | 37 | 28 | 23 | 22 | 4 | | | | | 208 | |
| 2012 | | | | | | | | | | | | | 16 | 48 | 30 | | 94 | | | | 4 | 5 | 5 | 21 | 8 | 20 | 5 | 2 | 1 | 4 | | | | | 75 | |
| 2013 | | | | | | | | | | | | | | 38 | 11 | | 49 | | | | 2 | 2 | 8 | 74 | 87 | 36 | 17 | 18 | 3 | 2 | | | | | 249 | |
| 2014 | | | | | | | | | | | | | 1 | 25 | 100 | 16 | 142 | | 1 | 1 | 7 | 6 | 9 | 56 | 47 | 12 | 14 | 9 | 3 | 5 | | | | | 168 | |
| 2015 | | | | | | | | | | | | | 36 | 60 | 14 | 1 | 111 | | | | | 3 | 4 | 5 | 10 | 9 | 24 | 11 | 2 | | | | | | 68 | |
| 2016 | | | | | | | | | | | | | | 37 | 62 | 2 | 101 | | | | | 5 | 8 | 1 | 1 | 2 | 3 | 3 | 5 | 1 | | | | | 29 | |
| 2017 | | | | | | | | | | | | | | 152 | 55 | 4 | 211 | | | | 4 | 4 | 1 | 3 | 2 | 18 | 5 | 2 | 7 | 1 | | | | | 47 | |
| 2018 | | | | | | | | | | | | | 1 | 80 | 58 | 2 | 141 | | 1 | 1 | 12 | 7 | 5 | 11 | 4 | 7 | 11 | 15 | 15 | 1 | | | | | 88 | |
| 2019 | | | | | | | | | | | | | | 1 | 135 | 30 | 166 | | | | 1 | 2 | 2 | | 3 | 7 | 9 | 78 | 16 | 1 | | | | | | 119 |
| Mean | | | | | | | | | | | | | 3.8 | 34.8 | 37.5 | 4.1 | 80.2 | | 0.3 | 0.3 | 4.5 | 4.1 | 4.7 | 15.3 | 16.6 | 13.1 | 12.4 | 14.3 | 6.5 | 1.5 | 0.07 | | | | 93.0 | |

Tennessee Warbler began as an uncommon migrant in spring, with fewer than 40 individuals observed in three of the first four years. It first spiked in abundance in 2009, then roughly doubled again in 2014, and has remained at elevated levels ever since, likely reflecting population growth in response to the large Spruce Budworm outbreaks in central Quebec over the past several years. In all years, the vast majority of individuals have passed through MBO in Weeks 8 and 9. A few late spring migrants have lingered into June, and the first few southbound migrants are often detected before the end of July. Numbers remain modest over the first three weeks of August, then usually peak somewhere between Weeks 4 and 8 depending on the year, with average abundance relatively similar throughout that period. Numbers drop off sharply around the beginning of October; only three times has the species been observed as late as October 10 or 11. Fall numbers have fluctuated over the years, not showing the same consistent increase as in spring.

OCWA: Orange-crowned Warbler / Paruline verdâtre (*Leiothlypis celata*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|------|-------|------|-------|-------|-------|------|------|-------|-------|
| First | | 5-18 | | | 5-2 | 5-18 | 5-19 | 5-20 | 5-29 | 5-11 | 5-12 | 5-12 | | 5-16 | 5-20 | 5-16 | 9-15 | 9-17 | 9-17 | 9-30 | 9-17 | 9-25 | 9-10 | 9-19 | 9-7 | 9-12 | 9-30 | 9-17 | 9-9 | 9-24 | 9-25 | 9-18 |
| Peak | | 5-21 | | | 5-18 | 5-19 | 5-19 | 5-20 | 5-29 | 5-11 | 5-12 | 5-12 | | 5-16 | 5-23 | 5-18 | 10-11 | 9-23 | 9-28 | 9-30 | 10-10 | 9-25 | 10-3 | 10-4 | 9-15 | 10-5 | 10-16 | 10-1 | 9-9 | 9-24 | 9-25 | 9-29 |
| Last | | 5-25 | | | 6-1 | 5-28 | 5-19 | 5-21 | 5-29 | 5-20 | 5-18 | 5-19 | | 5-16 | 5-28 | 5-23 | 10-11 | 10-20 | 10-16 | 10-15 | 10-12 | 10-18 | 10-3 | 10-19 | 10-4 | 10-13 | 10-23 | 10-19 | 10-5 | 11-4 | 10-28 | 10-16 |
| Span | | 8 | | | 31 | 11 | 1 | 2 | 1 | 10 | 7 | 8 | | 1 | 9 | 8 | 27 | 34 | 30 | 16 | 26 | 24 | 24 | 31 | 28 | 32 | 24 | 33 | 27 | 42 | 34 | 29 |
| # days | | 3 | | | 4 | 3 | 1 | 2 | 1 | 2 | 2 | 2 | | 1 | 6 | 2 | 9 | 12 | 14 | 7 | 8 | 2 | 6 | 10 | 6 | 12 | 10 | 10 | 5 | 10 | 6 | 8 |
| % days | | 4 | | | 6 | 4 | 1 | 3 | 1 | 3 | 3 | 3 | | 1 | 9 | 4 | 10 | 13 | 15 | 8 | 9 | 2 | 7 | 11 | 7 | 13 | 10 | 10 | 5 | 10 | 6 | 9 |
| High | | 2 | | | 2 | 4 | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 3 | 2 | 4 | 4 | 4 | 1 | 4 | 1 | 8 | 5 | 2 | 2 | 6 | 3 | 1 | 2 | 1 | 3 |
| Total | | 4 | | | 6 | 6 | 1 | 2 | 1 | 2 | 2 | 2 | | 1 | 9 | 2 | 13 | 18 | 22 | 7 | 13 | 2 | 13 | 16 | 8 | 17 | 18 | 15 | 5 | 11 | 6 | 12 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|------|------|-----|------|------|------|-----|-----|----|----|----|----|----|----|-----|------|-----|-----|-----|-----|-----|-----|------|------|------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.3 | 0.7 | 0.2 | 0.8 | | | | | 0.1 | |
| 2006 | | | | | | | | | | | | | | 0.4 | 0.1 | | 0.06 | | | | | | | | | | 0.3 | 0.7 | 0.1 | 1.0 | 0.4 | | | | 0.2 | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | 0.4 | 1.1 | 0.9 | 0.6 | | | | | 0.2 |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | 0.6 | 0.3 | | | | | | 0.08 |
| 2009 | | | | | | | | | | | | 0.1 | 0.1 | 0.3 | | 0.3 | 0.09 | | | | | | | | | | 0.3 | | 0.1 | 0.4 | 1.0 | | | | 0.1 | |
| 2010 | | | | | | | | | | | | | | 0.7 | 0.1 | | 0.09 | | | | | | | | | | | 0.1 | | | | 0.1 | | | 0.02 | |
| 2011 | | | | | | | | | | | | | | 0.1 | | | 0.01 | | | | | | | | | 0.1 | | 0.1 | 0.4 | 1.1 | | | | | 0.1 | |
| 2012 | | | | | | | | | | | | | | 0.3 | | | 0.03 | | | | | | | | | | | 0.1 | 0.3 | 1.6 | 0.1 | 0.1 | | | | 0.2 |
| 2013 | | | | | | | | | | | | | | | 0.1 | | 0.01 | | | | | | | | | 0.1 | 0.4 | | 0.4 | 0.1 | | | | | | 0.09 |
| 2014 | | | | | | | | | | | | | 0.1 | 0.1 | | | 0.03 | | | | | | | | | | 0.1 | 0.1 | 0.1 | 1.0 | 1.0 | | | | | 0.2 |
| 2015 | | | | | | | | | | | | | 0.1 | 0.1 | | | 0.03 | | | | | | | | | | | | 0.3 | 0.7 | 1.3 | 0.3 | | | | 0.2 |
| 2016 | | | | | | | | | | | | | 0.1 | 0.1 | | | 0.03 | | | | | | | | | | 0.1 | | 0.9 | 0.9 | 0.1 | 0.1 | | | | 0.2 |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | 0.3 | 0.3 | | | | | | 0.05 |
| 2018 | | | | | | | | | | | | | | 0.1 | | | 0.01 | | | | | | | | | | | 0.3 | 0.4 | 0.3 | 0.1 | 0.3 | | 0.1 | | 0.1 |
| 2019 | | | | | | | | | | | | | 0.6 | 0.7 | | 0.1 | | | | | | | | | | | | 0.1 | 0.1 | 0.4 | | | 0.1 | | | 0.06 |
| Mean | | | | | | | | | | | | 0.01 | 0.04 | 0.2 | 0.08 | 0.02 | 0.03 | | | | | | | | | | 0.03 | 0.1 | 0.2 | 0.3 | 0.6 | 0.4 | 0.1 | 0.01 | 0.03 | 0.1 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|------|-----|------|-----|-----|-----|-----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|------|-----|-----|----|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 3 | | | 3 | | | | 7 | |
| 2006 | | | | | | | | | | | | | | 1 | | | 1 | | | | | | | | | | 1 | | 1 | | 4 | 1 | | | 7 | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2 | 5 | 2 | 2 | | | | | 12 |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 3 | 2 | | | | | 6 |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | 1 | 3 | 2 | | | | | 7 |
| 2010 | | | | | | | | | | | | | | 2 | | | 2 | | | | | | | | | | | 1 | | | | 1 | | | 2 | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 2 | | | | | | 4 |
| 2012 | | | | | | | | | | | | | | 1 | | | 1 | | | | | | | | | | | 2 | 7 | | 1 | | | | 10 | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | 3 | 1 | | | | | | | 5 |
| 2014 | | | | | | | | | | | | | 1 | | | | 1 | | | | | | | | | | | | 3 | 3 | | | | | | 6 |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 3 | 5 | 1 | | | | | 10 |
| 2016 | | | | | | | | | | | | | | 1 | | | 1 | | | | | | | | | | | 3 | 3 | 1 | | | | | | 7 |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | 1 |
| 2018 | | | | | | | | | | | | | | 1 | | | 1 | | | | | | | | | | | | 1 | 1 | | | | | | 2 |
| 2019 | | | | | | | | | | | | | | 3 | 1 | | 4 | | | | | | | | | | | 1 | 1 | 1 | | | 1 | | | 4 |
| Mean | | | | | | | | | | | | | 0.07 | 0.6 | 0.07 | | 0.7 | | | | | | | | | | 0.3 | 0.5 | 1.4 | 1.9 | 1.5 | 0.3 | 0.07 | | 6.0 | |

Orange-crowned Warbler is a rare spring and fall migrant at MBO. Spring sightings are particularly scarce, with none at all in four years, a single individual in three other years, and a record high season total of only 9, in 2019. Over half of all observations have been in Week 8, with most others either one week earlier or later. The species is somewhat more numerous in fall, with at least two individuals observed each year, and as many as 22 in 2007. It is a late fall migrant compared to most other warblers, with no records before 7 September in any year, and in most years not arriving until the second half of September. Numbers most often peak in early October. There has been no clear trend in abundance over time.

NAWA: Nashville Warbler / Paruline à joues grises (*Leiothlypis ruficapilla*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|
| First | 5-11 | 5-5 | 5-1 | 5-5 | 4-29 | 5-4 | 5-1 | 5-4 | 5-6 | 5-10 | 5-3 | 5-9 | 5-16 | 5-3 | 5-8 | 5-5 | 8-2 | 8-1 | 8-1 | 8-1 | 8-4 | 8-1 | 8-1 | 8-1 | 8-1 | 8-2 | 8-1 | 8-2 | 8-6 | 8-1 | 8-9 | 8-2 |
| Peak | 5-28 | 5-18 | 5-18 | 5-20 | 5-11 | 5-15 | 5-20 | 5-12 | 5-26 | 5-13 | 5-10 | 5-14 | 5-16 | 5-13 | 5-21 | 5-17 | 9-10 | 8-28 | 9-11 | 10-3 | 9-14 | 9-9 | 9-16 | 10-4 | 10-3 | 9-12 | 9-19 | 9-21 | 10-1 | 10-1 | 9-21 | 9-19 |
| Last | 6-2 | 5-26 | 5-25 | 5-29 | 5-29 | 5-26 | 6-5 | 5-26 | 5-28 | 5-29 | 5-25 | 6-1 | 5-30 | 5-25 | 5-29 | 5-28 | 10-9 | 10-12 | 10-16 | 10-11 | 10-22 | 10-8 | 10-23 | 10-17 | 10-15 | 10-18 | 10-14 | 10-4 | 10-21 | 10-17 | 10-18 | 10-15 |
| Span | 23 | 22 | 25 | 25 | 31 | 23 | 36 | 23 | 23 | 20 | 23 | 24 | 15 | 23 | 22 | 24 | 69 | 73 | 77 | 72 | 80 | 69 | 84 | 78 | 76 | 78 | 75 | 64 | 77 | 78 | 71 | 75 |
| # days | 10 | 19 | 18 | 22 | 18 | 11 | 14 | 16 | 19 | 18 | 16 | 18 | 9 | 18 | 15 | 16 | 62 | 56 | 45 | 64 | 41 | 51 | 64 | 49 | 53 | 63 | 45 | 34 | 33 | 49 | 30 | 49 |
| % days | 17 | 28 | 26 | 31 | 26 | 16 | 20 | 23 | 27 | 26 | 23 | 26 | 13 | 26 | 21 | 23 | 70 | 62 | 49 | 70 | 45 | 56 | 70 | 54 | 58 | 69 | 46 | 35 | 34 | 50 | 31 | 53 |
| High | 4 | 5 | 17 | 8 | 7 | 3 | 9 | 6 | 8 | 8 | 8 | 5 | 5 | 7 | 5 | 7 | 16 | 11 | 10 | 26 | 9 | 31 | 23 | 15 | 9 | 16 | 5 | 6 | 6 | 7 | 6 | 13 |
| Total | 16 | 40 | 58 | 42 | 55 | 19 | 46 | 42 | 53 | 54 | 46 | 34 | 21 | 41 | 36 | 40 | 347 | 204 | 116 | 285 | 95 | 222 | 290 | 129 | 113 | 176 | 82 | 68 | 62 | 110 | 57 | 157 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|-----|------|-----|-----|-----|-----|------|-----|-----|-----|------|------|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2005 | | | | | | | | | | | | 0.3 | 0.7 | 1.0 | 0.4 | 0.3 | | | 0.2 | 0.1 | 2.4 | 5.9 | 2.7 | 4.0 | 6.7 | 10.0 | 8.9 | 5.0 | 2.8 | 1.8 | | | | | 3.9 |
| 2006 | | | | | | | | | | | | 0.4 | 1.4 | 3.0 | 0.9 | 0.6 | 0.6 | | | | 0.6 | 1.0 | 2.1 | 3.6 | 2.6 | 4.1 | 5.7 | 5.1 | 2.6 | 1.4 | 0.3 | | | | 2.2 |
| 2007 | | | | | | | | | 0.1 | 0.1 | 0.1 | 2.6 | 4.9 | 0.6 | 0.8 | 0.8 | 0.8 | | | | 2.3 | 2.3 | 1.9 | 1.1 | 1.0 | 2.0 | 2.7 | 2.1 | 0.4 | 0.3 | 0.4 | | | | 1.3 |
| 2008 | | | | | | | | | | 0.4 | 2.1 | 2.4 | 1.0 | 0.6 | 0.6 | 0.6 | 0.6 | | | | 1.1 | 1.1 | 2.3 | 3.1 | 4.1 | 6.7 | 4.3 | 5.0 | 6.4 | 5.7 | 0.7 | | | | 3.1 |
| 2009 | | | | | | | | | 0.1 | 0.6 | 4.4 | 2.0 | 0.7 | 0.8 | 0.8 | 0.8 | 0.8 | | | | 0.1 | 0.3 | 0.9 | 0.6 | 1.3 | 0.4 | 1.9 | 2.6 | 3.1 | 2.1 | 0.1 | 0.1 | | | 1.0 |
| 2010 | | | | | | | | | | | 0.7 | 1.0 | 0.9 | 0.1 | 0.3 | 0.3 | 0.3 | | 0.2 | 0.1 | 0.6 | | 0.9 | 2.0 | 1.4 | 8.1 | 4.4 | 9.6 | 4.3 | 0.4 | | | | | 2.4 |
| 2011 | | | | | | | | | 0.3 | | 1.9 | 3.1 | 1.1 | 0.1 | 0.7 | 0.7 | 0.7 | | | | 2.6 | 1.6 | 2.4 | 4.6 | 6.6 | 7.1 | 5.7 | 3.1 | 4.6 | 2.4 | 0.1 | 0.6 | | | 3.2 |
| 2012 | | | | | | | | | | | 1.0 | 3.6 | 1.3 | 0.1 | 0.6 | 0.6 | 0.6 | | | | 0.6 | 0.6 | 1.4 | 1.3 | 0.7 | 2.7 | 3.6 | 2.0 | 2.1 | 3.3 | | 0.1 | | | 1.4 |
| 2013 | | | | | | | | | | | 0.3 | 3.4 | 1.7 | 2.1 | 0.8 | 0.8 | 0.8 | | | | 0.6 | 0.4 | 0.7 | 1.4 | 2.1 | 1.7 | 3.0 | 2.3 | 1.6 | 2.0 | 0.3 | | | | 1.2 |
| 2014 | | | | | | | | | | | | 3.9 | 2.3 | 1.6 | 0.8 | 0.8 | 0.8 | | 0.3 | 0.1 | 0.9 | 1.3 | 1.4 | 3.3 | 1.6 | 1.6 | 5.7 | 3.6 | 2.3 | 2.0 | 1.0 | 0.6 | | | 1.9 |
| 2015 | | | | | | | | | | | 1.3 | 3.7 | 1.4 | 0.1 | 0.7 | 0.7 | 0.7 | | | | 0.9 | 0.1 | 0.6 | 1.0 | 2.0 | 1.6 | 2.3 | 2.1 | 0.6 | 0.3 | 0.3 | | | | 0.8 |
| 2016 | | | | | | | | | | | | 2.0 | 1.7 | 0.9 | 0.3 | 0.5 | 0.5 | | | | 0.4 | 0.1 | 0.9 | 1.0 | 0.6 | 0.1 | 1.1 | 2.7 | 2.3 | 0.4 | | | | | 0.7 |
| 2017 | | | | | | | | | | | | | 2.6 | 0.3 | 0.1 | 0.3 | 0.3 | | | | 0.1 | 0.1 | 0.3 | 1.3 | 0.7 | 1.7 | 1.9 | 0.4 | 1.7 | 0.4 | | 0.1 | | | 0.6 |
| 2018 | | | | | | | | | | | 0.4 | 3.4 | 1.6 | 0.4 | 0.6 | 0.6 | 0.6 | | | | 0.1 | 1.1 | 1.1 | 1.9 | 2.4 | 0.7 | 0.6 | 2.6 | 3.7 | 0.9 | 0.4 | 0.1 | | | 1.1 |
| 2019 | | | | | | | | | | | 0.3 | 0.6 | 2.6 | 1.7 | 0.5 | 0.5 | 0.5 | | 0.3 | 0.1 | 0.3 | | 0.3 | 0.4 | 0.4 | 1.6 | 1.4 | 2.4 | 0.6 | 0.4 | 0.3 | 0.3 | | | 0.6 |
| Mean | | | | | | | | | | 0.04 | 0.4 | 2.3 | 2.1 | 0.8 | 0.06 | 0.6 | 0.6 | | 0.08 | 0.04 | 0.9 | 1.1 | 1.3 | 2.0 | 2.3 | 3.4 | 3.5 | 3.4 | 2.6 | 1.6 | 0.3 | 0.1 | | | 1.7 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|------|-----|-----|-----|-----|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|-----|-----|-----|-----|-----|------|-----|
| 2005 | | | | | | | | | | | | | 1 | 3 | 1 | 1 | 6 | | | | 2 | 18 | 5 | 16 | 28 | 20 | 38 | 19 | 10 | 8 | | | | | 164 | |
| 2006 | | | | | | | | | | | | 1 | 2 | 3 | | 6 | 6 | | | | 2 | 2 | 7 | 9 | 7 | 18 | 23 | 15 | 10 | 5 | | | | | 98 | |
| 2007 | | | | | | | | | | | | | 5 | 8 | 1 | 14 | 14 | | | | 7 | 5 | 4 | 5 | 3 | 5 | 8 | 10 | 1 | 1 | 1 | | | | 50 | |
| 2008 | | | | | | | | | | | | 1 | 3 | 4 | | 8 | 8 | | | | 5 | 4 | 6 | 11 | 10 | 22 | 19 | 20 | 36 | 21 | 4 | | | | 158 | |
| 2009 | | | | | | | | | 1 | 1 | 6 | 5 | 1 | 14 | 14 | 14 | | | | 1 | 2 | 4 | 3 | 3 | 2 | 10 | 10 | 13 | 9 | | 1 | | | | 58 | |
| 2010 | | | | | | | | | | | | 2 | 4 | 2 | | 8 | 8 | | 1 | 1 | 2 | | 2 | 3 | 5 | 47 | 22 | 53 | 26 | 1 | | | | | 161 | |
| 2011 | | | | | | | | | | | | | 1 | 6 | | 7 | 7 | | | | 12 | 2 | 4 | 10 | 22 | 22 | 19 | 18 | 22 | 8 | | 2 | | | 141 | |
| 2012 | | | | | | | | | | | | 3 | 10 | 3 | | 16 | 16 | | | | 3 | 2 | 3 | 4 | 1 | 11 | 13 | 8 | 11 | 16 | | 1 | | | 73 | |
| 2013 | | | | | | | | | | | | 2 | 6 | 5 | | 13 | 13 | | | | 3 | 1 | 3 | 7 | 6 | 4 | 8 | 9 | 8 | 10 | | | | | 59 | |
| 2014 | | | | | | | | | | | | | 10 | | | 10 | 10 | | 1 | 1 | 3 | 5 | 5 | 13 | 4 | 4 | 26 | 15 | 12 | 11 | 5 | 3 | | | | 106 |
| 2015 | | | | | | | | | | | | 2 | 12 | 3 | | 17 | 17 | | | | 4 | 1 | 1 | 3 | 4 | 6 | 7 | 8 | 2 | | 2 | | | | 38 | |
| 2016 | | | | | | | | | | | | | 5 | 2 | | 7 | 7 | | | | 2 | | 4 | 1 | 1 | | 2 | 9 | 4 | 2 | | | | | 25 | |
| 2017 | | | | | | | | | | | | | 3 | | | 3 | 3 | | | | | | 2 | | 1 | 2 | 3 | | 7 | 1 | | 1 | | | 17 | |
| 2018 | | | | | | | | | | | 1 | 11 | 7 | | | 19 | 19 | | | | 1 | 5 | 5 | 9 | 7 | 2 | 3 | 7 | 13 | 3 | 2 | | | | 57 | |
| 2019 | | | | | | | | | | | | 1 | 1 | 1 | 2 | 4 | 4 | | 1 | 1 | | 2 | | 1 | 1 | 5 | 2 | 11 | 3 | 1 | 2 | | | | 28 | |
| Mean | | | | | | | | | | 0.07 | 0.9 | 4.8 | 3.9 | 0.5 | 0.07 | 10.1 | 10.1 | | 0.2 | 0.2 | 3.1 | 3.3 | 3.7 | 6.3 | 6.9 | 11.3 | 13.5 | 14.1 | 11.9 | 6.4 | 1.0 | 0.7 | | | 82.2 | |

Nashville Warbler is an uncommon spring and fairly common fall migrant at MBO, and one of only a few warblers that has declined in abundance over the 15 years covered in this report. The earliest spring record was on 29 April in 2009, but most often (60% of years) Nashville Warbler returns during the first week of May. The peak of migration is almost always in Week 7 or 8, and has tended to shift earlier over time. Early fall migrants have been observed in late July in four years. On average, numbers then build steadily to a peak in early-mid September, which has been shifting slightly later. The species always lingers into October, even past the middle of the month in six years.

CONW: Connecticut Warbler / Paruline à gorge grise (*Oporornis agilis*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | | | | | | | | | | | | | | | | 9-4 | | | | | 9-23 | | | | | 9-3 | | 8-27 | | | | 9-6 |
| Peak | | | | | | | | | | | | | | | | 9-4 | | | | | 9-23 | | | | | 9-3 | | 8-27 | | | | 9-6 |
| Last | | | | | | | | | | | | | | | | 9-4 | | | | | 9-23 | | | | | 9-3 | | 9-21 | | | | 9-12 |
| Span | | | | | | | | | | | | | | | | 1 | | | | | 1 | | | | | 1 | | 26 | | | 7 | |
| # days | | | | | | | | | | | | | | | | 1 | | | | | 1 | | | | | 1 | | 4 | | | 2 | |
| % days | | | | | | | | | | | | | | | | 1 | | | | | 1 | | | | | 1 | | 4 | | | 2 | |
| High | | | | | | | | | | | | | | | | 1 | | | | | 1 | | | | | 1 | | 1 | | | 1 | |
| Total | | | | | | | | | | | | | | | | 0 | | | | | 1 | | | | | 1 | | 4 | | | 0 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|----|----|------|------|----|------|------|----|-----|-----|-----|-----|-----|------|------|--------|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | 0.01 | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | 0.01 | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | | | | | | | 0.01 | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | 0.3 | 0.1 | | | | | | | | | 0.04 | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | | | | | | | | | 0.01 | 0.02 | | 0.02 | 0.02 | | | | | | | | | <0.005 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|----|----|------|----|----|------|----|----|-----|-----|-----|-----|-----|----|--|--|-----|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | 1 | | | | | | | | | | | 2 |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | | | | | | | | | 0.07 | | | 0.07 | | | | | | | | | | | 0.1 |

Connecticut Warbler is a very rare fall migrant at MBO, with sightings in only four years. Single individuals were observed only in 2005, 2009, and 2014; in 2016 two were banded, with one of them observed on two subsequent days. All sightings across years have been within a span of less than one month, between 27 August and 23 September.

MOWA: Mourning Warbler / Paruline triste (*Geothlypis philadelphia*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | 5-28 | 5-20 | 5-18 | 5-25 | 5-21 | 5-27 | 5-18 | 5-19 | | 5-13 | 5-19 | 5-19 | 5-17 | 5-10 | 5-20 | 5-19 | 8-7 | 8-16 | 8-16 | 8-10 | 8-3 | 8-7 | 8-7 | 8-11 | 8-9 | 8-10 | 8-5 | 8-11 | 8-8 | 8-4 | 8-12 | 8-9 |
| Peak | 5-28 | 5-20 | 5-23 | 5-25 | 5-21 | 5-27 | 5-25 | 5-19 | | 5-19 | 5-19 | 5-31 | 5-18 | 5-10 | 5-28 | 5-22 | 8-15 | 8-16 | 8-16 | 8-29 | 8-13 | 8-9 | 8-15 | 8-15 | 8-9 | 8-23 | 8-9 | 8-11 | 8-27 | 8-4 | 8-12 | 8-14 |
| Last | 5-30 | 5-27 | 5-28 | 5-30 | 5-30 | 5-27 | 5-28 | 5-19 | | 6-3 | 6-2 | 5-31 | 5-30 | 6-5 | 6-1 | 5-29 | 10-9 | 9-2 | 9-11 | 10-7 | 9-10 | 9-16 | 9-7 | 8-31 | 8-18 | 9-8 | 9-17 | 8-23 | 9-17 | 9-22 | 9-21 | 9-12 |
| Span | 3 | 8 | 11 | 6 | 10 | 1 | 11 | 1 | | 22 | 15 | 13 | 14 | 27 | 13 | 11 | 64 | 18 | 27 | 59 | 39 | 41 | 32 | 21 | 10 | 30 | 44 | 13 | 41 | 50 | 41 | 35 |
| # days | 2 | 4 | 3 | 2 | 2 | 1 | 5 | 1 | | 12 | 9 | 5 | 7 | 7 | 12 | 5 | 14 | 7 | 7 | 15 | 12 | 13 | 11 | 11 | 5 | 8 | 17 | 3 | 14 | 4 | 8 | 10 |
| % days | 3 | 6 | 4 | 3 | 3 | 1 | 7 | 1 | | 18 | 13 | 7 | 10 | 10 | 17 | 7 | 16 | 8 | 8 | 16 | 13 | 14 | 12 | 12 | 5 | 9 | 17 | 3 | 14 | 4 | 8 | 11 |
| High | 1 | 1 | 2 | 2 | 1 | 2 | 5 | 1 | | 3 | 2 | 2 | 2 | 2 | 10 | 3 | 2 | 1 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 3 | 1 | 3 | 1 | 1 | 2 |
| Total | 2 | 4 | 4 | 3 | 2 | 2 | 14 | 1 | | 18 | 12 | 6 | 10 | 10 | 48 | 9 | 15 | 7 | 9 | 20 | 16 | 15 | 12 | 12 | 7 | 9 | 25 | 3 | 20 | 4 | 8 | 12 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|------|-----|-----|-----|------|------|------|------|------|-----|-----|-----|-----|-----|-----|------|------|------|-----|-----|-----|-----|------|------|
| 2005 | | | | | | | | | | | | | | | 0.1 | 0.2 | 0.03 | | | | 0.1 | 0.6 | 0.6 | | 0.4 | 0.1 | 0.1 | | | | | | | 0.2 | | |
| 2006 | | | | | | | | | | | | | | | 0.3 | 0.3 | 0.06 | | | | | | 0.3 | 0.4 | 0.3 | | | | | | | | | | 0.08 | |
| 2007 | | | | | | | | | | | | | | | 0.1 | 0.4 | 0.06 | | | | | | 0.7 | 0.3 | 0.1 | 0.1 | | | | | | | | | 0.1 | |
| 2008 | | | | | | | | | | | | | | | 0.3 | 0.1 | 0.04 | | | | | 0.3 | 0.4 | 1.0 | 0.6 | 0.1 | 0.1 | | 0.1 | 0.1 | | | | | 0.2 | |
| 2009 | | | | | | | | | | | | | | | 0.1 | | 0.03 | | | | 0.1 | 0.4 | 0.7 | 0.4 | 0.4 | 0.1 | | | | | | | | | 0.2 | |
| 2010 | | | | | | | | | | | | | | | 0.3 | | 0.03 | | | | 0.1 | 0.6 | 0.4 | 0.4 | | 0.1 | 0.4 | | | | | | | | 0.2 | |
| 2011 | | | | | | | | | | | | | | | 0.3 | 1.7 | 0.2 | | | | 0.1 | 0.1 | 0.4 | 0.3 | 0.6 | 0.1 | | | | | | | | | 0.1 | |
| 2012 | | | | | | | | | | | | | | | 0.1 | | 0.01 | | | | | 0.6 | 0.9 | 0.1 | 0.1 | | | | | | | | | | 0.1 | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | 0.6 | 0.4 | | | | | | | | | | | | | 0.08 |
| 2014 | | | | | | | | | | | | | 0.1 | 1.3 | 0.9 | 0.3 | 0.3 | | | | | 0.3 | 0.3 | 0.4 | 0.1 | 0.1 | | | | | | | | | 0.1 | |
| 2015 | | | | | | | | | | | | | | 0.4 | 1.0 | 0.3 | 0.2 | | 0.3 | 0.1 | 0.1 | 0.7 | 1.3 | 0.6 | 0.3 | 0.3 | 0.3 | | | | | | | | 0.3 | |
| 2016 | | | | | | | | | | | | | | 0.4 | 0.1 | 0.3 | 0.09 | | | | | 0.1 | 0.1 | 0.1 | | | | | | | | | | | 0.03 | |
| 2017 | | | | | | | | | | | | | | 0.7 | 0.6 | 0.1 | 0.1 | | | | | 0.4 | 0.3 | 0.7 | 0.7 | 0.3 | 0.4 | | | | | | | | 0.2 | |
| 2018 | | | | | | | | | | | | | 0.3 | 0.9 | 0.1 | 0.1 | 0.1 | | | | 0.1 | | | 0.1 | | 0.1 | | 0.1 | | | | | | | 0.04 | |
| 2019 | | | | | | | | | | | | | | 0.7 | 4.6 | 1.6 | 0.7 | 0.3 | | 0.1 | | 0.1 | 0.1 | 0.6 | | 0.1 | | 0.1 | | | | | | | 0.08 | |
| Mean | | | | | | | | | | | | | 0.03 | 0.4 | 0.7 | 0.2 | 0.1 | 0.01 | 0.01 | 0.01 | 0.06 | 0.3 | 0.5 | 0.4 | 0.2 | 0.1 | 0.1 | 0.02 | 0.01 | 0.02 | | | | | 0.1 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|-----|-----|-----|-----|-----|-----|----|---|
| 2005 | | | | | | | | | | | | | | | | | | | | | | 2 | 2 | | 3 | 1 | 1 | | | | | | | | 10 | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | 2 | 2 | 2 | | | | | | | | | | | 6 | |
| 2007 | | | | | | | | | | | | | | 1 | 3 | | 4 | | | | | | 5 | 2 | 1 | 1 | | | | | | | | | 9 | | |
| 2008 | | | | | | | | | | | | | | | 1 | 1 | 2 | | | | | 2 | 1 | 6 | 2 | 1 | | 1 | | | | | | | 13 | | |
| 2009 | | | | | | | | | | | | | | 1 | | 1 | 2 | | | | 1 | 2 | 4 | 3 | 3 | 1 | | | | | | | | | 14 | | |
| 2010 | | | | | | | | | | | | | | | 1 | | 1 | | | | 1 | 4 | 3 | 3 | | | 2 | | | | | | | | 13 | | |
| 2011 | | | | | | | | | | | | | | | 4 | | 4 | | | | 1 | 1 | 1 | 1 | 3 | | | | | | | | | | | 7 | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | 3 | 6 | 1 | 1 | | | | | | | | | | | 11 | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | 1 | 2 | | | | | | | | | | | | | | 3 |
| 2014 | | | | | | | | | | | | | | 2 | 4 | | 6 | | | | | 2 | 1 | 2 | 1 | 1 | | | | | | | | | | 7 | |
| 2015 | | | | | | | | | | | | | | 2 | 4 | 1 | 7 | | 1 | 1 | 1 | 2 | 7 | 1 | 1 | 1 | 2 | | | | | | | | | 15 | |
| 2016 | | | | | | | | | | | | | | 1 | | | 1 | | | | | 1 | | 1 | | | | | | | | | | | | | 2 |
| 2017 | | | | | | | | | | | | | | 3 | 2 | | 5 | | | | | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | 5 | |
| 2018 | | | | | | | | | | | | | | 2 | | | 2 | | | | 1 | | | | | 1 | | 1 | | | | | | | | | 3 |
| 2019 | | | | | | | | | | | | | | 2 | 20 | 8 | 30 | 1 | | 1 | | 1 | 1 | 3 | | | | | | | | | | | | 5 | |
| Mean | | | | | | | | | | | | | 0.9 | 2.6 | 0.7 | 4.3 | 0.07 | 0.07 | 0.1 | 0.3 | 1.5 | 2.4 | 1.7 | 1.2 | 0.5 | 0.3 | 0.07 | 0.07 | 0.07 | | | | | | 8.2 | | |

Mourning Warbler is generally seen at MBO in small numbers in both spring and fall, though it was missed entirely in spring 2013. Spring migration typically peaks in Weeks 8 or 9, often with a smaller number lingering into the final week of the season. The spring 2019 results were exceptional, but even aside from that, counts have mostly been higher in recent years. The two summer records were likely a late spring migrant and an early fall migrant, respectively. Sightings are generally rare in the first week of August, but numbers in most years peak to a modest extent between Week 2 and Week 4. Fall totals have fluctuated more than in spring, and have been particularly low in three of the past four years.

COYE: Common Yellowthroat / Paruline masquée (*Geothlypis trichas*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|-------|-------|-------|-------|------|-------|-------|-------|-------|------|-------|------|------|-------|
| First | 5-7 | 5-16 | 5-8 | 5-7 | 4-28 | 4-29 | 4-29 | 4-28 | 4-29 | 5-10 | 5-6 | 4-25 | 5-4 | 5-8 | 5-3 | 5-3 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-3 | 8-1 |
| Peak | 5-30 | 5-25 | 5-31 | 5-20 | 5-20 | 5-22 | 5-22 | 5-15 | 5-21 | 5-27 | 5-19 | 5-24 | 5-18 | 5-16 | 5-20 | 5-22 | 9-5 | 8-30 | 8-19 | 9-1 | 8-22 | 9-3 | 8-19 | 8-5 | 9-5 | 8-26 | 9-10 | 8-9 | 9-2 | 8-26 | 9-6 | 8-27 |
| Last | 6-3 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-4 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-4 | 10-12 | 10-2 | 10-18 | 10-12 | 10-12 | 10-17 | 10-4 | 10-29 | 10-15 | 10-11 | 10-11 | 10-9 | 10-10 | 10-6 | 10-5 | 10-11 |
| Span | 28 | 21 | 29 | 30 | 39 | 38 | 38 | 39 | 38 | 26 | 31 | 42 | 33 | 29 | 34 | 33 | 73 | 63 | 79 | 73 | 73 | 78 | 65 | 90 | 76 | 72 | 72 | 70 | 71 | 67 | 64 | 72 |
| # days | 21 | 21 | 28 | 29 | 31 | 32 | 32 | 30 | 30 | 26 | 30 | 29 | 28 | 28 | 31 | 28 | 58 | 62 | 63 | 66 | 63 | 63 | 58 | 69 | 63 | 65 | 62 | 66 | 64 | 65 | 55 | 63 |
| % days | 36 | 30 | 40 | 41 | 45 | 46 | 46 | 43 | 43 | 38 | 43 | 41 | 40 | 40 | 44 | 41 | 66 | 68 | 69 | 73 | 69 | 69 | 64 | 76 | 69 | 71 | 63 | 67 | 65 | 66 | 56 | 67 |
| High | 12 | 15 | 13 | 11 | 12 | 8 | 13 | 13 | 15 | 18 | 16 | 18 | 15 | 13 | 25 | 14 | 18 | 16 | 11 | 15 | 9 | 15 | 26 | 15 | 16 | 12 | 14 | 10 | 13 | 11 | 9 | 14 |
| Total | 115 | 161 | 157 | 159 | 139 | 139 | 174 | 180 | 190 | 240 | 201 | 220 | 225 | 164 | 273 | 182 | 238 | 329 | 231 | 350 | 236 | 295 | 349 | 389 | 356 | 298 | 377 | 291 | 325 | 282 | 238 | 306 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|-----|-----|-----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|
| 2005 | | | | | | | | | | | | 0.1 | 0.4 | 4.0 | 7.6 | 6.0 | 1.9 | 1.6 | 2.9 | 2.3 | 2.7 | 2.4 | 1.9 | 3.6 | 4.0 | 8.4 | 6.3 | 3.0 | 1.0 | 0.8 | 0.2 | | | | 2.7 |
| 2006 | | | | | | | | | | | | | | 6.4 | 10.7 | 5.9 | 2.3 | 4.1 | 3.4 | 3.7 | 5.4 | 2.3 | 3.3 | 7.1 | 7.4 | 9.1 | 7.3 | 2.6 | 2.4 | | | | | 3.6 | |
| 2007 | | | | | | | | | | | | 0.3 | 1.7 | 5.4 | 8.9 | 6.1 | 2.2 | 4.6 | 2.7 | 3.7 | 5.3 | 4.4 | 4.9 | 2.6 | 3.7 | 3.9 | 2.6 | 1.3 | 0.6 | | 0.1 | | | | 2.5 |
| 2008 | | | | | | | | | | | | 0.6 | 4.1 | 6.0 | 7.1 | 4.9 | 2.3 | 5.2 | 5.0 | 5.1 | 5.6 | 3.9 | 6.1 | 6.3 | 8.3 | 8.0 | 3.7 | 4.0 | 3.3 | 0.7 | 0.1 | | | | 3.8 |
| 2009 | | | | | | | | | | | 0.1 | 0.3 | 3.1 | 7.3 | 5.1 | 3.9 | 2.0 | 2.3 | 1.5 | 1.9 | 4.6 | 3.1 | 4.0 | 5.1 | 4.0 | 3.0 | 3.3 | 3.9 | 1.3 | 1.1 | 0.3 | | | | 2.6 |
| 2010 | | | | | | | | | | | 0.1 | 1.3 | 3.3 | 5.4 | 5.9 | 3.9 | 2.0 | 1.3 | 1.3 | 1.3 | 5.1 | 5.3 | 5.3 | 5.0 | 7.0 | 6.9 | 2.9 | 3.1 | 1.0 | 0.1 | 0.3 | 0.1 | | | 3.2 |
| 2011 | | | | | | | | | | | 0.6 | 0.7 | 3.7 | 6.6 | 6.6 | 6.7 | 2.5 | 2.7 | 4.3 | 3.6 | 7.6 | 6.9 | 9.7 | 4.3 | 3.7 | 6.1 | 4.7 | 5.6 | 0.9 | 0.4 | | | | | 3.8 |
| 2012 | | | | | | | | | | | 0.3 | 0.1 | 4.1 | 8.4 | 6.9 | 5.9 | 2.6 | 2.5 | 6.0 | 4.2 | 9.6 | 6.9 | 7.7 | 7.6 | 5.6 | 3.9 | 8.0 | 3.3 | 1.4 | 0.6 | 0.3 | | 0.9 | | 4.3 |
| 2013 | | | | | | | | | | | 0.1 | 0.3 | 3.0 | 9.0 | 8.1 | 6.6 | 2.7 | 4.3 | 3.8 | 4.0 | 6.1 | 4.4 | 6.4 | 8.0 | 8.6 | 7.0 | 5.7 | 2.9 | 1.0 | 0.6 | 0.1 | | | | 3.9 |
| 2014 | | | | | | | | | | | | | 6.1 | 11.9 | 10.0 | 7.3 | 3.5 | 4.3 | 3.8 | 4.0 | 5.0 | 3.9 | 3.7 | 6.4 | 5.7 | 4.1 | 5.1 | 5.0 | 2.6 | 0.6 | 0.4 | | | | 3.3 |
| 2015 | | | | | | | | | | | | 0.3 | 5.4 | 8.9 | 7.7 | 6.4 | 2.9 | 3.0 | 5.5 | 4.4 | 5.6 | 5.3 | 6.0 | 7.4 | 7.4 | 8.7 | 7.0 | 4.0 | 2.3 | | 0.1 | | | 3.8 | |
| 2016 | | | | | | | | | | | 0.1 | 0.1 | 3.1 | 8.3 | 13.0 | 6.7 | 3.1 | 3.8 | 5.0 | 4.4 | 6.0 | 4.1 | 4.6 | 5.6 | 4.4 | 5.3 | 5.4 | 4.0 | 1.1 | 1.0 | | | | | 3.0 |
| 2017 | | | | | | | | | | | | 0.6 | 2.4 | 10.6 | 10.0 | 8.6 | 3.2 | 2.7 | 1.8 | 2.1 | 5.4 | 2.9 | 3.9 | 5.1 | 7.6 | 5.9 | 7.4 | 5.3 | 2.6 | 0.3 | 0.1 | | | | 3.3 |
| 2018 | | | | | | | | | | | | 0.3 | 4.4 | 8.0 | 7.0 | 3.7 | 2.3 | 4.3 | 5.5 | 5.0 | 4.0 | 4.7 | 5.0 | 6.0 | 6.4 | 4.0 | 4.6 | 2.7 | 2.1 | 0.7 | | | | | 2.9 |
| 2019 | | | | | | | | | | | | 0.7 | 3.7 | 12.0 | 16.6 | 6.0 | 3.9 | 1.7 | 3.8 | 2.9 | 2.3 | 4.4 | 5.4 | 5.1 | 2.1 | 6.4 | 4.1 | 2.4 | 1.4 | 0.1 | | | | | 2.4 |
| Mean | | | | | | | | | | | 0.1 | 0.4 | 3.3 | 7.9 | 8.7 | 5.9 | 2.6 | 3.2 | 3.5 | 3.3 | 5.4 | 4.3 | 5.2 | 5.7 | 5.7 | 6.0 | 5.3 | 3.6 | 1.7 | 0.5 | 0.1 | 0.02 | 0.06 | | 3.3 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|------|-----|-----|------|-----|-----|------|-----|-----|-----|-----|-----|-----|------|------|------|-----|-----|-----|-----|------|-----|------|-----|------|
| 2005 | | | | | | | | | | | | 1 | | 11 | 9 | 1 | 22 | | | | 2 | 3 | 3 | 8 | 13 | 19 | 14 | 9 | 3 | 2 | | | | | 76 |
| 2006 | | | | | | | | | | | | | | 11 | 13 | 1 | 25 | | | | 1 | 1 | 5 | 7 | 12 | 27 | 15 | 6 | 3 | | | | | | 77 |
| 2007 | | | | | | | | | | | | | 1 | 4 | 4 | 3 | 12 | | | | 6 | 5 | 8 | 4 | 7 | 9 | 4 | 3 | 4 | 1 | | | | | 51 |
| 2008 | | | | | | | | | | | | 2 | 4 | 8 | 10 | 1 | 25 | | | | 7 | 3 | 9 | 14 | 19 | 16 | 9 | 8 | 7 | 1 | | | | | 93 |
| 2009 | | | | | | | | | | | | | 5 | 17 | 4 | 2 | 28 | | 5 | 5 | 7 | 5 | 10 | 16 | 8 | 6 | 7 | 13 | 3 | 2 | | | | | 77 |
| 2010 | | | | | | | | | | | | 2 | 3 | 8 | 4 | | 17 | | | | 11 | 14 | 12 | 4 | 17 | 24 | 8 | 7 | 2 | | 1 | | | | 100 |
| 2011 | | | | | | | | | | | | 3 | 9 | 10 | 7 | 1 | 30 | 1 | 2 | 3 | 9 | 10 | 10 | 11 | 8 | 7 | 10 | 13 | 1 | 1 | | | | | 80 |
| 2012 | | | | | | | | | | | | | 4 | 15 | 5 | 1 | 25 | | 8 | 8 | 28 | 10 | 21 | 15 | 11 | 6 | 18 | 4 | 6 | 1 | | | 1 | | 121 |
| 2013 | | | | | | | | | 1 | | | | 5 | 9 | 7 | 1 | 23 | | 1 | 1 | 8 | 9 | 8 | 19 | 20 | 10 | 6 | 3 | 2 | 2 | | | | | 87 |
| 2014 | | | | | | | | | | | | | 16 | 12 | 10 | 2 | 40 | | 2 | 2 | 2 | 6 | 6 | 16 | 12 | 6 | 10 | 7 | 6 | | | | | | 71 |
| 2015 | | | | | | | | | | | | 1 | 8 | 7 | 9 | | 25 | | 7 | 7 | 9 | 5 | 14 | 16 | 13 | 17 | 11 | 8 | 2 | | | | | | 95 |
| 2016 | | | | | | | | | | | | | 1 | 6 | 8 | 3 | 18 | | 6 | 6 | 6 | 1 | 5 | 13 | 8 | 8 | 8 | 4 | 1 | 1 | | | | | 55 |
| 2017 | | | | | | | | | | | | 2 | 8 | 20 | 5 | 1 | 36 | 1 | 1 | 2 | 10 | 4 | 9 | 15 | 18 | 11 | 11 | 8 | 4 | 1 | | | | | 91 |
| 2018 | | | | | | | | | | | | | 9 | 15 | 8 | 1 | 33 | 3 | 7 | 10 | 9 | 9 | 8 | 5 | 12 | 2 | 7 | 4 | 2 | 2 | | | | | 60 |
| 2019 | | | | | | | | | | | | 2 | 3 | 28 | 25 | 1 | 59 | 1 | 3 | 4 | 1 | 2 | 8 | 7 | 2 | 3 | 8 | 4 | 4 | | | | | | 39 |
| Mean | | | | | | | | | | | 0.07 | 0.9 | 5.1 | 12.1 | 8.5 | 1.3 | 27.9 | 0.4 | 2.8 | 3.2 | 7.7 | 5.8 | 9.1 | 11.3 | 12.0 | 11.4 | 9.7 | 6.7 | 3.3 | 0.9 | 0.07 | | 0.07 | | 78.2 |

Common Yellowthroat is fairly common at MBO from mid-spring to mid-fall, with small numbers lingering later into fall. From 2009 to 2013, and again in 2016, the first sighting of the year was in late April; in other years it has been in early to mid-May. The spring peak is almost always in Week 8 or 9, with a fair number remaining on site to breed. Counts increase in early August and rise only gradually to a modest peak that is on average around early September; by late in the month numbers are usually dropping rapidly, although there have been at least some October sightings every year. In spring, there has been somewhat of an increase over the years, but fall counts have fluctuated around the long-term mean without any clear pattern.

HOWA: Hooded Warbler / Paruline à capuchon (*Setophaga citrina*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|---|
| First | | | | | | | | | | | | | | | 5-7 | 5-7 | | | | | | | | | | | | | | | | | |
| Peak | | | | | | | | | | | | | | | 5-7 | 5-7 | | | | | | | | | | | | | | | | | |
| Last | | | | | | | | | | | | | | | 5-16 | 5-16 | | | | | | | | | | | | | | | | | |
| Span | | | | | | | | | | | | | | | 10 | 10 | | | | | | | | | | | | | | | | | |
| # days | | | | | | | | | | | | | | | 5 | 5 | | | | | | | | | | | | | | | | | |
| % days | | | | | | | | | | | | | | | 7 | 7 | | | | | | | | | | | | | | | | | |
| High | | | | | | | | | | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | |
| Total | | | | | | | | | | | | | | | 5 | 0 | | | | | | | | | | | | | | | | | 0 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|------|------|------|----|-----|--------|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | 0.3 | 0.3 | 0.1 | | | 0.07 | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | 0.02 | 0.02 | 0.01 | | | <0.005 | | | | | | | | | | | | | | | | | | | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|------|----|----|----|-----|------|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|--|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | 0.07 | | | | | 0.07 | | | | | | | | | | | | | | | | | | | | |

Only one Hooded Warbler has been observed at MBO, an individual banded on 7 May 2019, and subsequently observed on another four days up to 16 May.

AMRE: American Redstart / Paruline flamboyante (*Setophaga ruticilla*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|------|------|------|------|
| First | 5-12 | 5-12 | 5-16 | 5-13 | 5-4 | 5-13 | 5-13 | 5-9 | 5-4 | 5-10 | 5-8 | 5-13 | 5-16 | 5-9 | 5-10 | 5-10 | 8-6 | 8-2 | 8-1 | 8-2 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 |
| Peak | 5-30 | 5-22 | 5-24 | 5-26 | 5-24 | 5-24 | 5-13 | 5-25 | 5-25 | 5-15 | 5-19 | 5-22 | 5-19 | 5-15 | 5-21 | 5-21 | 8-29 | 9-2 | 8-26 | 9-8 | 8-28 | 8-17 | 8-26 | 8-18 | 8-17 | 8-9 | 8-13 | 8-1 | 8-25 | 8-29 | 8-17 | 8-21 |
| Last | 6-3 | 6-5 | 5-29 | 6-3 | 6-2 | 6-5 | 5-31 | 5-31 | 6-5 | 6-1 | 6-3 | 6-5 | 6-5 | 6-5 | 6-5 | 6-3 | 10-9 | 9-20 | 9-28 | 9-27 | 10-3 | 9-22 | 10-3 | 10-2 | 10-6 | 10-19 | 10-6 | 9-22 | 10-5 | 9-30 | 9-28 | 10-1 |
| Span | 23 | 25 | 14 | 22 | 30 | 24 | 19 | 23 | 33 | 23 | 27 | 24 | 21 | 28 | 27 | 24 | 65 | 50 | 59 | 57 | 64 | 53 | 64 | 63 | 67 | 80 | 67 | 53 | 66 | 61 | 59 | 62 |
| # days | 18 | 19 | 5 | 14 | 15 | 22 | 15 | 15 | 17 | 21 | 22 | 21 | 21 | 27 | 20 | 18 | 36 | 37 | 49 | 41 | 48 | 49 | 51 | 52 | 56 | 57 | 52 | 49 | 52 | 54 | 58 | 49 |
| % days | 31 | 28 | 7 | 20 | 22 | 31 | 21 | 21 | 24 | 31 | 31 | 30 | 30 | 39 | 29 | 26 | 41 | 41 | 54 | 45 | 53 | 54 | 56 | 57 | 62 | 63 | 53 | 50 | 53 | 55 | 59 | 53 |
| High | 5 | 7 | 3 | 7 | 4 | 6 | 14 | 6 | 6 | 4 | 9 | 8 | 13 | 9 | 26 | 8 | 10 | 13 | 10 | 11 | 15 | 20 | 31 | 18 | 16 | 19 | 23 | 25 | 37 | 28 | 20 | |
| Total | 39 | 49 | 8 | 30 | 26 | 57 | 52 | 40 | 39 | 37 | 65 | 86 | 97 | 104 | 167 | 60 | 132 | 124 | 147 | 186 | 211 | 300 | 355 | 246 | 297 | 259 | 373 | 398 | 489 | 551 | 435 | 300 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|------|-----|-----|------|-----|-----|-----|-----|-----|------|------|------|------|------|-----|-----|-----|-----|-----|------|-----|-----|-----|----|
| 2005 | | | | | | | | | | | | | 0.4 | 1.6 | 2.1 | 2.0 | 0.7 | 0.9 | | 0.4 | 0.6 | 3.0 | 2.4 | 3.7 | 4.9 | 1.9 | 2.1 | 0.1 | | 0.2 | | | | 1.5 | |
| 2006 | | | | | | | | | | | | | 0.1 | 2.7 | 2.7 | 1.4 | 0.7 | 0.8 | 0.2 | 0.5 | 0.7 | 1.7 | 2.1 | 5.4 | 4.0 | 2.9 | 0.6 | 0.3 | | | | | | 1.4 | |
| 2007 | | | | | | | | | | | | | | 0.3 | 0.9 | | 0.1 | 0.9 | 0.3 | 0.6 | 1.7 | 3.3 | 3.6 | 5.3 | 3.0 | 2.6 | 0.7 | 0.7 | 0.1 | | | | | 1.6 | |
| 2008 | | | | | | | | | | | | | 0.4 | 0.6 | 1.6 | 1.7 | 0.4 | 0.2 | 0.2 | 0.2 | 0.6 | 4.0 | 5.4 | 4.3 | 5.3 | 5.3 | 1.4 | 0.1 | 0.1 | | | | | 2.0 | |
| 2009 | | | | | | | | | | | | 0.1 | 0.6 | 1.3 | 0.9 | 0.9 | 0.4 | 0.3 | | 0.1 | 2.9 | 3.1 | 4.9 | 6.9 | 7.7 | 2.7 | 0.3 | 1.3 | 0.3 | 0.1 | | | | 2.3 | |
| 2010 | | | | | | | | | | | | | 0.3 | 1.3 | 3.6 | 3.0 | 0.8 | | 0.2 | 0.1 | 5.1 | 5.4 | 11.0 | 6.3 | 3.1 | 8.7 | 2.3 | 0.9 | | | | | 3.3 | | |
| 2011 | | | | | | | | | | | | | 2.3 | 2.3 | 2.7 | 0.1 | 0.7 | 1.0 | 0.3 | 0.6 | 4.6 | 5.3 | 10.7 | 10.1 | 10.0 | 4.9 | 3.6 | 1.4 | | 0.1 | | | 3.9 | | |
| 2012 | | | | | | | | | | | | | 0.9 | 2.0 | 2.7 | 0.1 | 0.6 | | | | 4.3 | 7.0 | 7.4 | 5.4 | 3.6 | 4.4 | 2.0 | 0.3 | 0.7 | | | | 2.7 | | |
| 2013 | | | | | | | | | | | | 0.1 | 0.1 | 0.9 | 2.6 | 1.9 | 0.6 | 0.7 | 0.8 | 0.7 | 2.0 | 6.9 | 9.4 | 5.0 | 6.4 | 5.1 | 3.9 | 3.3 | | 0.4 | | | 3.3 | | |
| 2014 | | | | | | | | | | | | | 1.6 | 1.7 | 1.7 | 0.3 | 0.5 | | 1.3 | 0.7 | 8.4 | 9.9 | 3.4 | 4.3 | 3.0 | 3.0 | 3.1 | 0.9 | 0.1 | 0.4 | | 0.4 | | 2.8 | |
| 2015 | | | | | | | | | | | | 0.1 | 1.4 | 4.4 | 2.6 | 0.7 | 0.9 | 0.7 | 2.8 | 1.9 | 9.1 | 10.6 | 10.3 | 8.9 | 7.1 | 3.1 | 1.7 | 2.3 | | 0.1 | | | 3.8 | | |
| 2016 | | | | | | | | | | | | | 1.3 | 3.4 | 5.4 | 2.1 | 1.2 | 2.0 | 1.0 | 1.5 | 14.9 | 11.0 | 11.0 | 9.4 | 4.7 | 1.7 | 3.1 | 1.0 | | | | | 4.1 | | |
| 2017 | | | | | | | | | | | | | | 5.4 | 5.3 | 3.1 | 1.4 | 0.7 | 4.5 | 2.9 | 11.6 | 11.6 | 9.9 | 17.7 | 10.1 | 5.1 | 2.4 | 0.9 | 0.4 | 0.1 | | | 5.0 | | |
| 2018 | | | | | | | | | | | | | 4.9 | 3.0 | 4.9 | 2.1 | 1.5 | 1.7 | 5.3 | 3.7 | 11.7 | 16.1 | 13.0 | 18.0 | 13.9 | 3.4 | 1.3 | 0.7 | 0.6 | | | | 5.6 | | |
| 2019 | | | | | | | | | | | | | 0.1 | 8.1 | 12.6 | 3.0 | 2.4 | 1.0 | 2.3 | 1.7 | 9.0 | 11.4 | 12.9 | 6.6 | 6.3 | 9.0 | 3.4 | 2.6 | 1.0 | | | | 4.4 | | |
| Mean | | | | | | | | | | | | 0.03 | 1.0 | 2.6 | 3.5 | 1.5 | 0.9 | 0.8 | 0.9 | 0.8 | 5.8 | 7.4 | 7.8 | 7.8 | 6.2 | 4.3 | 2.1 | 1.1 | 0.2 | 0.1 | 0.03 | | 3.2 | | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|-----|-----|-----|-----|-----|------|-----|-----|-----|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-------|-----|----|
| 2005 | | | | | | | | | | | | | | | 4 | 1 | 6 | | | | 1 | 13 | 7 | 6 | 26 | 6 | 6 | 1 | | | | | | 66 | |
| 2006 | | | | | | | | | | | | | | | 2 | | 3 | | | | 3 | 6 | 6 | 12 | 10 | 8 | 2 | 1 | | | | | | 48 | |
| 2007 | | | | | | | | | | | | | | | 3 | | 3 | | | | 9 | 15 | 12 | 14 | 14 | 10 | 1 | 2 | | | | | | 77 | |
| 2008 | | | | | | | | | | | | | | | 5 | | 6 | | | | 4 | 21 | 22 | 17 | 15 | 11 | 8 | | 1 | | | | | 99 | |
| 2009 | | | | | | | | | | | | | | | 1 | | 6 | | | | 15 | 10 | 20 | 18 | 26 | 7 | 2 | 3 | 2 | 1 | | | | 104 | |
| 2010 | | | | | | | | | | | | | | | 2 | 1 | 5 | | | | 22 | 14 | 41 | 22 | 8 | 32 | 8 | 2 | | | | | | 149 | |
| 2011 | | | | | | | | | | | | | 2 | 7 | 5 | | 14 | 1 | | 1 | 20 | 22 | 25 | 31 | 26 | 10 | 12 | 3 | | 1 | | | 150 | | |
| 2012 | | | | | | | | | | | | | 2 | 5 | 12 | | 19 | | | | 23 | 39 | 19 | 28 | 10 | 12 | 5 | | 3 | | | | 139 | | |
| 2013 | | | | | | | | | | | | 1 | | 3 | 4 | 1 | 9 | 1 | 3 | 4 | 10 | 22 | 29 | 19 | 24 | 18 | 12 | 11 | | 1 | | | 146 | | |
| 2014 | | | | | | | | | | | | | 5 | 1 | 4 | | 10 | | 2 | 2 | 29 | 38 | 13 | 15 | 10 | 11 | 13 | 5 | 1 | 1 | | 2 | | 138 | |
| 2015 | | | | | | | | | | | | 1 | 1 | 17 | 9 | | 28 | | 8 | 8 | 34 | 28 | 42 | 22 | 16 | 7 | 8 | 7 | | 1 | | | 165 | | |
| 2016 | | | | | | | | | | | | | 2 | 7 | 11 | 2 | 22 | | 2 | 2 | 53 | 29 | 38 | 26 | 15 | 4 | 7 | 4 | | | | | 176 | | |
| 2017 | | | | | | | | | | | | | | 8 | 4 | 1 | 13 | | 11 | 11 | 54 | 44 | 35 | 46 | 37 | 13 | 5 | 1 | 1 | 1 | | | 237 | | |
| 2018 | | | | | | | | | | | | | 5 | 4 | 4 | 1 | 14 | 1 | 14 | 15 | 53 | 69 | 54 | 57 | 42 | 8 | 4 | 3 | 1 | | | | 291 | | |
| 2019 | | | | | | | | | | | | | | 20 | 29 | 4 | 53 | | 5 | 5 | 36 | 40 | 55 | 26 | 26 | 31 | 10 | 10 | 2 | | | | 236 | | |
| Mean | | | | | | | | | | | | 0.1 | 1.1 | 5.5 | 6.6 | 0.7 | 14.1 | 0.2 | 3.1 | 3.3 | 24.4 | 27.3 | 27.9 | 23.9 | 20.3 | 12.5 | 6.9 | 3.5 | 0.7 | 0.4 | 0.1 | | 148.1 | | |

American Redstart is a fairly common spring migrant and common fall migrant; over time it has also become amore regular breeder at MBO. The first spring arrivals most commonly reach MBO just before mid-May, and most often numbers do not peak until Week 9. There have been summer records annually except 2012, but July counts in particular have been substantially higher since 2015, perhaps reflecting earlier arrival of migrants. Fall migration has advanced considerably over time, with the contrast in mean daily counts between early and recent years most evident in Weeks 1 to 3 (e.g., 1.3 in Week 1 from 2005 to 2009, vs. 11.3 from 2015 to 2019). On average, fall numbers tend to drop off considerably after Week 6 and are scarce by Week 9, with records extending into October only in 8 years. In all three seasons, numbers observed have been at or above average annually since 2015, as have the number banded, except for summer 2016.

CMWA: Cape May Warbler / Paruline tigrée (*Setophaga tigrina*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | | 5-18 | 5-9 | 5-12 | 5-11 | 5-17 | 5-16 | 5-9 | 5-14 | 5-14 | 5-12 | 5-19 | 5-13 | 5-11 | 5-18 | 5-13 | 8-15 | 8-9 | 8-30 | | 8-4 | 8-2 | 8-1 | 8-14 | 8-16 | 8-3 | 8-8 | 8-6 | 8-7 | 8-2 | 8-23 | 8-10 |
| Peak | | 5-18 | 5-9 | 5-27 | 5-18 | 5-17 | 5-16 | 5-9 | 5-22 | 5-25 | 5-12 | 5-19 | 5-13 | 5-11 | 5-24 | 5-17 | 9-18 | 8-24 | 8-30 | | 10-1 | 8-2 | 8-3 | 8-21 | 9-8 | 8-11 | 8-18 | 8-6 | 8-27 | 8-25 | 9-12 | 8-25 |
| Last | | 5-21 | 5-22 | 5-30 | 5-31 | 5-17 | 5-25 | 5-9 | 5-23 | 5-27 | 5-22 | 5-22 | 5-24 | 5-24 | 5-31 | 5-23 | 9-18 | 8-31 | 9-11 | | 10-1 | 9-9 | 9-18 | 9-15 | 10-1 | 10-8 | 9-17 | 9-21 | 9-28 | 9-12 | 9-24 | 9-19 |
| Span | | 4 | 14 | 19 | 21 | 1 | 10 | 1 | 10 | 14 | 11 | 4 | 12 | 14 | 14 | 11 | 35 | 23 | 13 | | 59 | 39 | 49 | 33 | 47 | 67 | 41 | 47 | 53 | 42 | 33 | 42 |
| # days | | 3 | 4 | 3 | 9 | 1 | 3 | 1 | 7 | 7 | 8 | 2 | 4 | 8 | 11 | 5 | 4 | 3 | 3 | | 3 | 8 | 24 | 6 | 27 | 16 | 17 | 5 | 15 | 22 | 13 | 12 |
| % days | | 4 | 6 | 4 | 13 | 1 | 4 | 1 | 10 | 10 | 11 | 3 | 6 | 11 | 16 | 7 | 5 | 3 | 3 | | 3 | 9 | 26 | 7 | 30 | 18 | 17 | 5 | 15 | 22 | 13 | 13 |
| High | | 1 | 1 | 4 | 3 | 1 | 1 | 5 | 4 | 4 | 5 | 2 | 2 | 3 | 13 | 4 | 2 | 2 | 1 | | 2 | 1 | 4 | 2 | 12 | 4 | 8 | 1 | 5 | 8 | 3 | 4 |
| Total | | 3 | 4 | 6 | 13 | 1 | 3 | 5 | 12 | 13 | 17 | 3 | 6 | 16 | 36 | 9 | 5 | 4 | 3 | | 4 | 8 | 36 | 8 | 96 | 24 | 44 | 5 | 26 | 59 | 21 | 23 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|-----|-----|-----|------|------|-----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|------|--|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | 0.1 | 0.1 | 0.1 | | 0.3 | | | | | | | | 0.06 | |
| 2006 | | | | | | | | | | | | | | 0.4 | | | 0.04 | | | | | 0.1 | | 0.3 | 0.1 | | | | | | | | | | 0.04 | |
| 2007 | | | | | | | | | | | | | 0.3 | 0.3 | | | 0.06 | | | | | | | 0.1 | 0.3 | | | | | | | | | | 0.03 | |
| 2008 | | | | | | | | | | | | | 0.1 | | 0.6 | 0.1 | 0.09 | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | 0.6 | 0.6 | 0.4 | 0.3 | 0.2 | | | | | 0.1 | | | | | 0.1 | | | 0.3 | | | | | 0.04 | |
| 2010 | | | | | | | | | | | | | | 0.1 | | | 0.01 | | | | | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.4 | | | | | | | | 0.09 | |
| 2011 | | | | | | | | | | | | | | 0.3 | 0.1 | | 0.04 | | | | | 1.7 | 0.3 | 0.7 | 0.9 | 0.9 | 0.4 | 0.3 | | | | | | | 0.4 | |
| 2012 | | | | | | | | | | | | | 0.7 | | | | 0.07 | | | | | | 0.1 | 0.3 | 0.4 | | 0.1 | 0.1 | | | | | | | 0.09 | |
| 2013 | | | | | | | | | | | | | 0.4 | 1.1 | 0.1 | | 0.2 | | | | | 0.4 | 2.3 | 2.6 | 3.0 | 4.1 | | 0.6 | 0.7 | | | | | | 1.1 | |
| 2014 | | | | | | | | | | | | | 0.1 | 0.6 | 1.1 | | 0.2 | | | | | 0.9 | 1.1 | 0.4 | 0.3 | 0.1 | 0.1 | | 0.1 | 0.1 | | | | | 0.3 | |
| 2015 | | | | | | | | | | | | | 1.1 | 1.3 | | | 0.2 | | | | | 0.6 | 3.3 | 1.9 | 0.4 | | 0.1 | | | | | | | | 0.4 | |
| 2016 | | | | | | | | | | | | | | 0.4 | | | 0.04 | | | | | 0.1 | | 0.1 | 0.1 | 0.1 | | 0.1 | | | | | | | 0.05 | |
| 2017 | | | | | | | | | | | | | 0.3 | 0.3 | 0.3 | | 0.09 | | | | | 0.1 | 0.3 | | 1.3 | 0.1 | 1.4 | 0.3 | | 0.1 | | | | | 0.3 | |
| 2018 | | | | | | | | | | | | | 1.3 | 0.6 | 0.4 | | 0.2 | | | | | 1.9 | 1.7 | 1.0 | 3.1 | 0.4 | 0.1 | 0.1 | | | | | | | 0.6 | |
| 2019 | | | | | | | | | | | | | | 1.1 | 3.9 | 0.1 | 0.5 | | | | | | | 0.3 | 0.3 | 0.7 | 1.1 | 0.6 | | | | | | | 0.2 | |
| Mean | | | | | | | | | | | | | 0.3 | 0.5 | 0.5 | 0.04 | 0.1 | | | | | 0.3 | 0.3 | 0.4 | 0.7 | 0.4 | 0.5 | 0.4 | 0.1 | 0.09 | 0.01 | | | | 0.2 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|----|---|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | 1 | | 1 | | | | | | | 3 | |
| 2006 | | | | | | | | | | | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | 1 | 1 | | | 2 | | | | | | | | 1 | 2 | | | | | | | | | | 3 |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | 1 | | | 1 | | | | | | | | | 1 | | | | | | | | | | 1 |
| 2010 | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | 1 | 1 | | 2 | | | | | | | | 6 | |
| 2011 | | | | | | | | | | | | | | 1 | | | 1 | | | | | 6 | 1 | 2 | 4 | 3 | 2 | 1 | | | | | | | 19 | |
| 2012 | | | | | | | | | | | | | 3 | | | | 3 | | | | | | | 2 | | | 1 | | | | | | | | 3 | |
| 2013 | | | | | | | | | | | | | | 1 | | | 1 | | | | | | 3 | 10 | 12 | 4 | 14 | | 2 | | | | | | 45 | |
| 2014 | | | | | | | | | | | | | | 1 | 1 | | 2 | | | | | 5 | 4 | | | | | | 1 | | | | | | 10 | |
| 2015 | | | | | | | | | | | | | 1 | 2 | | | 3 | | | | | | 3 | 15 | 7 | | | | | | | | | | 25 | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | 1 | | | 1 | | | | | | | | | | | 2 |
| 2017 | | | | | | | | | | | | | | 1 | | | 1 | | | | | 1 | 2 | | 1 | 1 | 5 | | | | | | | | 10 | |
| 2018 | | | | | | | | | | | | | 3 | | 1 | | 4 | | | | | 12 | 8 | 3 | 14 | | | 1 | | | | | | | 38 | |
| 2019 | | | | | | | | | | | | | | 5 | 16 | | 21 | | | | | | | 2 | 1 | 2 | | 1 | | | | | | | 6 | |
| Mean | | | | | | | | | | | | | 0.5 | 0.9 | 1.2 | | 2.7 | | | | | 1.7 | 1.3 | 1.8 | 2.7 | 1.3 | 1.2 | 1.2 | 0.1 | 0.1 | | | | 11.4 | | |

Cape May Warbler is typically a rare to uncommon spring and fall migrant at MBO, although in both seasons there has been at least one year with higher counts. Spring migration is highly concentrated, with all records occurring between 9 May and 31 May, and no consistent peak within this period. Fall migration is much more protracted, commonly extending from early August to mid-late September, and in three years even into early October. In several years there has been a distinct peak to migration, but its timing varies considerably, from as early as Week 1 to as late as Week 7. Spring counts were unusually high in 2009, 2013-2015, 2018, and especially so in 2019; fall counts were highest in 2013, with well above-average numbers also in 2011, 2015, and 2018.

NOPA: Northern Parula / Paruline à collier (*Setophaga americana*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | 5-20 | 5-19 | 5-8 | 5-12 | 5-8 | 5-13 | 5-14 | 5-9 | 5-11 | 5-10 | 5-7 | 5-13 | 5-12 | 5-9 | 5-8 | 5-11 | 8-7 | 8-15 | 8-31 | 8-31 | 9-4 | 8-31 | 9-1 | 8-29 | 8-7 | 8-23 | 8-2 | 9-4 | 8-10 | 8-11 | 8-10 | 8-20 |
| Peak | 5-20 | 5-25 | 5-17 | 5-20 | 5-18 | 5-13 | 5-22 | 5-9 | 5-11 | 5-13 | 5-10 | 5-19 | 5-12 | 5-10 | 5-21 | 5-16 | 9-14 | 8-30 | 9-17 | 9-12 | 9-4 | 8-31 | 9-18 | 9-6 | 9-13 | 9-13 | 8-2 | 9-14 | 9-9 | 9-5 | 9-10 | 9-7 |
| Last | 5-28 | 5-29 | 6-1 | 5-22 | 5-27 | 5-18 | 5-30 | 5-13 | 5-23 | 5-25 | 5-20 | 5-28 | 6-4 | 5-20 | 5-28 | 5-25 | 9-28 | 10-4 | 9-17 | 10-3 | 10-4 | 10-2 | 9-24 | 9-26 | 9-26 | 9-20 | 9-20 | 10-4 | 10-3 | 9-18 | 10-3 | 9-27 |
| Span | 9 | 11 | 25 | 11 | 20 | 6 | 17 | 5 | 13 | 16 | 14 | 16 | 24 | 12 | 21 | 15 | 53 | 51 | 18 | 34 | 31 | 33 | 24 | 29 | 51 | 29 | 50 | 31 | 55 | 39 | 55 | 39 |
| # days | 3 | 8 | 10 | 6 | 9 | 5 | 8 | 3 | 4 | 6 | 8 | 7 | 3 | 9 | 11 | 7 | 9 | 8 | 2 | 10 | 3 | 6 | 7 | 10 | 9 | 9 | 5 | 11 | 12 | 13 | 8 | |
| % days | 5 | 12 | 14 | 9 | 13 | 7 | 11 | 4 | 6 | 9 | 11 | 10 | 4 | 13 | 16 | 10 | 10 | 9 | 2 | 11 | 3 | 7 | 8 | 11 | 10 | 10 | 9 | 5 | 11 | 12 | 13 | 9 |
| High | 2 | 6 | 6 | 3 | 5 | 2 | 4 | 5 | 2 | 3 | 4 | 2 | 2 | 2 | 7 | 4 | 5 | 3 | 2 | 2 | 2 | 1 | 3 | 4 | 3 | 2 | 1 | 3 | 3 | 2 | 3 | 3 |
| Total | 4 | 18 | 25 | 8 | 17 | 7 | 13 | 7 | 6 | 10 | 17 | 10 | 4 | 14 | 32 | 13 | 20 | 11 | 3 | 11 | 6 | 6 | 10 | 17 | 12 | 11 | 9 | 8 | 13 | 13 | 19 | 11 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|------|-----|-----|-----|------|------|-----|-----|----|------|------|------|------|-----|-----|-----|-----|------|------|-----|-----|-----|-----|------|-----|
| 2005 | | | | | | | | | | | | | | 0.4 | 0.1 | | 0.07 | | | | 0.1 | | | | 0.1 | 0.4 | 1.4 | 0.6 | 0.2 | | | | | | 0.2 | |
| 2006 | | | | | | | | | | | | | | 0.9 | 1.7 | | 0.3 | | | | | | 0.1 | | 0.6 | 0.1 | | 0.3 | 0.3 | 0.1 | | | | | 0.1 | |
| 2007 | | | | | | | | | | | | 0.1 | 1.0 | 1.7 | 0.4 | 0.3 | 0.4 | | | | | | | | 0.1 | | 0.3 | | | | | | | | 0.03 | |
| 2008 | | | | | | | | | | | | | 0.3 | 0.9 | | | 0.1 | | | | | | | | 0.3 | 0.6 | 0.4 | | 0.1 | 0.1 | | | | | 0.1 | |
| 2009 | | | | | | | | | | | | 0.1 | 0.1 | 1.7 | 0.4 | | 0.2 | | | | | | | | 0.3 | | | 0.3 | | | | | | | 0.07 | |
| 2010 | | | | | | | | | | | | | 0.6 | 0.4 | | | 0.1 | | | | | | | | 0.3 | | 0.3 | 0.1 | 0.1 | | | | | | 0.07 | |
| 2011 | | | | | | | | | | | | | 0.3 | 1.0 | 0.4 | 0.1 | 0.2 | | | | | | | | 0.1 | 0.3 | 0.6 | 0.4 | | | | | | | 0.1 | |
| 2012 | | | | | | | | | | | | | 1.0 | | | | 0.1 | | | | | | | | 0.3 | 1.0 | 1.0 | | 0.1 | | | | | | 0.2 | |
| 2013 | | | | | | | | | | | | | 0.6 | | 0.3 | | 0.09 | | | | 0.1 | | | 0.1 | 0.3 | 0.9 | 0.1 | 0.1 | | | | | | | 0.1 | |
| 2014 | | | | | | | | | | | | | 0.7 | 0.1 | 0.6 | | 0.1 | | | | | | | 0.3 | 0.1 | 0.1 | 0.9 | 0.1 | | | | | | | 0.1 | |
| 2015 | | | | | | | | | | | | 0.3 | 1.0 | 1.1 | | | 0.2 | | | | 0.4 | 0.1 | 0.1 | 0.1 | 0.1 | | 0.1 | 0.1 | | | | | | | 0.09 | |
| 2016 | | | | | | | | | | | | | 0.3 | 1.0 | 0.1 | | 0.1 | | | | | | | 0.3 | | 0.4 | 0.3 | | 0.1 | | | | | | 0.08 | |
| 2017 | | | | | | | | | | | | | 0.3 | 0.1 | | 0.1 | 0.06 | | | | | 0.1 | 0.1 | | 0.3 | 0.7 | 0.1 | 0.3 | | 0.1 | | | | | 0.1 | |
| 2018 | | | | | | | | | | | | | 1.3 | 0.7 | | | 0.2 | | | | | 0.1 | 0.1 | 0.1 | 0.7 | 0.6 | 0.3 | | | | | | | | 0.1 | |
| 2019 | | | | | | | | | | | | 0.1 | | 2.1 | 2.3 | | 0.5 | | | | | 0.1 | 0.1 | | | 0.7 | 0.9 | 0.3 | 0.3 | 0.3 | | | | | | 0.2 |
| Mean | | | | | | | | | | | | 0.05 | 0.5 | 0.8 | 0.4 | 0.04 | 0.2 | | | | 0.05 | 0.04 | 0.04 | 0.05 | 0.2 | 0.3 | 0.5 | 0.2 | 0.09 | 0.08 | | | | | 0.1 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|----|-----|----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|---|---|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 5 | 3 | 1 | | | | | | | 10 | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | | | | | | | 2 | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | 1 | |
| 2008 | | | | | | | | | | | | | 1 | | 1 | | | | | | | | | | | | 1 | 2 | | 1 | | | | | | | 4 | |
| 2009 | | | | | | | | | | | | | | 5 | 2 | | | | | | | | | | | | | | | 1 | | | | | | | 1 | |
| 2010 | | | | | | | | | | | | | 1 | 2 | | | | | | | | | | | | 1 | | 2 | 1 | 1 | | | | | | | 5 | |
| 2011 | | | | | | | | | | | | | | 3 | 1 | | | | | | | | | | | | | | | | | | | | | | 3 | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | 5 | 3 | | | | | | | | | | | 8 |
| 2013 | | | | | | | | | | | | | | | | | | | | | | 1 | | | | 1 | 3 | | 1 | | | | | | | | | 6 |
| 2014 | | | | | | | | | | | | | | | 1 | | | | | | | | | | 1 | | 2 | 1 | | | | | | | | | | 5 |
| 2015 | | | | | | | | | | | | | 3 | 2 | | | | | | | | 2 | | | | | | | | | | | | | | | | 2 |
| 2016 | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | 1 | | | | | | | | | | 3 |
| 2019 | | | | | | | | | | | | | | 1 | 1 | | | | | | | | | | 1 | | 1 | 1 | 1 | | | | | | | | | 4 |
| Mean | | | | | | | | | | | | | 0.3 | 1.0 | 0.4 | | 1.7 | | | | 0.2 | | 0.07 | 0.07 | 0.3 | 0.7 | 1.3 | 0.6 | 0.3 | 0.1 | | | | | | 3.6 | | |

Northern Parula is an uncommon to rare migrant at MBO in both spring and fall. All observations have been between 7 May and 1 June, with the peak of migration most commonly in Week 7 or 8. In fall, the majority of observations occur in September, with a few sightings extending into the first few days of October in six years. Numbers have fluctuated somewhat among years, with no clear trends in either spring or fall.

MAWA: Magnolia Warbler / Paruline à tête cendrée (*Setophaga magnolia*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|------|------|------|-------|-------|------|------|------|-------|------|------|
| First | 5-16 | 5-14 | 5-8 | 5-7 | 5-12 | 5-5 | 5-1 | 5-7 | 5-17 | 5-10 | 5-9 | 5-10 | 5-2 | 5-10 | 5-11 | 5-9 | 8-9 | 8-7 | 8-2 | 8-13 | 8-1 | 8-5 | 8-5 | 8-4 | 8-3 | 8-2 | 8-13 | 8-16 | 8-10 | 8-9 | 8-17 | 8-7 |
| Peak | 5-27 | 5-18 | 5-17 | 5-20 | 5-18 | 5-15 | 5-13 | 5-9 | 5-22 | 5-16 | 5-14 | 5-19 | 5-23 | 5-18 | 5-24 | 5-18 | 8-27 | 8-28 | 8-26 | 9-6 | 8-31 | 9-9 | 9-16 | 9-12 | 9-14 | 9-12 | 9-20 | 9-22 | 9-9 | 9-23 | 9-21 | 9-10 |
| Last | 6-1 | 6-2 | 6-1 | 5-28 | 6-1 | 6-5 | 6-4 | 5-30 | 6-1 | 6-3 | 5-27 | 6-1 | 5-31 | 5-28 | 6-5 | 5-31 | 10-9 | 10-2 | 10-5 | 10-12 | 10-12 | 10-9 | 10-2 | 10-6 | 10-15 | 10-19 | 10-7 | 10-4 | 10-7 | 10-16 | 10-8 | 10-8 |
| Span | 17 | 20 | 25 | 22 | 21 | 32 | 35 | 24 | 16 | 25 | 19 | 23 | 30 | 19 | 26 | 24 | 62 | 57 | 65 | 61 | 73 | 66 | 59 | 64 | 74 | 79 | 56 | 50 | 59 | 69 | 53 | 63 |
| # days | 8 | 17 | 20 | 16 | 18 | 19 | 19 | 21 | 14 | 23 | 17 | 22 | 15 | 18 | 19 | 18 | 44 | 43 | 37 | 49 | 40 | 52 | 45 | 55 | 55 | 54 | 45 | 48 | 51 | 57 | 40 | 48 |
| % days | 14 | 25 | 29 | 23 | 26 | 27 | 27 | 30 | 20 | 34 | 24 | 31 | 21 | 26 | 27 | 26 | 50 | 47 | 41 | 54 | 44 | 57 | 49 | 60 | 60 | 59 | 46 | 49 | 52 | 58 | 41 | 51 |
| High | 4 | 20 | 8 | 13 | 12 | 8 | 20 | 21 | 39 | 20 | 30 | 14 | 14 | 28 | 90 | 23 | 27 | 24 | 19 | 31 | 20 | 50 | 45 | 32 | 48 | 50 | 35 | 28 | 42 | 24 | 46 | 35 |
| Total | 15 | 98 | 70 | 60 | 78 | 37 | 77 | 98 | 101 | 148 | 176 | 102 | 103 | 188 | 316 | 111 | 323 | 303 | 111 | 407 | 152 | 357 | 436 | 354 | 451 | 460 | 343 | 234 | 496 | 356 | 412 | 346 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|------|-----|-----|-----|------|------|------|------|------|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|
| 2005 | | | | | | | | | | | | | | 0.6 | 1.1 | 0.6 | 0.3 | | | | | 0.3 | 1.4 | 12.9 | 11.6 | 6.3 | 7.9 | 4.4 | 1.2 | 0.5 | | | | | 3.7 | |
| 2006 | | | | | | | | | | | | | 0.1 | 8.4 | 5.1 | 0.3 | 1.4 | | | | 0.1 | 0.7 | 2.1 | 10.1 | 8.0 | 11.1 | 4.1 | 5.1 | 1.7 | | | | | | 3.3 | |
| 2007 | | | | | | | | | | | | 0.1 | 2.4 | 3.9 | 2.7 | 0.9 | 1.0 | | | | 0.4 | 0.9 | 0.6 | 4.9 | 3.1 | 1.3 | 3.4 | 1.0 | 0.1 | 0.1 | | | | | 1.2 | |
| 2008 | | | | | | | | | | | | 0.3 | 0.6 | 3.6 | 4.1 | | 0.9 | 0.2 | 0.1 | 0.1 | 0.3 | 2.3 | 3.7 | 13.6 | 23.3 | 9.1 | 2.9 | 2.3 | 0.6 | 0.1 | | | | | 4.5 | |
| 2009 | | | | | | | | | | | | | 0.6 | 7.4 | 2.7 | 0.4 | 1.1 | | | | 0.1 | | 0.4 | 2.7 | 6.6 | 2.0 | 1.9 | 5.7 | 2.0 | 0.1 | 0.1 | | | | | 1.7 |
| 2010 | | | | | | | | | | | | 0.3 | 1.1 | 2.0 | 0.7 | 1.1 | 0.5 | 0.3 | | 0.1 | 0.3 | 0.6 | 7.0 | 10.1 | 4.7 | 12.9 | 9.1 | 3.1 | 2.4 | 0.7 | | | | | 3.9 | |
| 2011 | | | | | | | | | 0.1 | | | | 3.3 | 2.9 | 3.7 | 1.0 | 1.1 | | | | 0.1 | 0.7 | 1.9 | 7.9 | 17.4 | 13.9 | 13.1 | 6.6 | 0.7 | | | | | | | 4.8 |
| 2012 | | | | | | | | | | | | 0.6 | 7.3 | 3.9 | 2.1 | 0.1 | 1.4 | | | | 0.3 | 0.7 | 4.7 | 7.7 | 8.1 | 11.4 | 12.4 | 2.7 | 1.4 | 1.0 | | | | | | 3.9 |
| 2013 | | | | | | | | | | | | | | 10.1 | 4.0 | 0.3 | 1.4 | | | | 0.6 | 0.1 | 1.9 | 9.1 | 10.7 | 15.6 | 18.3 | 6.3 | 1.3 | 0.7 | 0.4 | | | | | 5.0 |
| 2014 | | | | | | | | | | | | | 4.9 | 10.1 | 5.1 | 1.2 | 2.2 | | | | 0.4 | 1.1 | 2.1 | 8.9 | 10.9 | 7.6 | 20.3 | 10.6 | 3.6 | | 0.1 | 0.1 | | | | 5.1 |
| 2015 | | | | | | | | | | | | | 12.0 | 11.1 | 2.0 | | 2.5 | | | | | 0.4 | 2.0 | 6.0 | 7.3 | 7.9 | 16.6 | 8.6 | | 0.3 | | | | | | 3.5 |
| 2016 | | | | | | | | | | | | | 2.0 | 5.6 | 6.3 | 0.7 | 1.5 | | | | | | 1.0 | 4.9 | 6.4 | 3.0 | 7.3 | 8.0 | 2.4 | 0.4 | | | | | | 2.4 |
| 2017 | | | | | | | | | | | | 0.1 | | 5.7 | 7.4 | 1.4 | 1.5 | | | | | 1.0 | 3.1 | 10.9 | 12.1 | 23.4 | 10.9 | 5.3 | 3.6 | 0.6 | | | | | | 5.1 |
| 2018 | | | | | | | | | | | | | 9.0 | 13.3 | 4.6 | | 2.7 | | | | | 0.7 | 0.9 | 7.1 | 9.7 | 8.7 | 5.3 | 10.0 | 6.0 | 1.4 | 1.0 | | | | | 3.6 |
| 2019 | | | | | | | | | | | | | 0.6 | 9.7 | 31.7 | 3.1 | 4.5 | | | | | | 0.1 | 0.7 | 4.0 | 25.1 | 9.4 | 15.7 | 3.1 | 0.6 | | | | | | 4.2 |
| Mean | | | | | | | | | 0.01 | 0.1 | 2.9 | 6.6 | 5.6 | 0.7 | 1.6 | 0.03 | 0.01 | 0.2 | 0.5 | 2.1 | 7.2 | 9.0 | 11.5 | 9.9 | 6.4 | 2.1 | 0.5 | 0.1 | 0.01 | | | | | | 3.7 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|-----|------|------|-----|------|-----|-----|----|-----|-----|-----|------|------|------|------|------|-----|-----|-----|-----|-----|-----|----|-------|
| 2005 | | | | | | | | | | | | | | 1 | 3 | 1 | 5 | | | | | 1 | 7 | 48 | 53 | 20 | 37 | 22 | 3 | 1 | | | | | | 192 |
| 2006 | | | | | | | | | | | | | | 10 | 11 | 1 | 22 | | | | 1 | 3 | 12 | 39 | 21 | 39 | 18 | 16 | 8 | | | | | | | 157 |
| 2007 | | | | | | | | | | | | | 5 | 4 | 5 | 3 | 17 | | | | 1 | 3 | 2 | 24 | 19 | 5 | 14 | 4 | 1 | 1 | | | | | | 74 |
| 2008 | | | | | | | | | | | | | | 7 | 11 | | 18 | | | | | 2 | 12 | 19 | 62 | 109 | 36 | 10 | 11 | 3 | | | | | | 264 |
| 2009 | | | | | | | | | | | | | 1 | 26 | 12 | 2 | 41 | | | | 1 | | 1 | 11 | 31 | 10 | 12 | 25 | 11 | 1 | | | | | | 103 |
| 2010 | | | | | | | | | | | | | 3 | 3 | 3 | 2 | 11 | | | | 2 | 4 | 37 | 44 | 23 | 74 | 46 | 17 | 11 | 2 | | | | | | 260 |
| 2011 | | | | | | | | | | | | | 6 | 8 | 12 | 1 | 27 | | | | 1 | 2 | 4 | 43 | 79 | 52 | 38 | 28 | 5 | | | | | | | 252 |
| 2012 | | | | | | | | | | | | | 8 | 18 | 13 | | 39 | | | | 1 | 3 | 12 | 36 | 31 | 44 | 59 | 7 | 7 | 3 | | | | | | 203 |
| 2013 | | | | | | | | | | | | | | 51 | 14 | 1 | 66 | | | | 3 | | 5 | 45 | 53 | 70 | 84 | 19 | 3 | 2 | | | | | | 284 |
| 2014 | | | | | | | | | | | | | 19 | 39 | 21 | 3 | 82 | | | | 2 | 4 | 9 | 40 | 40 | 27 | 94 | 42 | 20 | | 1 | | | | | 279 |
| 2015 | | | | | | | | | | | | | 31 | 46 | 10 | | 87 | | | | | 1 | 5 | 24 | 20 | 24 | 60 | 37 | | 2 | | | | | | 173 |
| 2016 | | | | | | | | | | | | | 5 | 17 | 17 | 3 | 42 | | | | | | 5 | 16 | 34 | 7 | 24 | 34 | 13 | | | | | | | 133 |
| 2017 | | | | | | | | | | | | | | 24 | 29 | 4 | 57 | | | | | 1 | 11 | 40 | 50 | 89 | 29 | 14 | 13 | 1 | | | | | | 248 |
| 2018 | | | | | | | | | | | | | 26 | 51 | 11 | | 88 | | | | | 1 | 3 | 24 | 34 | 28 | 15 | 40 | 25 | 6 | 5 | | | | | 181 |
| 2019 | | | | | | | | | | | | | | 38 | 127 | 8 | 173 | | | | | | | 5 | 15 | 102 | 28 | 74 | 13 | 4 | | | | | | 241 |
| Mean | | | | | | | | | | | | | 6.9 | 22.9 | 19.9 | 1.9 | 51.7 | | | | 0.8 | 1.7 | 8.3 | 30.5 | 37.7 | 46.7 | 39.6 | 25.9 | 9.6 | 1.7 | 0.4 | | | | | 202.9 |

Magnolia Warbler is a common spring and fall migrant at MBO. It has arrived as early as May 1 in spring, but more commonly is first observed in the second week of May, peaking sharply in mid-late May. Relatively few remain by the last week of spring, and only twice has a late migrant been observed in the early part of summer. Early fall migrants sometimes begin arriving in the first half of August, but numbers typically increase substantially in Week 4. The fall peak has shifted later over time, from Week 4 to 6 (2005 to 2011) to Week 6 to 8 (2012 to 2019). However, across all years, Magnolia Warbler became scarce by late September, with only small numbers remaining into October annually. The three years with the highest mean daily counts in fall (2013, 2014, and 2017) were each followed by substantially above-average numbers the following spring, except in 2018.

BBWA: Bay-breasted Warbler / Paruline à poitrine baie (*Setophaga castanea*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | | 5-18 | | 5-20 | 5-5 | 5-18 | 5-14 | 5-14 | 5-19 | 5-10 | 5-10 | 5-14 | 5-13 | 5-15 | 5-18 | 5-14 | 8-7 | 8-11 | 8-25 | 8-31 | 8-21 | 8-22 | 8-26 | 8-15 | 8-25 | 8-8 | 8-21 | 8-14 | 8-17 | 8-8 | 8-12 | 8-17 |
| Peak | | 5-18 | | 5-20 | 5-5 | 5-18 | 5-14 | 5-14 | 5-25 | 5-21 | 5-16 | 5-14 | 5-23 | 5-17 | 5-24 | 5-17 | 9-21 | 9-1 | 8-25 | 8-31 | 8-21 | 9-9 | 8-26 | 8-15 | 8-27 | 8-23 | 8-21 | 8-30 | 9-5 | 8-26 | 9-8 | 8-29 |
| Last | | 5-18 | | 5-26 | 5-30 | 5-22 | 5-22 | 5-18 | 5-25 | 5-30 | 5-19 | 6-1 | 6-1 | 5-24 | 6-1 | 5-25 | 9-21 | 9-24 | 8-26 | 9-7 | 9-26 | 10-1 | 9-27 | 9-22 | 10-1 | 9-23 | 9-28 | 8-30 | 9-29 | 9-28 | 9-22 | 9-20 |
| Span | | 1 | | 7 | 26 | 5 | 9 | 5 | 7 | 21 | 10 | 19 | 20 | 10 | 15 | 12 | 46 | 45 | 2 | 8 | 37 | 41 | 33 | 39 | 38 | 47 | 39 | 17 | 44 | 52 | 42 | 35 |
| # days | | 1 | | 4 | 10 | 2 | 2 | 2 | 3 | 4 | 7 | 6 | 7 | 7 | 12 | 5 | 7 | 8 | 2 | 4 | 4 | 5 | 6 | 8 | 11 | 17 | 5 | 3 | 9 | 15 | 15 | 8 |
| % days | | 1 | | 6 | 14 | 3 | 3 | 3 | 4 | 6 | 10 | 9 | 10 | 10 | 17 | 7 | 8 | 9 | 2 | 4 | 4 | 5 | 7 | 9 | 12 | 19 | 5 | 3 | 9 | 15 | 15 | 9 |
| High | | 1 | | 2 | 4 | 1 | 1 | 1 | 4 | 4 | 2 | 3 | 2 | 3 | 32 | 5 | 2 | 2 | 1 | 1 | 1 | 3 | 2 | 1 | 4 | 2 | 1 | 4 | 2 | 5 | 6 | 2 |
| Total | | 1 | | 6 | 16 | 2 | 2 | 2 | 7 | 7 | 9 | 8 | 9 | 11 | 76 | 10 | 8 | 10 | 2 | 4 | 4 | 7 | 8 | 8 | 18 | 22 | 5 | 6 | 11 | 24 | 33 | 11 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|------|-----|-----|-----|------|------|-----|-----|----|----|------|------|------|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|------|------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | 0.3 | 0.3 | | 0.1 | 0.3 | | | | | | 0.09 | |
| 2006 | | | | | | | | | | | | | | 0.1 | | | 0.01 | | | | | | 0.1 | | 0.1 | 0.9 | | | 0.3 | | | | | | 0.1 | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | 0.3 | | | | | | | | | | | | 0.02 |
| 2008 | | | | | | | | | | | | | | 0.4 | 0.4 | | 0.09 | | | | | | | | 0.1 | 0.4 | | | | | | | | | | 0.04 |
| 2009 | | | | | | | | | | | | 0.6 | 1.0 | 0.6 | | 0.1 | 0.2 | | | | | | | 0.1 | | 0.1 | | | | 0.1 | | | | | | 0.04 |
| 2010 | | | | | | | | | | | | | | 0.3 | | | 0.03 | | | | | | | 0.3 | | 0.4 | 0.1 | | 0.1 | | | | | | | 0.08 |
| 2011 | | | | | | | | | | | | | 0.1 | 0.1 | | | 0.03 | | | | | | | 0.3 | 0.4 | | 0.3 | | 0.1 | | | | | | | 0.09 |
| 2012 | | | | | | | | | | | | | 0.1 | 0.1 | | | 0.03 | | | | | | 0.1 | 0.3 | | 0.1 | 0.4 | 0.1 | | | | | | | | 0.09 |
| 2013 | | | | | | | | | | | | | | 0.4 | 0.6 | | 0.1 | | | | | | | 1.1 | 0.9 | 0.1 | 0.3 | 0.1 | 0.1 | | | | | | | 0.2 |
| 2014 | | | | | | | | | | | | | 0.1 | 0.7 | | 0.2 | 0.1 | | | | | | 0.6 | | 0.6 | 0.7 | | 0.9 | 0.4 | | | | | | | 0.2 |
| 2015 | | | | | | | | | | | | | 0.4 | 0.9 | | | 0.1 | | | | | | | 0.1 | 0.1 | | | 0.3 | | | | | | | | 0.05 |
| 2016 | | | | | | | | | | | | | 0.6 | 0.4 | | 0.1 | 0.1 | | | | | | 0.1 | 0.1 | | 0.6 | | | | | | | | | | 0.06 |
| 2017 | | | | | | | | | | | | | 0.1 | 0.1 | 0.7 | 0.3 | 0.1 | | | | | | 0.1 | 0.1 | 0.3 | 0.7 | 0.1 | | 0.1 | | | | | | | 0.1 |
| 2018 | | | | | | | | | | | | | 0.1 | 1.3 | 0.1 | | 0.2 | | | | | | 0.3 | 0.3 | 1.4 | 0.7 | 0.1 | 0.3 | 0.3 | | | | | | | 0.2 |
| 2019 | | | | | | | | | | | | | | 1.3 | 9.3 | 0.3 | 1.1 | | | | | | 0.1 | 0.3 | 0.3 | 0.3 | 2.6 | 1.1 | 0.3 | | | | | | | 0.3 |
| Mean | | | | | | | | | | | | 0.04 | 0.2 | 0.5 | 0.7 | 0.07 | 0.2 | | | | | 0.01 | 0.09 | 0.07 | 0.4 | 0.4 | 0.3 | 0.3 | 0.1 | 0.08 | | | | | | 0.1 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2 | | | 2 | | | | | | | 5 | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2 | | | | | | | | | | | 3 |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | 2 | | | | | | | | | | | | 2 |
| 2008 | | | | | | | | | | | | | | | 1 | | 1 | | | | | | | | 1 | 2 | | | | | | | | | | 3 |
| 2009 | | | | | | | | | | | | | 1 | 1 | | 1 | 3 | | | | | | | | 1 | 1 | | | | | | | | | | 2 |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | 2 | | 3 | | | 1 | | | | | | | 6 |
| 2011 | | | | | | | | | | | | | | 1 | | | 1 | | | | | | | 2 | 3 | | 2 | | | | | | | | | 7 |
| 2012 | | | | | | | | | | | | | | 1 | | | 1 | | | | | | 1 | 1 | | | 3 | 1 | | | | | | | | 6 |
| 2013 | | | | | | | | | | | | | | 1 | 1 | | 2 | | | | | | | 6 | 2 | | 2 | | | | | | | | | 10 |
| 2014 | | | | | | | | | | | | | | 3 | | 1 | 4 | | | | | 1 | | 1 | 3 | | 3 | 2 | | | | | | | | 10 |
| 2015 | | | | | | | | | | | | | 1 | 1 | | | 2 | | | | | | | 1 | | | | | | | | | | | | 1 |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | 1 |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | 1 |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | 4 | 3 | | 2 | 2 | | | | | | | 13 |
| 2019 | | | | | | | | | | | | | | | 30 | 1 | 31 | | | | | | 1 | 1 | 1 | 1 | 10 | 2 | 2 | | | | | | | 17 |
| Mean | | | | | | | | | | | | | 0.1 | 0.5 | 2.1 | 0.2 | 3.0 | | | | | 0.2 | 0.3 | 1.4 | 1.2 | 1.1 | 0.8 | 0.6 | 0.2 | | | | | | 5.8 | |

Bay-breasted Warbler is a generally rare spring and fall migrant at MBO. It was missed in spring in two of the first three years, and remained scarce (fewer than 10 sightings) in most subsequent years; the high count of 76 in 2019 represented an exceptional total. All spring sightings have occurred within a span of just under four weeks (5 May to 1 June), with nearly 80% of them in Week 8 or 9. Fall migration extends over a somewhat longer period, spanning 7 August to 1 October overall, although the vast majority of records are between late August and mid-September. Similar to Magnolia Warbler, fall numbers were particularly high in 2013-2014, as well as in 2018-2019.

BLBW: Blackburnian Warbler / Paruline à gorge orangée (*Setophaga fusca*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | 5-21 | 5-11 | 5-8 | 5-20 | 5-15 | 5-13 | 5-14 | 5-9 | 5-22 | 5-13 | 5-10 | 5-17 | 5-12 | 5-10 | 5-21 | 5-14 | 8-8 | 8-10 | 8-19 | 8-21 | 8-28 | 8-17 | 8-26 | 8-20 | 8-25 | | 8-5 | 8-8 | 8-29 | 8-24 | 9-4 | 8-19 |
| Peak | 5-21 | 5-18 | 5-8 | 5-20 | 5-15 | 5-13 | 5-14 | 5-9 | 5-22 | 5-13 | 5-12 | 5-17 | 5-12 | 5-15 | 5-24 | 5-15 | 9-14 | 9-2 | 8-19 | 8-21 | 8-28 | 8-17 | 8-26 | 8-20 | 8-25 | | 8-5 | 8-8 | 8-29 | 8-25 | 9-4 | 8-24 |
| Last | 5-21 | 5-20 | 5-28 | 5-20 | 5-28 | 5-16 | 5-29 | 5-21 | 5-22 | 5-31 | 5-19 | 5-20 | 5-26 | 5-17 | 5-28 | 5-23 | 9-14 | 9-4 | 8-25 | 8-25 | 9-4 | 9-22 | 9-20 | 8-31 | 9-22 | | 8-8 | 9-12 | 9-17 | 8-28 | 9-22 | 9-7 |
| Span | 1 | 10 | 21 | 1 | 14 | 4 | 16 | 13 | 1 | 19 | 10 | 4 | 15 | 8 | 8 | 10 | 38 | 26 | 7 | 5 | 8 | 37 | 26 | 12 | 29 | | 4 | 36 | 20 | 5 | 19 | 19 |
| # days | 1 | 4 | 4 | 1 | 4 | 2 | 2 | 4 | 1 | 5 | 7 | 4 | 3 | 5 | 7 | 4 | 3 | 10 | 2 | 2 | 3 | 8 | 10 | 2 | 4 | | 2 | 4 | 4 | 5 | 7 | 5 |
| % days | 2 | 6 | 6 | 1 | 6 | 3 | 3 | 6 | 1 | 7 | 10 | 6 | 4 | 7 | 10 | 5 | 3 | 11 | 2 | 2 | 3 | 9 | 11 | 2 | 4 | | 2 | 4 | 4 | 5 | 7 | 5 |
| High | 1 | 2 | 1 | 2 | 1 | 1 | 2 | 4 | 1 | 3 | 5 | 2 | 1 | 3 | 7 | 2 | 2 | 4 | 1 | 1 | 1 | 3 | 3 | 1 | 1 | | 1 | 1 | 1 | 2 | 1 | 2 |
| Total | 1 | 6 | 4 | 2 | 4 | 2 | 3 | 8 | 1 | 8 | 12 | 5 | 3 | 9 | 26 | 6 | 4 | 16 | 2 | 2 | 3 | 11 | 15 | 2 | 4 | | 2 | 4 | 4 | 8 | 7 | 6 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|------|-----|-----|-----|------|------|------|------|------|------|------|-----|-----|-----|------|------|------|----|-----|-----|-----|------|------|------|
| 2005 | | | | | | | | | | | | | | 0.1 | | | 0.02 | | | | | 0.1 | | | 0.1 | | 0.3 | | | | | | | | 0.05 |
| 2006 | | | | | | | | | | | | | 0.1 | 0.7 | | | 0.09 | | 0.2 | 0.09 | | 0.3 | 0.7 | 0.1 | 1.1 | | | | | | | | | 0.2 | |
| 2007 | | | | | | | | | | | | 0.1 | 0.1 | 0.3 | | | 0.06 | | | | | | 0.1 | 0.1 | | | | | | | | | | 0.02 | |
| 2008 | | | | | | | | | | | | | | 0.3 | | | 0.03 | | | | | | 0.1 | 0.1 | | | | | | | | | | 0.02 | |
| 2009 | | | | | | | | | | | | | 0.1 | 0.1 | 0.3 | | 0.06 | | | | | | | 0.1 | 0.3 | | | | | | | | | 0.03 | |
| 2010 | | | | | | | | | | | | | 0.1 | 0.1 | | | 0.03 | 0.3 | | 0.1 | | | 1.0 | 0.1 | | 0.3 | | 0.1 | | | | | 0.1 | | |
| 2011 | | | | | | | | | | | | | 0.3 | | 0.1 | | 0.04 | | | | | | | 0.7 | 0.7 | 0.3 | 0.3 | 0.1 | | | | | | 0.2 | |
| 2012 | | | | | | | | | | | | | 0.9 | 0.3 | | | 0.1 | | | | | | 0.1 | | | | | | | | | | | 0.02 | |
| 2013 | | | | | | | | | | | | | | 0.1 | | | 0.01 | | | | | | | 0.3 | 0.1 | | | 0.1 | | | | | | 0.04 | |
| 2014 | | | | | | | | | | | | | 0.4 | 0.6 | | 0.2 | 0.1 | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | 1.1 | 0.6 | | | 0.2 | | | | 0.1 | 0.1 | | | | | | | | | | | | 0.02 | |
| 2016 | | | | | | | | | | | | | | 0.7 | | | 0.07 | | | | | 0.1 | | 0.3 | | | 0.1 | | | | | | | 0.04 | |
| 2017 | | | | | | | | | | | | | 0.1 | | 0.3 | | 0.04 | | | | | | | | 0.3 | 0.1 | 0.1 | | | | | | | 0.04 | |
| 2018 | | | | | | | | | | | | | 1.1 | 0.1 | | | 0.1 | | | | | | | 1.1 | | | | | | | | | | 0.08 | |
| 2019 | | | | | | | | | | | | | 0.7 | 3.0 | | 0.4 | | | | | | | | | 0.1 | 0.1 | 0.4 | 0.3 | | | | | | 0.07 | |
| Mean | | | | | | | | | | | | 0.01 | 0.3 | 0.3 | 0.3 | 0.01 | 0.09 | 0.01 | 0.02 | 0.02 | 0.01 | 0.05 | 0.1 | 0.2 | 0.2 | 0.06 | 0.09 | 0.05 | | | | | 0.06 | | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|-----|-----|----|-----|----|-----|-----|------|------|-----|-----|-----|-----|------|-----|----|----|-----|-----|-----|-----|-----|----|---|---|
| 2005 | | | | | | | | | | | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | 1 | 3 | 1 | 3 | | | | | | | | | | 8 | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | 1 | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | 1 | | 1 | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | 4 | | | | | | | | | | | | | 4 | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | 3 | 1 | 2 | | | | | | | | | | 6 | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | 1 | | | 1 | | | | | | | | | | | 1 | | | | | | | | 1 | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | | 1 |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | 2 | | | | | | | | | | | | | 2 |
| 2019 | | | | | | | | | | | | | | 2 | 6 | | 8 | | | | | | | | 1 | 1 | 1 | 1 | | | | | | | | 4 | |
| Mean | | | | | | | | | | | | | 0.3 | 0.5 | | 0.7 | | | | 0.07 | 0.07 | 0.5 | 0.5 | 0.3 | 0.2 | 0.07 | 0.1 | | | | | | | 1.8 | | | |

Blackburnian Warbler is a regular but rare spring and fall migrant at MBO. Although it has been observed annually in spring, it has been banded in just four of 15 years; in fall none were observed in 2014, but it has been banded in 8 of the other 14 years. All spring sightings have occurred in May, the earliest being 8 May, though there was a June 2010 sighting that was likely a late migrant. The only other summer record was in July 2006. Overall, fall sightings have ranged from 5 August to 22 September but the vast majority of observations are between mid-August and early September. Fall numbers were substantially above average only in 2010 and 2011, whereas the only particularly high counts in spring were in 2015 and 2019.

YEWA: Yellow Warbler / Paruline jaune (*Setophaga petechia*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | 5-11 | 5-4 | 5-7 | 5-6 | 4-28 | 5-2 | 5-1 | 5-4 | 5-5 | 5-9 | 5-7 | 5-4 | 5-4 | 5-6 | 5-7 | 5-5 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | |
| Peak | 5-20 | 5-25 | 5-13 | 5-22 | 5-19 | 5-13 | 5-29 | 5-12 | 5-16 | 5-27 | 5-26 | 5-24 | 5-17 | 5-16 | 5-21 | 5-20 | 8-3 | 8-6 | 8-5 | 8-1 | 8-6 | 8-4 | 8-5 | 8-1 | 8-4 | 8-9 | 8-16 | 8-3 | 8-8 | 8-3 | 8-7 | 8-5 |
| Last | 6-3 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-4 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-4 | 9-19 | 9-25 | 9-5 | 9-3 | 9-3 | 9-12 | 9-11 | 9-14 | 9-17 | 9-12 | 10-4 | 9-21 | 9-27 | 9-19 | 9-21 | 9-16 |
| Span | 24 | 33 | 30 | 31 | 39 | 35 | 36 | 33 | 32 | 27 | 30 | 33 | 33 | 31 | 30 | 32 | 50 | 56 | 36 | 34 | 34 | 43 | 42 | 45 | 48 | 43 | 65 | 52 | 58 | 50 | 52 | 47 |
| # days | 24 | 30 | 30 | 31 | 38 | 32 | 31 | 33 | 32 | 27 | 30 | 29 | 25 | 30 | 29 | 30 | 27 | 33 | 24 | 23 | 21 | 24 | 28 | 23 | 30 | 27 | 29 | 25 | 23 | 19 | 29 | 26 |
| % days | 41 | 43 | 43 | 44 | 55 | 46 | 44 | 47 | 46 | 40 | 43 | 41 | 36 | 43 | 41 | 44 | 31 | 36 | 26 | 25 | 23 | 26 | 31 | 25 | 33 | 30 | 30 | 26 | 23 | 19 | 30 | 28 |
| High | 25 | 30 | 25 | 25 | 20 | 15 | 21 | 30 | 25 | 28 | 15 | 18 | 38 | 18 | 36 | 25 | 20 | 18 | 15 | 14 | 15 | 15 | 28 | 18 | 11 | 6 | 10 | 15 | 7 | 6 | 16 | 14 |
| Total | 358 | 444 | 405 | 390 | 339 | 303 | 317 | 431 | 450 | 329 | 252 | 289 | 303 | 282 | 397 | 353 | 135 | 189 | 115 | 106 | 131 | 93 | 246 | 148 | 115 | 69 | 105 | 115 | 77 | 50 | 161 | 124 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|-----|-----|-----|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|------|------|------|------|-----|-----|-----|-----|----|
| 2005 | | | | | | | | | | | | 6.3 | 16.7 | 14.6 | 19.0 | 6.1 | 11.7 | 5.5 | 8.5 | 7.9 | 6.0 | 3.3 | 1.7 | 0.1 | | 0.1 | 0.1 | | | | | | | 1.5 | |
| 2006 | | | | | | | | | | | | 0.4 | 11.7 | 15.3 | 21.1 | 14.9 | 6.4 | 10.2 | 5.2 | 7.5 | 10.3 | 9.9 | 3.7 | 1.9 | 0.4 | 0.6 | 0.1 | 0.1 | | | | | | 2.1 | |
| 2007 | | | | | | | | | | | | 0.6 | 17.9 | 15.6 | 15.1 | 8.7 | 5.8 | 7.7 | 5.0 | 6.5 | 8.1 | 5.3 | 2.3 | 0.6 | | 0.1 | | | | | | | | 1.3 | |
| 2008 | | | | | | | | | | | | 2.7 | 9.0 | 17.1 | 16.9 | 10.0 | 5.6 | 6.6 | 3.0 | 4.8 | 5.9 | 5.1 | 3.3 | 0.4 | 0.4 | | | | | | | | | 1.2 | |
| 2009 | | | | | | | | | | 2.0 | 3.0 | 9.1 | 14.1 | 11.6 | 8.6 | 4.9 | 5.3 | 2.8 | 3.9 | 7.3 | 7.9 | 3.4 | | 0.1 | | | | | | | | | | 1.4 | |
| 2010 | | | | | | | | | | | | 2.0 | 11.7 | 13.1 | 9.3 | 7.1 | 4.3 | 1.3 | 2.7 | 2.2 | 6.6 | 3.9 | 2.1 | 0.1 | 0.3 | 0.1 | 0.1 | | | | | | | 1.0 | |
| 2011 | | | | | | | | | | 0.1 | 0.6 | 7.3 | 12.0 | 15.1 | 10.1 | 4.5 | 3.3 | 7.3 | 5.6 | 18.1 | 10.4 | 4.9 | 0.7 | | 1.0 | | | | | | | | | 2.7 | |
| 2012 | | | | | | | | | | | | 5.4 | 20.7 | 15.6 | 12.1 | 7.7 | 6.2 | 2.5 | 19.0 | 10.8 | 10.7 | 6.3 | 3.4 | 0.6 | | | 0.1 | | | | | | | 1.6 | |
| 2013 | | | | | | | | | | | | 5.0 | 13.7 | 20.0 | 13.0 | 12.6 | 6.4 | 4.3 | 2.0 | 3.0 | 6.3 | 2.6 | 5.0 | 2.3 | 0.1 | | 0.1 | | | | | | | 1.3 | |
| 2014 | | | | | | | | | | | | | 10.9 | 14.7 | 12.7 | 10.2 | 4.8 | 3.0 | 1.0 | 1.9 | 3.0 | 3.0 | 1.7 | 1.9 | 0.1 | | 0.1 | | | | | | | 0.8 | |
| 2015 | | | | | | | | | | | | 1.4 | 9.9 | 10.1 | 8.3 | 6.3 | 3.6 | 2.0 | 1.8 | 1.9 | 4.9 | 3.7 | 4.0 | 2.0 | 0.3 | | | | 0.1 | | | | | 1.1 | |
| 2016 | | | | | | | | | | | | 0.4 | 6.4 | 12.4 | 14.1 | 7.9 | 4.1 | 5.0 | 1.8 | 3.4 | 8.0 | 4.7 | 2.9 | 0.6 | 0.1 | | | 0.1 | | | | | | 1.2 | |
| 2017 | | | | | | | | | | | | 0.1 | 2.3 | 18.1 | 12.1 | 10.6 | 4.3 | 3.7 | 2.3 | 2.9 | 3.7 | 4.1 | 1.9 | 1.0 | | 0.1 | | | 0.1 | | | | | 0.8 | |
| 2018 | | | | | | | | | | | | 1.1 | 11.0 | 12.9 | 10.3 | 5.0 | 4.0 | 3.0 | 1.3 | 2.0 | 3.0 | 2.6 | 1.0 | 0.4 | | | 0.1 | | | | | | | 0.5 | |
| 2019 | | | | | | | | | | | | 0.6 | 4.0 | 18.6 | 21.3 | 12.3 | 5.7 | 5.3 | 1.8 | 3.3 | 7.4 | 9.0 | 4.7 | 1.4 | 0.1 | | 0.1 | 0.1 | | | | | | 1.6 | |
| Mean | | | | | | | | | | | 0.1 | 1.6 | 10.1 | 15.1 | 13.8 | 9.9 | 5.1 | 6.8 | 4.4 | 5.5 | 7.4 | 5.6 | 3.2 | 1.0 | 0.2 | 0.1 | 0.07 | 0.05 | 0.01 | 0.01 | | | | 1.3 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|-----|-----|-----|------|-----|-----|------|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|----|------|-----|-----|-----|-----|------|----|
| 2005 | | | | | | | | | | | | | 10 | 27 | 9 | 1 | 47 | | 4 | 4 | 6 | 19 | 7 | 5 | | | 1 | 1 | | | | | | | 39 | |
| 2006 | | | | | | | | | | | | | 3 | 5 | 13 | | 21 | | 3 | 3 | 23 | 14 | 4 | | 1 | 1 | | | | | | | | | 43 | |
| 2007 | | | | | | | | | | | | | 16 | 5 | 7 | 1 | 29 | | | | 27 | 9 | 6 | | | 1 | | | | | | | | | | 43 |
| 2008 | | | | | | | | | | | | 2 | 1 | 24 | 9 | 36 | | | | 24 | 4 | 7 | 2 | 2 | | | | | | | | | | | 39 | |
| 2009 | | | | | | | | | | 2 | | 8 | 29 | 3 | 1 | 43 | 1 | 9 | 10 | 25 | 18 | 7 | | | | | | | | | | | | | | 50 |
| 2010 | | | | | | | | | | | | | 7 | 12 | 4 | 3 | 26 | | 8 | 8 | 29 | 10 | 3 | | | | 1 | | | | | | | | | 43 |
| 2011 | | | | | | | | | | | | | 7 | 8 | 13 | 2 | 30 | 2 | 9 | 11 | 52 | 15 | 5 | 3 | | | | | | | | | | | | 75 |
| 2012 | | | | | | | | | | | | 3 | 13 | 17 | 2 | 2 | 37 | 4 | 57 | 61 | 31 | 9 | | 1 | | | 1 | | | | | | | | | 42 |
| 2013 | | | | | | | | | | | | 1 | 10 | 25 | 6 | 1 | 43 | 1 | 7 | 8 | 19 | 2 | 6 | 7 | | | | | | | | | | | | 34 |
| 2014 | | | | | | | | | | | | | 15 | 16 | 4 | 1 | 36 | 1 | 3 | 4 | 7 | 3 | | | | | 1 | | | | | | | | | 11 |
| 2015 | | | | | | | | | | | | 2 | 12 | 12 | 7 | 1 | 34 | | 3 | 3 | 12 | 5 | 2 | 1 | | | | | | 1 | | | | | | 21 |
| 2016 | | | | | | | | | | | | 1 | 12 | 16 | 5 | 2 | 36 | 4 | 1 | 5 | 18 | 4 | 1 | | | | | | | | | | | | | 23 |
| 2017 | | | | | | | | | | | | | 4 | 30 | 2 | 1 | 37 | | 5 | 5 | 12 | 7 | 2 | 1 | | 1 | | | | | | | | | | 23 |
| 2018 | | | | | | | | | | | | 1 | 11 | 24 | 4 | | 40 | 1 | 1 | 2 | 9 | 6 | | | | | 1 | | | | | | | | | 16 |
| 2019 | | | | | | | | | | | | | 28 | 38 | 4 | 7 | 70 | 5 | 2 | 7 | 26 | 24 | 10 | 2 | 1 | | | | | | | | | | | 63 |
| Mean | | | | | | | | | | | 0.1 | 0.7 | 8.6 | 18.5 | 8.4 | 1.3 | 37.7 | 1.3 | 7.5 | 8.7 | 21.3 | 9.9 | 4.0 | 1.5 | 0.3 | 0.2 | 0.3 | 0.1 | | 0.07 | | | | | 37.7 | |

Yellow Warbler is the most common breeding warbler at MBO. The earliest spring arrivals are almost always in the first week of May, except for 2005 (11 May), 2009 (28 April), and 2014 (9 May). Numbers most often peak in Week 8, after which migrants taper off and mostly local residents are detected by Week 10 and in summer. Almost every fall, the number observed and banded is by far the highest in the first week of August, and already substantially lower by mid-month. There have been sightings beyond the middle of fall in only seven years, though notably that includes records in each of the past five years. Spring numbers have generally fluctuated around the long-term mean, whereas summer counts have been below average since 2013, in sharp contrast to a record high total in 2012 that reflected an unusually large and early movement of fall migrants. Fall numbers have also been at or below average since 2013, aside from rebounding in 2019.

CSWA: Chestnut-sided Warbler / Paruline à flancs marron (*Setophaga pensylvanica*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|------|------|------|------|------|
| First | 5-16 | 5-10 | 5-10 | 5-20 | 5-2 | 5-16 | 5-7 | 5-11 | 5-11 | 5-10 | 5-10 | 5-12 | 5-16 | 5-9 | 5-11 | 5-11 | 8-2 | 8-12 | 8-3 | 8-1 | 8-4 | 8-1 | 8-3 | 8-1 | 8-3 | 8-5 | 8-3 | 8-1 | 8-3 | 8-2 | 8-3 | 8-3 |
| Peak | 5-28 | 5-16 | 5-20 | 5-26 | 5-30 | 5-27 | 5-13 | 5-24 | 5-22 | 5-14 | 5-21 | 5-17 | 5-24 | 5-17 | 5-25 | 5-21 | 8-22 | 8-28 | 8-26 | 8-17 | 8-16 | 8-18 | 8-26 | 8-8 | 8-20 | 8-10 | 8-15 | 8-25 | 8-24 | 8-26 | 8-31 | 8-20 |
| Last | 6-3 | 6-5 | 6-5 | 6-1 | 6-5 | 6-5 | 6-5 | 6-5 | 5-30 | 6-3 | 6-3 | 6-5 | 6-5 | 6-5 | 6-5 | 6-3 | 9-23 | 9-30 | 9-11 | 9-27 | 9-22 | 9-18 | 9-25 | 9-24 | 10-13 | 9-27 | 9-28 | 9-17 | 9-19 | 9-30 | 9-25 | 9-24 |
| Span | 19 | 27 | 27 | 13 | 35 | 21 | 30 | 26 | 20 | 25 | 25 | 25 | 21 | 28 | 26 | 25 | 53 | 50 | 40 | 58 | 50 | 49 | 54 | 55 | 72 | 54 | 57 | 48 | 48 | 60 | 54 | 53 |
| # days | 11 | 13 | 19 | 13 | 21 | 13 | 24 | 22 | 18 | 24 | 24 | 25 | 21 | 24 | 20 | 19 | 24 | 20 | 19 | 32 | 27 | 22 | 32 | 28 | 31 | 17 | 27 | 29 | 32 | 34 | 32 | 27 |
| % days | 19 | 19 | 27 | 19 | 30 | 19 | 34 | 31 | 26 | 35 | 34 | 36 | 30 | 34 | 29 | 28 | 27 | 22 | 21 | 35 | 30 | 24 | 35 | 31 | 34 | 19 | 28 | 30 | 33 | 35 | 33 | 29 |
| High | 4 | 4 | 5 | 4 | 4 | 3 | 4 | 6 | 5 | 4 | 7 | 11 | 8 | 8 | 19 | 6 | 5 | 3 | 3 | 6 | 4 | 10 | 11 | 3 | 4 | 3 | 4 | 7 | 10 | 12 | 7 | 6 |
| Total | 18 | 23 | 35 | 30 | 34 | 19 | 46 | 45 | 38 | 50 | 65 | 89 | 65 | 82 | 108 | 50 | 40 | 27 | 23 | 56 | 41 | 51 | 73 | 40 | 48 | 27 | 48 | 63 | 75 | 90 | 59 | 51 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|------|-----|-----|-----|-----|
| 2005 | | | | | | | | | | | | | | 0.1 | 1.7 | 1.0 | 0.3 | 0.3 | 0.2 | 0.2 | 0.4 | 0.4 | 0.7 | 1.6 | 0.9 | 0.7 | 0.6 | 0.4 | | | | | | 0.5 | |
| 2006 | | | | | | | | | | | | | 0.3 | 2.0 | 0.7 | 0.3 | 0.3 | | | | | 0.7 | 0.4 | 0.6 | 0.6 | 0.6 | 0.4 | 0.4 | 0.1 | | | | | | 0.3 |
| 2007 | | | | | | | | | | | | | 0.6 | 1.6 | 2.6 | 0.3 | 0.5 | 0.3 | | | 0.2 | 0.7 | 0.4 | 0.6 | 0.7 | 0.3 | 0.6 | | | | | | | | 0.3 |
| 2008 | | | | | | | | | | | | | 0.7 | 2.7 | 0.9 | 0.4 | 0.4 | | | | 0.4 | 0.7 | 2.6 | 0.7 | 1.3 | 1.3 | 0.6 | 0.3 | 0.1 | | | | | | 0.6 |
| 2009 | | | | | | | | | | | | 0.3 | 0.1 | 1.9 | 1.6 | 1.0 | 0.5 | 0.7 | 0.5 | 0.6 | 0.4 | 1.0 | 1.4 | 1.3 | 1.1 | 0.1 | 0.1 | 0.3 | | | | | | 0.5 | |
| 2010 | | | | | | | | | | | | | 0.7 | 0.9 | 1.1 | 0.3 | 0.3 | | | | 0.3 | 0.4 | 3.7 | 0.9 | 0.1 | 1.4 | 0.4 | | | | | | | | 0.6 |
| 2011 | | | | | | | | | | | | 0.1 | 1.3 | 1.3 | 2.6 | 1.3 | 0.7 | 0.7 | | 0.3 | 0.3 | 1.4 | 1.6 | 2.7 | 2.1 | 0.7 | 0.7 | 0.9 | | | | | | 0.8 | |
| 2012 | | | | | | | | | | | | | 1.4 | 1.0 | 2.7 | 1.3 | 0.6 | 0.3 | | 0.1 | 1.0 | 1.6 | 0.9 | 0.3 | 0.9 | 0.7 | 0.3 | 0.1 | | | | | | 0.4 | |
| 2013 | | | | | | | | | | | | | 0.7 | 2.6 | 2.0 | 0.1 | 0.5 | 0.5 | | | 0.6 | 1.0 | 1.9 | 1.4 | 0.4 | 0.4 | 0.9 | 0.1 | | 0.1 | | | | | 0.5 |
| 2014 | | | | | | | | | | | | | 1.1 | 2.4 | 2.3 | 1.5 | 0.7 | 0.3 | 0.3 | 0.3 | 0.3 | 0.4 | 0.9 | 0.3 | 0.6 | 0.4 | 0.9 | | 0.1 | | | | | 0.3 | |
| 2015 | | | | | | | | | | | | | 1.1 | 3.9 | 3.0 | 1.3 | 0.9 | 0.7 | 0.8 | 0.7 | 0.7 | 1.0 | 1.9 | 1.1 | 0.9 | 0.4 | 0.7 | | 0.1 | | | | | 0.5 | |
| 2016 | | | | | | | | | | | | 3.0 | 5.1 | 3.3 | 1.3 | 1.3 | 1.3 | 2.0 | 2.0 | 2.0 | 1.3 | 1.3 | 2.0 | 2.6 | 0.9 | 0.7 | 0.3 | | | | | | | 0.6 | |
| 2017 | | | | | | | | | | | | | 2.3 | 4.7 | 2.3 | 0.9 | 0.8 | 0.4 | 0.4 | 1.6 | 2.1 | 3.3 | 1.1 | 1.3 | 0.7 | 0.1 | | | | | | | | 0.8 | |
| 2018 | | | | | | | | | | | | 2.0 | 6.0 | 2.4 | 1.3 | 1.2 | 0.3 | 0.3 | 0.1 | 0.7 | 2.4 | 2.3 | 4.4 | 2.1 | 0.1 | 0.1 | 0.3 | 0.3 | | | | | | 0.9 | |
| 2019 | | | | | | | | | | | | 0.6 | 2.9 | 9.6 | 2.4 | 1.5 | 0.3 | 0.3 | 0.1 | 0.9 | 0.9 | 0.9 | 1.1 | 2.1 | 1.3 | 0.7 | 0.6 | | | | | | | 0.6 | |
| Mean | | | | | | | | | | | | 0.03 | 0.8 | 2.3 | 2.8 | 1.2 | 0.7 | 0.3 | 0.2 | 0.3 | 0.6 | 1.0 | 1.6 | 1.5 | 1.0 | 0.7 | 0.5 | 0.2 | 0.06 | | 0.01 | | | | 0.5 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|------|----|
| 2005 | | | | | | | | | | | | | | 1 | 2 | | 3 | | | | | | 3 | 6 | 3 | 3 | | 1 | | | | | | | 16 |
| 2006 | | | | | | | | | | | | | | | 1 | | 1 | | | | | 4 | 1 | 2 | 1 | 2 | 1 | 1 | 1 | | | | | | 13 |
| 2007 | | | | | | | | | | | | | 1 | 6 | | 7 | | | | | 3 | 1 | 2 | 3 | 1 | 2 | | | | | | | | 12 | |
| 2008 | | | | | | | | | | | | | 1 | 4 | | 5 | | | | | 3 | 2 | 10 | 3 | 3 | 6 | 1 | | 1 | | | | | 29 | |
| 2009 | | | | | | | | | | | | | 5 | 1 | | 6 | | 2 | 2 | | 4 | 5 | 6 | 2 | 1 | 1 | | | | | | | | 19 | |
| 2010 | | | | | | | | | | | | | 1 | 2 | 1 | 4 | | | | | 2 | 2 | 13 | 5 | 1 | 9 | 1 | | | | | | | 33 | |
| 2011 | | | | | | | | | | | | | 1 | 3 | 3 | 7 | | | | | 1 | 3 | 1 | 15 | 7 | 3 | 2 | 4 | | | | | | 36 | |
| 2012 | | | | | | | | | | | | | 3 | 1 | 1 | 2 | 7 | | | | | 6 | 6 | 3 | 2 | 1 | 3 | 2 | | | | | | | 23 |
| 2013 | | | | | | | | | | | | | 1 | 4 | 3 | 8 | | | | | 1 | 4 | 2 | 4 | 2 | 1 | 3 | | | | | | | 17 | |
| 2014 | | | | | | | | | | | | | 5 | | 4 | 9 | | 1 | 1 | | 1 | 1 | 1 | 2 | | 1 | 1 | 3 | | 1 | | | | | 10 |
| 2015 | | | | | | | | | | | | | 1 | 8 | 5 | 1 | 15 | | 2 | 2 | | 2 | 3 | 6 | | 2 | 1 | 4 | | | | | | | 18 |
| 2016 | | | | | | | | | | | | | 4 | 4 | 3 | 1 | 12 | | 2 | 2 | | 3 | 3 | 4 | 10 | 2 | | 2 | | | | | | | 24 |
| 2017 | | | | | | | | | | | | | 3 | 6 | | 9 | | 1 | 1 | | 2 | 3 | 3 | 8 | 3 | 4 | 4 | 1 | | | | | | | 28 |
| 2018 | | | | | | | | | | | | | 9 | 1 | | 10 | | 1 | 1 | | 3 | 8 | 4 | 18 | 4 | | 1 | 2 | 1 | | | | | 41 | |
| 2019 | | | | | | | | | | | | | 6 | 20 | | 26 | 1 | 1 | 1 | | 4 | 1 | 3 | 4 | 6 | 3 | | 3 | | | | | | 24 | |
| Mean | | | | | | | | | | | | 1.0 | 3.1 | 4.1 | 0.3 | 8.6 | 0.07 | 0.6 | 0.7 | 2.1 | 3.0 | 4.1 | 5.7 | 2.6 | 2.6 | 1.7 | 0.8 | 0.3 | | | | | | 22.9 | |

Chestnut-sided Warbler is generally present at MBO as a spring and fall migrant, but at least in 2016 also remained on site through the summer as a local breeder. In most years, the first spring arrival is between 9 May and 16 May; the earliest record to date is 2 May. Spring migration peaks sharply in Weeks 8 and 9, with lingering individuals in Week 10 perhaps carrying over into June in some years. Fall numbers on average build quickly to a peak in the second half of August, then taper off gradually to mid-September, and rapidly become scarce thereafter, with only one October sighting to date. Across all seasons, numbers have tended to increase over time.

BLPW: Blackpoll Warbler / Paruline rayée (*Setophaga striata*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|------|
| First | 5-16 | 5-25 | 5-21 | 5-11 | 5-18 | 5-18 | 5-13 | 5-8 | 5-19 | 5-14 | 5-19 | 5-14 | 5-17 | 5-17 | 5-22 | 5-16 | 8-22 | 8-26 | 8-26 | 8-25 | 9-4 | 8-29 | 8-24 | 8-20 | 8-27 | 8-19 | 9-1 | 9-2 | 8-26 | 8-30 | 9-7 | 8-27 |
| Peak | 5-30 | 5-28 | 6-1 | 5-26 | 5-24 | 5-22 | 5-29 | 5-23 | 5-23 | 5-27 | 5-27 | 5-27 | 5-23 | 5-19 | 5-25 | 5-25 | 9-9 | 9-16 | 9-2 | 8-31 | 9-13 | 9-9 | 9-6 | 9-7 | 9-13 | 9-3 | 9-18 | 9-2 | 9-9 | 9-23 | 9-10 | 9-9 |
| Last | 6-2 | 6-2 | 6-1 | 6-4 | 6-4 | 6-1 | 6-1 | 6-1 | 5-31 | 6-2 | 6-3 | 6-1 | 5-30 | 6-5 | 6-4 | 6-2 | 10-3 | 9-25 | 9-22 | 9-29 | 10-4 | 9-30 | 10-9 | 10-2 | 9-30 | 9-26 | 10-1 | 9-25 | 10-10 | 10-6 | 9-26 | 9-30 |
| Span | 18 | 9 | 12 | 25 | 18 | 15 | 20 | 25 | 13 | 20 | 16 | 19 | 14 | 20 | 14 | 17 | 43 | 31 | 28 | 36 | 31 | 33 | 47 | 44 | 35 | 39 | 31 | 24 | 46 | 38 | 20 | 35 |
| # days | 8 | 9 | 12 | 11 | 14 | 13 | 14 | 16 | 12 | 14 | 14 | 13 | 11 | 9 | 11 | 12 | 16 | 17 | 12 | 20 | 14 | 18 | 26 | 19 | 19 | 17 | 12 | 7 | 12 | 7 | 14 | 15 |
| % days | 14 | 13 | 17 | 16 | 20 | 19 | 20 | 23 | 17 | 21 | 20 | 19 | 16 | 13 | 16 | 17 | 18 | 19 | 13 | 22 | 15 | 20 | 29 | 21 | 21 | 19 | 12 | 7 | 12 | 7 | 14 | 16 |
| High | 4 | 4 | 12 | 13 | 21 | 7 | 27 | 15 | 20 | 18 | 12 | 11 | 13 | 5 | 16 | 13 | 3 | 7 | 3 | 15 | 3 | 9 | 7 | 13 | 5 | 6 | 3 | 1 | 4 | 2 | 3 | 6 |
| Total | 17 | 21 | 97 | 62 | 119 | 39 | 148 | 85 | 58 | 76 | 80 | 59 | 50 | 23 | 77 | 67 | 22 | 36 | 21 | 68 | 20 | 43 | 63 | 70 | 38 | 27 | 16 | 7 | 19 | 9 | 28 | 32 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|-----|----|----|----|------|------|------|------|-----|-----|------|-----|------|----|-----|------|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|------|------|
| 2005 | | | | | | | | | | | | | | 0.1 | 0.7 | 2.2 | 0.3 | | | | | | | 0.4 | 0.1 | 0.6 | 1.3 | 0.4 | 0.2 | 0.2 | | | | | 0.2 | | |
| 2006 | | | | | | | | | | | | | | | 1.9 | 1.1 | 0.3 | | | | | | | 0.6 | 0.9 | 2.1 | 1.3 | 0.3 | | | | | | | 0.4 | | |
| 2007 | | | | | | | | | | | | | | 1.0 | 9.3 | 3.6 | 1.4 | | | | | | | 0.3 | 0.7 | 1.1 | 0.7 | 0.1 | | | | | | | 0.2 | | |
| 2008 | | | | | | | | | | | | 0.1 | | | 5.1 | 3.6 | 0.9 | 0.2 | | 0.1 | | | | | 0.3 | 4.0 | 2.9 | 1.4 | 0.9 | 0.3 | | | | | | 0.7 | |
| 2009 | | | | | | | | | | | | | | 1.4 | 10.7 | 4.9 | 1.7 | | | | | | | | 0.1 | 0.4 | 1.1 | 0.3 | 0.7 | 0.1 | | | | | | 0.2 | |
| 2010 | | | | | | | | | | | | | | 2.1 | 2.4 | 1.0 | 0.6 | | | | | | | | 0.3 | 2.4 | 1.3 | 1.6 | 0.6 | | | | | | | 0.5 | |
| 2011 | | | | | | | | | | | | 0.1 | 3.1 | 15.4 | 2.4 | 2.1 | | | | | | | 0.6 | 1.1 | 1.3 | 2.7 | 2.0 | 0.9 | 0.4 | | | | | | | 0.7 | |
| 2012 | | | | | | | | 0.4 | | | | | 4.4 | 5.9 | 1.4 | 1.2 | | | | | | 0.1 | | 0.6 | 5.7 | 2.6 | 0.9 | 0.1 | | | | | | | | 0.8 | |
| 2013 | | | | | | | | | | | | | 1.4 | 6.6 | 0.3 | 0.8 | | | | | | | 0.4 | 0.9 | 1.6 | 1.7 | 0.6 | 0.3 | | | | | | | | 0.4 | |
| 2014 | | | | | | | | | | | | 0.6 | 1.9 | 7.3 | 1.3 | 1.1 | | | | | | 0.1 | 0.3 | 1.4 | 0.4 | 1.1 | 0.3 | 0.1 | | | | | | | | 0.3 | |
| 2015 | | | | | | | | | | | | | 4.0 | 6.3 | 1.1 | 1.1 | | | | | | | | 0.1 | 1.0 | 0.7 | | 0.4 | | | | | | | | 0.2 | |
| 2016 | | | | | | | | | | | | 0.1 | 1.3 | 5.1 | 1.9 | 0.8 | | | | | | | | 0.1 | 0.1 | 0.1 | 0.6 | | | | | | | | | 0.07 | |
| 2017 | | | | | | | | | | | | | 1.6 | 4.1 | 1.4 | 0.7 | | | | | | | 0.1 | | 1.4 | 0.6 | 0.1 | 0.3 | | 0.1 | | | | | | 0.2 | |
| 2018 | | | | | | | | | | | | | 1.7 | 1.4 | 0.1 | 0.3 | | | | | | | | 0.1 | | 0.3 | 0.4 | 0.3 | 0.1 | | | | | | | | 0.09 |
| 2019 | | | | | | | | | | | | | 0.1 | 8.6 | 2.3 | 1.1 | 1.0 | | 0.4 | | | | | | | 1.0 | 1.9 | 1.0 | 0.1 | | | | | | | | 0.3 |
| Mean | | | | | | | | | | | | 0.03 | 0.07 | 1.6 | 6.1 | 1.9 | 1.0 | 0.05 | | 0.03 | | | 0.02 | 0.2 | 0.7 | 1.5 | 1.3 | 0.6 | 0.3 | 0.06 | 0.01 | | | | | 0.3 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|-----|-----|------|-----|------|------|-----|------|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|------|----|
| 2005 | | | | | | | | | | | | | | 1 | 1 | 1 | 3 | | | | | | | 2 | 1 | 1 | 4 | 1 | 1 | 1 | | | | | | 11 | |
| 2006 | | | | | | | | | | | | | | | 1 | 2 | 3 | | | | | | | 3 | 4 | 8 | 4 | 2 | | | | | | | | 21 | |
| 2007 | | | | | | | | | | | | | | 3 | 34 | 10 | 47 | | | | | | | 2 | 4 | 4 | 3 | 1 | | | | | | | | 14 | |
| 2008 | | | | | | | | | | | | | | | 17 | 7 | 24 | | | | | | | 2 | 16 | 11 | 7 | 6 | 2 | | | | | | | 44 | |
| 2009 | | | | | | | | | | | | | 7 | 25 | 7 | 39 | | | | | | | | 1 | 3 | 7 | | 4 | | | | | | | | 15 | |
| 2010 | | | | | | | | | | | | | 1 | 4 | 1 | 6 | | | | | | | | 2 | 14 | 4 | 10 | 3 | | | | | | | | 33 | |
| 2011 | | | | | | | | | | | | 1 | 8 | 31 | 5 | 45 | | | | | | | 3 | 2 | 8 | 15 | 12 | 5 | 2 | | | | | | | 47 | |
| 2012 | | | | | | | | | | | | | 4 | 9 | 7 | 20 | | | | | | | 1 | | 2 | 21 | 12 | 3 | 1 | | | | | | | 40 | |
| 2013 | | | | | | | | | | | | | | 14 | 1 | 15 | | | | | | | 2 | 5 | 7 | 5 | 1 | | | | | | | | | 20 | |
| 2014 | | | | | | | | | | | 1 | 2 | 9 | 2 | 14 | | | | | | | 1 | | 8 | 2 | 7 | 2 | | | | | | | | | 20 | |
| 2015 | | | | | | | | | | | | | 6 | 6 | 3 | 15 | | | | | | | | | 5 | 2 | | 1 | | | | | | | | 8 | |
| 2016 | | | | | | | | | | | | | | 7 | | 7 | | | | | | | | | 1 | | | 1 | | | | | | | | 2 | |
| 2017 | | | | | | | | | | | | | 2 | 2 | 2 | 6 | | | | | | | 1 | | 7 | 2 | | 1 | | | | | | | | 11 | |
| 2018 | | | | | | | | | | | | | | 1 | | 1 | | | | | | | | 1 | | | 3 | 1 | 1 | | | | | | | 6 | |
| 2019 | | | | | | | | | | | | | | 15 | 4 | 19 | 1 | | 1 | | | | | | | 6 | 6 | 3 | 1 | | | | | | | | 16 |
| Mean | | | | | | | | | | | | | 0.1 | 2.3 | 11.7 | 3.5 | 17.6 | 0.07 | | 0.07 | | | 0.1 | 1.0 | 3.1 | 6.5 | 5.2 | 3.0 | 1.3 | 0.3 | | | | | | 20.5 | |

Blackpoll Warbler is an uncommon spring and fall migrant at MBO. It is a later spring migrant than most other warblers, with earliest arrivals before mid-May in just four years. Migration has peaked in Week 9 in 13 years, with that one week comprising over 60% of all records. In 2008 and 2019, late migrants were still observed in early summer. The earliest fall record is 19 August; nearly 90% of migrants pass through between Weeks 5 and 8, and sightings have extended into October in only six years. This is one of the few warbler species that has occurred in substantially below-average numbers in recent years, although there was a rebound in both seasons in 2019.

BTBW: Black-throated Blue Warbler / Paruline bleue (*Setophaga caerulescens*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|------|-------|-------|-------|------|------|-------|-------|-------|-------|------|-------|-------|-------|
| First | 5-11 | 5-13 | 5-9 | 5-6 | 5-8 | 5-6 | 5-9 | 5-8 | 5-10 | 5-10 | 5-7 | 5-6 | 5-2 | 5-6 | 5-8 | 5-7 | 8-2 | 8-14 | 8-11 | 8-1 | 8-1 | 8-2 | 8-2 | 8-14 | 8-2 | 8-1 | 8-5 | 8-2 | 8-3 | 8-2 | 8-3 | 8-4 |
| Peak | 5-20 | 5-18 | 5-17 | 5-20 | 5-14 | 5-16 | 5-14 | 5-9 | 5-22 | 5-13 | 5-10 | 5-19 | 5-15 | 5-16 | 5-22 | 5-16 | 9-20 | 9-30 | 8-26 | 9-19 | 9-3 | 9-2 | 10-4 | 10-2 | 8-10 | 9-23 | 9-29 | 10-4 | 9-12 | 9-30 | 9-12 | 9-16 |
| Last | 5-31 | 6-5 | 5-31 | 5-21 | 6-1 | 6-5 | 5-25 | 5-19 | 6-4 | 6-4 | 6-3 | 6-4 | 6-4 | 5-27 | 6-5 | 5-31 | 10-10 | 10-16 | 10-4 | 10-13 | 10-10 | 10-14 | 10-8 | 10-4 | 10-21 | 10-18 | 10-12 | 10-10 | 10-2 | 10-21 | 10-19 | 10-12 |
| Span | 21 | 24 | 23 | 16 | 25 | 31 | 17 | 12 | 26 | 26 | 28 | 30 | 34 | 22 | 29 | 24 | 70 | 64 | 55 | 74 | 71 | 74 | 68 | 52 | 81 | 79 | 69 | 70 | 61 | 81 | 78 | 70 |
| # days | 7 | 14 | 12 | 6 | 9 | 16 | 11 | 9 | 21 | 24 | 24 | 21 | 14 | 15 | 21 | 15 | 41 | 19 | 18 | 35 | 47 | 43 | 43 | 16 | 31 | 38 | 25 | 23 | 27 | 29 | 33 | 31 |
| % days | 12 | 20 | 17 | 9 | 13 | 23 | 16 | 13 | 30 | 35 | 34 | 30 | 20 | 21 | 30 | 22 | 47 | 21 | 20 | 38 | 52 | 47 | 47 | 18 | 34 | 42 | 26 | 23 | 28 | 30 | 34 | 34 |
| High | 2 | 10 | 4 | 3 | 2 | 4 | 3 | 11 | 3 | 4 | 8 | 6 | 8 | 4 | 6 | 5 | 5 | 5 | 4 | 4 | 7 | 5 | 5 | 4 | 3 | 9 | 4 | 5 | 4 | 5 | 5 | 5 |
| Total | 9 | 43 | 20 | 11 | 11 | 27 | 17 | 22 | 34 | 49 | 51 | 37 | 31 | 26 | 60 | 30 | 72 | 30 | 30 | 69 | 89 | 71 | 72 | 26 | 50 | 66 | 35 | 37 | 44 | 43 | 68 | 53 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|----|
| 2005 | | | | | | | | | | | | | 0.3 | 0.9 | | 0.2 | 0.2 | | 0.06 | 0.03 | 0.3 | 1.0 | 1.0 | 0.4 | 1.1 | 0.7 | 0.6 | 2.0 | 2.0 | 1.5 | 0.2 | | | 0.8 | |
| 2006 | | | | | | | | | | | | | 0.1 | 4.3 | 1.3 | 0.4 | 0.6 | | | | | 0.1 | 0.1 | 0.4 | 0.4 | 0.7 | 0.6 | 0.4 | 1.1 | | 0.3 | | | 0.3 | |
| 2007 | | | | | | | | | | | | | 1.1 | 0.9 | 0.7 | 0.1 | 0.3 | | | | | 0.1 | 0.3 | 0.7 | 0.7 | 0.3 | 0.9 | 0.7 | 0.3 | 0.3 | | | 0.3 | | |
| 2008 | | | | | | | | | | | | 0.3 | 0.3 | 1.0 | | | 0.2 | | | | | 0.1 | 0.1 | 0.6 | 1.3 | 0.9 | 1.7 | 0.3 | 1.1 | 1.4 | 2.1 | 0.1 | | 0.8 | |
| 2009 | | | | | | | | | | | | 0.1 | 0.4 | 0.6 | 0.3 | 0.1 | 0.2 | | | | | 1.0 | 0.4 | 0.9 | 0.4 | 3.3 | 1.6 | 0.6 | 1.4 | 1.6 | 1.3 | 0.3 | | 1.0 | |
| 2010 | | | | | | | | | | | | 0.4 | 0.7 | 1.7 | 0.6 | 0.4 | 0.4 | 0.3 | 0.3 | 0.3 | 0.1 | 0.1 | 1.0 | 0.6 | 1.7 | 1.9 | 1.9 | 1.4 | 1.0 | 0.3 | 0.1 | | 0.8 | | |
| 2011 | | | | | | | | | | | | | 1.4 | 0.7 | 0.3 | | 0.2 | 0.7 | | 0.3 | 1.3 | 1.3 | 0.9 | 1.3 | 0.9 | 0.9 | 1.1 | 0.9 | 0.9 | 1.0 | | | 0.8 | | |
| 2012 | | | | | | | | | | | | 0.1 | 2.1 | 0.9 | | | 0.3 | 0.3 | 0.3 | 0.2 | | 0.1 | 0.1 | 0.4 | 0.7 | 0.3 | 0.6 | 0.4 | 0.9 | 0.1 | | | 0.3 | | |
| 2013 | | | | | | | | | | | | | 1.0 | 1.1 | 1.6 | 1.1 | 0.5 | | 0.5 | 0.3 | 0.6 | 0.6 | 0.9 | 0.1 | 1.0 | 0.6 | 1.1 | 1.1 | 0.7 | 0.3 | | 0.1 | 0.5 | | |
| 2014 | | | | | | | | | | | | | 2.6 | 2.1 | 1.4 | 1.0 | 0.7 | 0.7 | | 0.3 | 1.0 | 1.0 | 0.7 | 0.6 | 0.4 | 0.9 | 1.1 | 2.3 | 0.3 | 0.9 | 0.1 | 0.1 | 0.7 | | |
| 2015 | | | | | | | | | | | | 0.6 | 3.3 | 2.0 | 1.1 | 0.3 | 0.7 | | | | 0.6 | 0.4 | 0.3 | 0.7 | 0.3 | 0.1 | 0.4 | 0.4 | 1.1 | 0.4 | 0.1 | | 0.4 | | |
| 2016 | | | | | | | | | | | | 0.4 | 1.3 | 2.6 | 0.6 | 0.4 | 0.5 | | | | 0.4 | | | 0.7 | 1.0 | | 0.3 | 0.6 | 1.3 | 0.9 | 0.1 | | 0.4 | | |
| 2017 | | | | | | | | | | | | 0.4 | 1.6 | 1.0 | 0.9 | 0.6 | 0.4 | | | | 0.1 | | | 0.7 | 1.1 | 0.7 | 1.3 | 0.9 | 0.1 | 1.3 | | | 0.4 | | |
| 2018 | | | | | | | | | | | | 0.6 | 1.6 | 1.3 | 0.3 | | 0.4 | | | | 0.3 | 0.3 | 0.6 | 1.4 | 0.3 | | 0.3 | 0.9 | 1.4 | 0.4 | | 0.3 | 0.4 | | |
| 2019 | | | | | | | | | | | | 0.3 | 1.4 | 4.4 | 2.1 | 0.3 | 0.9 | | | | 0.4 | 0.3 | 0.6 | | 0.4 | 1.6 | 1.4 | 1.6 | 1.3 | 1.9 | | 0.3 | 0.7 | | |
| Mean | | | | | | | | | | | | 0.2 | 1.3 | 1.7 | 0.7 | 0.3 | 0.4 | 0.08 | 0.07 | 0.08 | 0.4 | 0.4 | 0.6 | 0.7 | 0.9 | 0.8 | 0.8 | 1.0 | 1.1 | 0.8 | 0.1 | 0.06 | | 0.6 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|-----|-----|-----|-----|------|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|----|
| 2005 | | | | | | | | | | | | | | 1 | | | 1 | | | | 1 | 2 | 1 | 1 | 4 | 1 | 2 | 8 | 10 | 4 | | | | 34 | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | 1 | | 1 | 2 | 2 | | 2 | 4 | | 2 | | | 14 | |
| 2007 | | | | | | | | | | | | | 1 | | | | 1 | | | | | | | 4 | 5 | 2 | 5 | 4 | 2 | | | | | 22 | |
| 2008 | | | | | | | | | | | | | 1 | 1 | | | 2 | | | | | 3 | 5 | 5 | 7 | 1 | 2 | 9 | 10 | 1 | | | | 43 | |
| 2009 | | | | | | | | | | | | | 1 | 1 | | 1 | 3 | | | | 4 | | 3 | 1 | 8 | 5 | 3 | 10 | 8 | 8 | | | | 50 | |
| 2010 | | | | | | | | | | | | 1 | 1 | | | | 2 | | 1 | 1 | 1 | | 3 | 1 | 10 | 10 | 8 | 7 | 4 | 2 | 1 | | | 47 | |
| 2011 | | | | | | | | | | | | | 1 | | | | 1 | | | | 8 | 1 | 1 | 6 | 2 | 5 | 6 | 1 | 5 | 4 | | | | 39 | |
| 2012 | | | | | | | | | | | | | 2 | | | | 2 | | | | | 1 | 1 | 3 | 4 | 1 | 1 | 1 | 2 | | | | | 14 | |
| 2013 | | | | | | | | | | | | | 1 | 1 | | | 2 | | 2 | 2 | 2 | | 2 | | 2 | 1 | 7 | 6 | 1 | 2 | | 1 | | 24 | |
| 2014 | | | | | | | | | | | | | 2 | 1 | | | 3 | 1 | | 1 | 3 | 4 | 1 | 4 | 2 | 2 | 6 | 12 | 2 | 4 | 1 | 1 | | 42 | |
| 2015 | | | | | | | | | | | | 1 | 1 | 1 | 1 | | 4 | | | | 2 | 3 | | 4 | 2 | 1 | 2 | 2 | 4 | 3 | 1 | | | 24 | |
| 2016 | | | | | | | | | | | | | 1 | 1 | | | 2 | | | | | | | 2 | 4 | | 1 | 4 | 6 | 3 | 1 | | | 21 | |
| 2017 | | | | | | | | | | | | | | 1 | 2 | | 3 | | | | | | 1 | 5 | 2 | 3 | 2 | | 7 | | | | | 20 | |
| 2018 | | | | | | | | | | | | | 3 | 3 | | | 6 | | | | 1 | 1 | 3 | 5 | | | 5 | 5 | 2 | | 1 | | | 22 | |
| 2019 | | | | | | | | | | | | 1 | 1 | 7 | 6 | | 15 | | | | 1 | | 1 | 3 | | 5 | 4 | 6 | 8 | 7 | | 2 | | 34 | |
| Mean | | | | | | | | | | | | 0.2 | 1.1 | 1.2 | 0.6 | 0.07 | 3.1 | 0.07 | 0.2 | 0.3 | 1.5 | 0.9 | 1.3 | 2.8 | 3.5 | 3.0 | 3.2 | 4.7 | 5.1 | 3.3 | 0.5 | 0.3 | | 30.0 | |

Black-throated Blue warbler is a rare to uncommon spring migrant and uncommon fall migrant at MBO, with scattered summer records. It almost always arrives between 6 May and 13 May, with a peak of migration spanning Weeks 7 and 8 in mid-May. Summer sightings were infrequent but annual from 2010 to 2014, and there was also one observation in July 2005. Fall observations are generally scattered throughout the first 10 weeks of the season, with overall numbers higher in September and early October, but annual peaks varying widely. In both spring and fall, numbers have fluctuated around the long-term means.

WPWA: Western Palm Warbler / Paruline à couronne rousse (forme de l'Ouest) (*Setophaga palmarum palmarum*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|------|------|-------|------|------|-------|-------|-------|------|------|------|------|------|------|
| First | 5-18 | 5-4 | 4-28 | | | 5-5 | 5-3 | 4-21 | 4-29 | 5-3 | 5-3 | | 4-27 | 5-3 | 4-22 | 5-1 | 8-25 | 9-12 | 9-16 | 9-1 | 9-8 | 8-31 | 9-14 | 9-8 | 9-1 | 9-7 | 9-15 | 9-12 | 9-13 | 9-15 | 9-13 | 9-8 |
| Peak | 5-18 | 5-4 | 4-28 | | | 5-5 | 5-13 | 4-21 | 4-29 | 5-3 | 5-5 | | 4-28 | 5-6 | 5-21 | 5-5 | 9-7 | 9-12 | 9-24 | 9-10 | 9-19 | 9-7 | 9-14 | 9-27 | 9-25 | 9-24 | 9-16 | 9-22 | 9-14 | 9-24 | 9-27 | 9-18 |
| Last | 5-18 | 5-4 | 5-11 | | | 5-5 | 5-14 | 5-9 | 5-16 | 5-20 | 5-10 | | 5-17 | 5-16 | 5-22 | 5-13 | 10-10 | 10-12 | 10-7 | 10-6 | 10-12 | 10-3 | 9-27 | 10-12 | 10-10 | 10-17 | 10-2 | 10-5 | 10-4 | 10-9 | 10-9 | 10-7 |
| Span | 1 | 1 | 14 | | | 1 | 12 | 19 | 18 | 18 | 8 | | 21 | 14 | 31 | 13 | 47 | 31 | 22 | 36 | 35 | 34 | 14 | 35 | 40 | 41 | 18 | 24 | 22 | 25 | 27 | 30 |
| # days | 1 | 1 | 2 | | | 1 | 5 | 4 | 6 | 3 | 3 | | 4 | 6 | 5 | 3 | 22 | 9 | 13 | 13 | 15 | 23 | 5 | 18 | 15 | 15 | 10 | 11 | 15 | 13 | 11 | 14 |
| % days | 2 | 1 | 3 | | | 1 | 7 | 6 | 9 | 4 | 4 | | 6 | 9 | 7 | 5 | 25 | 10 | 14 | 14 | 16 | 25 | 5 | 20 | 16 | 16 | 10 | 11 | 15 | 13 | 11 | 15 |
| High | 1 | 1 | 1 | | | 1 | 8 | 1 | 1 | 1 | 2 | | 2 | 2 | 2 | 2 | 7 | 4 | 17 | 3 | 3 | 24 | 1 | 5 | 3 | 4 | 7 | 18 | 6 | 6 | 3 | 7 |
| Total | 1 | 1 | 2 | | | 1 | 13 | 4 | 6 | 3 | 4 | | 5 | 8 | 6 | 4 | 50 | 20 | 51 | 19 | 19 | 127 | 5 | 42 | 23 | 25 | 33 | 46 | 34 | 26 | 19 | 36 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|------|------|-----|-----|-----|------|----|-----|------|-----|-----|----|----|----|----|------|------|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|
| 2005 | | | | | | | | | | | | | | | | | 0.02 | | | | | | | | 0.3 | 1.1 | 3.0 | 1.4 | 0.1 | 0.3 | 0.7 | 0.3 | | | 0.6 |
| 2006 | | | | | | | | | | | | 0.1 | | | | | 0.01 | | | | | | | | | | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | | | 0.2 | |
| 2007 | | | | | | | | | | 0.1 | | 0.1 | | | | | 0.03 | | | | | | | | | | 0.1 | 4.0 | 1.7 | 1.4 | | | 0.6 | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | 0.3 | 0.9 | 0.1 | 0.9 | 0.6 | | | | 0.2 | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | 0.3 | 0.3 | 0.9 | 0.4 | 0.6 | 0.3 | | 0.2 | | |
| 2010 | | | | | | | | | | | | 0.1 | | | | | 0.01 | | | | | | | 1.9 | 10.4 | 2.4 | 2.6 | 0.7 | 0.1 | | | 1.4 | | | |
| 2011 | | | | | | | | | | | | 0.6 | 1.3 | | | | 0.2 | | | | | | | | | | 0.1 | 0.4 | 0.1 | | | 0.05 | | | |
| 2012 | | | | | | | | | 0.1 | | | 0.3 | 0.1 | | | | 0.06 | | | | | | | | 0.3 | 0.9 | 1.0 | 2.6 | 1.1 | 0.1 | | 0.5 | | | |
| 2013 | | | | | | | | | | 0.3 | 0.1 | 0.3 | 0.1 | | | | 0.09 | | | | | | | 0.3 | 0.3 | 0.6 | 0.6 | 0.7 | 0.7 | 0.1 | | 0.3 | | | |
| 2014 | | | | | | | | | | | | 0.3 | | 0.1 | | | 0.04 | | | | | | | | | 0.3 | 0.1 | 1.1 | 1.3 | 0.4 | 0.1 | 0.1 | 0.3 | | |
| 2015 | | | | | | | | | | | | 0.4 | 0.1 | | | | 0.06 | | | | | | | | | | 2.9 | 1.7 | 0.1 | | | 0.3 | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | 0.7 | 5.1 | 0.6 | 0.1 | | | 0.5 | | | |
| 2017 | | | | | | | | | | 0.4 | | | | 0.3 | | | 0.07 | | | | | | | | | | 2.1 | 0.9 | 1.7 | 0.1 | | 0.3 | | | |
| 2018 | | | | | | | | | | | 0.4 | 0.6 | 0.1 | | | | 0.1 | | | | | | | | | 0.3 | 1.9 | 0.9 | 0.7 | | | 0.3 | | | |
| 2019 | | | | | | | | | 0.1 | | | 0.3 | 0.4 | | | | 0.09 | | | | | | | | | | 0.6 | 0.4 | 1.1 | 0.6 | | 0.2 | | | |
| Mean | | | | | | | | | 0.02 | 0.06 | 0.2 | 0.2 | 0.2 | 0.09 | | | 0.05 | | | | | | | 0.02 | 0.2 | 1.0 | 0.9 | 1.4 | 0.9 | 0.5 | 0.1 | 0.01 | 0.4 | | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|------|----|-----|-----|-----|----|----|-----|-----|-----|-----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|------|-----|------|-----|----|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | 3 | 3 | 2 | | 1 | 2 | | | | 11 | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 3 | | | | 4 | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 4 | 1 | 6 | 6 | | | | 15 | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | 2 | 1 | 1 | | | 6 | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | 3 | 37 | 5 | 13 | 5 | | | | 63 | | |
| 2010 | | | | | | | | | | | | 1 | | | | | 1 | | | | | | | | | | | | | | | 4 | | | |
| 2011 | | | | | | | | | | | | 1 | | | | | 2 | | | | | | | | | 2 | 2 | 1 | 6 | 4 | 1 | 16 | | | |
| 2012 | | | | | | | | | 1 | | | 1 | | | | | 1 | | | | | | | | | | | 1 | | 2 | | 3 | | | |
| 2013 | | | | | | | | | | | | | 1 | | | | 1 | | | | | | | | | | | | | | | 7 | | | |
| 2014 | | | | | | | | | | | | 1 | | | | | 1 | | | | | | | | | | 2 | 4 | 1 | | | 9 | | | |
| 2015 | | | | | | | | | | | | 1 | | | | | 1 | | | | | | | | | | 7 | 2 | | | | 10 | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 8 | | | | 10 | | | |
| 2017 | | | | | | | | | | | | | | 1 | | | 1 | | | | | | | | | | 1 | 3 | 5 | 1 | | 10 | | | |
| 2018 | | | | | | | | | | | | 1 | 3 | | | | 4 | | | | | | | | | | | 3 | 1 | | | 4 | | | |
| 2019 | | | | | | | | | | | | 1 | 1 | 1 | | | 2 | | | | | | | | | | | 1 | 2 | 1 | | 4 | | | |
| Mean | | | | | | | | | 0.07 | | 0.3 | 0.3 | 0.1 | | | | 0.8 | | | | | | | | 0.5 | 3.1 | 1.4 | 3.8 | 2.7 | 1.4 | 0.07 | | 13.0 | | |

Palm Warbler occurs as a migrant at MBO in both spring and fall, with Western Palm Warbler typically (aside from fall 2005) the far more abundant subspecies. In both spring and fall, migration tends to be concentrated near the middle of the season. Spring sightings have ranged from 21 April to 22 May, most commonly peaking in Week 6 or 7. In fall, Western Palm Warbler has been observed in late August only twice; otherwise the majority of records are from September, with small numbers in the first half of October almost annually. On average, the peak of fall migration appears to have shifted slightly later over time. Western Palm Warbler is scarce in spring, having been missed entirely in three years; it is somewhat more abundant in fall, but with notably higher numbers in 2010, and to a lesser extent in 2005, 2007, 2012, and 2016.

YPWA: Yellow Palm Warbler / Paruline à couronne rousse (forme de l'Est) (*Setophaga palmarum hypochrysea*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-------|------|------|-------|------|------|-------|------|------|------|-------|------|------|------|------|------|
| First | | | 5-6 | 4-24 | 5-5 | 5-5 | | 5-6 | | | | | | | 4-22 | 5-1 | 9-8 | 8-21 | 9-24 | 9-19 | 9-20 | 9-19 | 9-25 | 9-22 | 8-21 | 10-3 | 10-13 | 9-29 | | 9-26 | 10-2 | 9-20 |
| Peak | | | 5-6 | 4-24 | 5-5 | 5-5 | | 5-6 | | | | | | | 4-22 | 5-1 | 9-14 | 9-18 | 9-24 | 9-24 | 9-20 | 9-19 | 10-4 | 9-22 | 10-5 | 10-3 | 10-13 | 9-29 | | 9-26 | 10-2 | 9-26 |
| Last | | | 5-6 | 4-25 | 5-30 | 5-5 | | 5-6 | | | | | | | 4-22 | 5-5 | 10-10 | 10-7 | 10-6 | 10-13 | 10-8 | 10-8 | 10-12 | 10-4 | 10-5 | 10-3 | 10-15 | 9-29 | | 9-26 | 10-2 | 10-6 |
| Span | | | 1 | 2 | 26 | 1 | | 1 | | | | | | | 1 | 5 | 33 | 48 | 13 | 25 | 19 | 20 | 18 | 13 | 46 | 1 | 3 | 1 | | 1 | 1 | 17 |
| # days | | | 1 | 2 | 2 | 1 | | 1 | | | | | | | 1 | 1 | 21 | 9 | 7 | 7 | 4 | 3 | 4 | 2 | 3 | 1 | 2 | 1 | | 1 | 1 | 5 |
| % days | | | 1 | 3 | 3 | 1 | | 1 | | | | | | | 1 | 2 | 24 | 10 | 8 | 8 | 4 | 3 | 4 | 2 | 3 | 1 | 2 | 1 | | 1 | 1 | 5 |
| High | | | 1 | 1 | 1 | 1 | | 1 | | | | | | | 2 | 1 | 15 | 2 | 4 | 2 | 1 | 1 | 2 | 1 | 2 | 1 | 2 | 3 | | 1 | 1 | 3 |
| Total | | | 1 | 2 | 2 | 1 | | 1 | | | | | | | 2 | 1 | 110 | 12 | 13 | 8 | 4 | 3 | 5 | 2 | 4 | 1 | 3 | 3 | | 1 | 1 | 11 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|------|------|------|----|----|----|------|--------|------|-----|----|----|----|-----|----|----|-----|-----|-----|-----|-----|------|-----|-----|-----|------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | 5.4 | 7.3 | 2.0 | 0.7 | 0.3 | 0.2 | | | | 1.2 |
| 2006 | | | | | | | | | | | | | | | | | | 0.01 | | | | | 0.1 | | | | 0.3 | 0.9 | 0.1 | 0.3 | | | | | 0.1 |
| 2007 | | | | | | | | | | | | 0.1 | | | | | 0.03 | | | | | | | | | | | 1.0 | 0.6 | 0.3 | | | | | 0.1 |
| 2008 | | | | | | | | | | 0.1 | 0.1 | | | | | | 0.03 | | | | | | | | | | | 0.6 | 0.1 | 0.1 | 0.3 | | | | 0.09 |
| 2009 | | | | | | | | | | | | 0.1 | | | | 0.1 | 0.03 | | | | | | | | | | | 0.1 | 0.1 | 0.3 | | | | | 0.04 |
| 2010 | | | | | | | | | | | | 0.1 | | | | | 0.01 | | | | | | | | | | | 0.1 | | 0.3 | | | | | 0.03 |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | 0.3 | 0.3 | | | | | 0.05 |
| 2012 | | | | | | | | | | | | 0.1 | | | | | 0.01 | | | | | | | | | | | 0.1 | | 0.1 | | | | | 0.02 |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | | 0.1 | | 0.3 | | | | 0.04 |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | 0.3 | | | | 0.01 |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.4 | | | | 0.03 |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.03 |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.01 |
| 2019 | | | | | | | | | | 0.3 | | | | | | | 0.03 | | | | | | | | | | | | | | | | | | 0.01 |
| Mean | | | | | | | | | | 0.03 | 0.01 | 0.04 | | | | 0.01 | <0.005 | | | | | | | | | 0.4 | 0.5 | 0.3 | 0.2 | 0.2 | 0.08 | | | | 0.1 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|-----|----|------|----|----|----|-----|-----|-----|-----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | 9 | 31 | 5 | 2 | 1 | | | | | 48 |
| 2006 | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | 2 | 2 | | 1 | | | | | 5 |
| 2007 | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | 1 | | | | | | 1 |
| 2008 | | | | | | | | | | 1 | | | | | | | | 1 | | | | | | | | | | 2 | 1 | 1 | 1 | | | | 5 |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | 1 | | | | | | 2 |
| 2010 | | | | | | | | | | | | 1 | | | | | | 1 | | | | | | | | | | | | | | | | | 2 |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | 1 | 1 | | | | 3 |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | 1 |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | 1 |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | 1 |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | | | 2 |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 2019 | | | | | | | | | | 1 | | | | | | | | 1 | | | | | | | | | | | 1 | | | | | | 1 |
| Mean | | | | | | | | | | 0.1 | | 0.07 | | | | | 0.2 | | | | | | | | | 0.6 | 2.2 | 0.8 | 0.3 | 0.5 | 0.3 | | | | 4.7 |

Aside from large numbers in fall 2005, Yellow Palm Warbler is a very rare spring and fall migrant at MBO, on average occurring slightly earlier than Western Palm Warbler in spring, and slightly later in fall. Spring sightings were annual from 2007 to 2010, and again in 2012 and 2019; there have been no more than two individuals in any year, and only three in total have been banded. Except for an unusually late migrant on 30 May 2009, all spring sightings have been between 22 April and 6 May. There were exceptionally early fall sightings on 21 August in both 2006 and 2013, but otherwise all fall records are between 8 September and 15 October, most frequently peaking in late September or early October, although slightly earlier in the first four years.

PIWA: Pine Warbler / Paruline des pins (*Setophaga pinus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | | 4-30 | | | 5-11 | | | | 5-13 | 5-27 | 5-10 | | | | 4-14 | 5-7 | | 8-24 | 10-2 | | 9-3 | 8-16 | | 8-27 | 8-21 | 8-29 | | 11-3 | | | | 9-7 |
| Peak | | 4-30 | | | 5-11 | | | | 5-13 | 5-27 | 5-10 | | | | 4-14 | 5-7 | | 8-24 | 10-2 | | 9-3 | 8-16 | | 8-27 | 8-21 | 8-29 | | 11-3 | | | | 9-7 |
| Last | | 5-7 | | | 5-25 | | | | 5-13 | 5-27 | 5-10 | | | | 5-7 | 5-14 | | 9-10 | 10-5 | | 9-3 | 9-20 | | 9-7 | 9-30 | 9-1 | | 11-3 | | | | 9-21 |
| Span | | 8 | | | 15 | | | | 1 | 1 | 1 | | | | 24 | 8 | | 18 | 4 | | 1 | 36 | | 12 | 41 | 4 | | 1 | | | 15 | |
| # days | | 3 | | | 3 | | | | 1 | 1 | 1 | | | | 2 | 2 | | 2 | 2 | | 1 | 3 | | 2 | 3 | 2 | | 1 | | | 2 | |
| % days | | 4 | | | 4 | | | | 1 | 1 | 1 | | | | 3 | 3 | | 2 | 2 | | 1 | 3 | | 2 | 3 | 2 | | 1 | | | 2 | |
| High | | 1 | | | 1 | | | | 1 | 1 | 1 | | | | 1 | 1 | | 1 | 1 | | 1 | 2 | | 1 | 1 | 1 | | 1 | | | 1 | |
| Total | | 3 | | | 3 | | | | 1 | 1 | 1 | | | | 2 | 1 | | 2 | 2 | | 1 | 4 | | 2 | 3 | 2 | | 1 | | | 1 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|------|----|------|------|------|----|------|-----|------|-----|-----|----|----|----|------|------|------|------|-----|------|------|------|-----|-----|-----|------|------|------|------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | 0.1 | 0.3 | | | | 0.04 | | | | | | | 0.1 | | 0.1 | | | | | | | | | | 0.02 | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | 0.1 | | | | | | | | 0.02 |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | 0.3 | | 0.1 | | 0.04 | | | | | | | | 0.1 | | | | | | | | | | | 0.01 | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | 0.3 | 0.1 | | | | 0.1 | | | | | | | | 0.04 | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | | | 0.1 | | | | | | | | | | 0.02 |
| 2013 | | | | | | | | | | | | | 0.1 | | | | 0.01 | | | | | | 0.1 | | | | | 0.1 | 0.1 | | | | | | | 0.03 | |
| 2014 | | | | | | | | | | | | | | | 0.1 | | 0.01 | | | | | | | 0.1 | | 0.3 | | | | | | | | | | 0.02 | |
| 2015 | | | | | | | | | | | | | 0.1 | | | | 0.01 | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1 | 0.01 | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | 0.1 | | | 0.1 | | | | | 0.03 | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 0.01 | | 0.01 | 0.03 | 0.04 | | 0.02 | | 0.01 | | | | | | 0.03 | 0.03 | 0.03 | 0.02 | | 0.02 | 0.02 | 0.01 | | | | 0.03 | 0.01 | | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|------|----|----|-----|------|-----|-----|----|----|----|----|------|------|----|----|------|----|-----|-----|-----|-----|-----|----|-----|---|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | 1 |
| 2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | 1 |
| 2015 | | | | | | | | | | | | | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | 0.07 | | | | 0.07 | | | | | | | 0.07 | 0.07 | | | 0.07 | | | | | | | | 0.2 | |

Pine Warbler is very rare at MBO in both spring and fall. Although in some years it breeds just outside MBO in the White Pines along the edge of the Morgan Arboretum, it has never been detected at MBO during summer, and it is unclear whether the occasional spring and fall records represent migrants, or detections of the local birds. There have been no more than four observations in a year in either season, and only four individuals have been banded across all years. Spring observations have been recorded in six years, all between 30 April and 27 May, except one early bird on 14 April 2019. Fall observations have occurred in eight years, all between 2006 and 2016; aside from a late record on 3 November 2016, all others were between 16 August and 2 October.

MYWA: Yellow-rumped Warbler / Paruline à croupion jaune (*Setophaga coronata coronata*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|-------|
| First | 4-27 | 4-25 | 4-23 | 4-25 | 4-27 | 4-21 | 4-27 | 4-27 | 4-29 | 5-9 | 4-26 | 4-26 | 4-22 | 4-24 | 4-19 | 4-25 | 8-2 | 8-5 | 8-10 | 8-10 | 8-7 | 8-11 | 8-15 | 8-5 | 8-1 | 8-6 | 9-1 | 8-5 | 8-26 | 8-31 | 9-16 | 8-14 |
| Peak | 5-26 | 5-19 | 5-15 | 5-15 | 5-18 | 5-13 | 5-13 | 5-9 | 5-14 | 5-13 | 5-16 | 5-13 | 5-17 | 5-13 | 5-17 | 5-15 | 10-8 | 9-25 | 9-27 | 10-3 | 10-5 | 10-4 | 9-28 | 10-4 | 9-27 | 10-1 | 10-3 | 9-22 | 10-4 | 10-2 | 10-9 | 10-1 |
| Last | 5-28 | 6-2 | 6-1 | 5-30 | 6-1 | 5-18 | 5-25 | 5-19 | 5-25 | 5-27 | 5-25 | 5-27 | 5-27 | 5-24 | 6-2 | 5-27 | 10-15 | 10-30 | 10-30 | 10-27 | 10-21 | 10-29 | 10-27 | 10-23 | 10-25 | 10-30 | 10-24 | 11-1 | 11-4 | 11-6 | 11-6 | 10-28 |
| Span | 32 | 39 | 40 | 36 | 36 | 28 | 29 | 23 | 27 | 19 | 30 | 32 | 36 | 31 | 45 | 32 | 75 | 87 | 82 | 79 | 76 | 80 | 74 | 80 | 86 | 86 | 54 | 89 | 71 | 68 | 52 | 76 |
| # days | 21 | 28 | 24 | 27 | 23 | 17 | 28 | 16 | 22 | 17 | 24 | 25 | 24 | 24 | 35 | 24 | 42 | 61 | 41 | 42 | 39 | 51 | 42 | 48 | 62 | 48 | 37 | 45 | 45 | 47 | 44 | 46 |
| % days | 36 | 41 | 34 | 39 | 33 | 24 | 40 | 23 | 31 | 25 | 34 | 36 | 34 | 34 | 50 | 34 | 48 | 67 | 45 | 46 | 43 | 56 | 46 | 53 | 68 | 53 | 38 | 46 | 46 | 48 | 45 | 50 |
| High | 8 | 18 | 34 | 31 | 21 | 33 | 104 | 55 | 30 | 50 | 48 | 29 | 17 | 83 | 59 | 41 | 44 | 200 | 40 | 324 | 55 | 641 | 80 | 191 | 33 | 63 | 41 | 56 | 47 | 64 | 27 | 127 |
| Total | 67 | 205 | 152 | 219 | 92 | 130 | 595 | 180 | 152 | 191 | 249 | 210 | 107 | 451 | 594 | 240 | 516 | 1545 | 285 | 3155 | 347 | 6345 | 457 | 975 | 473 | 743 | 449 | 389 | 591 | 365 | 301 | 1129 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|------|-----|-----|-----|-----|--------|----|----|-----|------|------|------|------|------|-----|-----|-----|------|-----|--------|-----|-----|-----|-----|-----|-----|-------|-------|-------|-------|------|-----|-----|------|------|
| 2005 | | | | | | | | | | | 1.1 | 1.4 | 2.3 | 1.9 | 2.9 | | 1.1 | | | | 0.4 | | | 1.3 | 0.1 | 1.6 | 3.7 | 22.3 | 15.7 | 26.7 | 9.3 | | | | 5.9 |
| 2006 | | | | | | | | | | | 0.6 | 5.6 | 8.0 | 11.3 | 3.7 | 0.1 | 3.0 | | | | 1.7 | 0.3 | 1.1 | 1.4 | 0.4 | 6.1 | 17.4 | 76.1 | 76.1 | 24.6 | 10.6 | 3.3 | 1.4 | | 17.0 |
| 2007 | | | | | | | | | 0.1 | 0.6 | 4.4 | 8.9 | 5.9 | 1.7 | 0.1 | 2.2 | 0.1 | | | 0.08 | | 0.4 | | 0.3 | 1.0 | 0.4 | | 3.4 | 12.4 | 15.1 | 6.3 | 1.0 | 0.3 | | 3.1 |
| 2008 | 0.1 | | | | | 0.04 | | | | | 0.7 | 1.3 | 16.3 | 6.4 | 6.0 | 0.6 | 3.1 | | | | | 0.6 | | 0.1 | | 0.1 | 2.4 | 45.7 | 155.3 | 177.6 | 58.9 | 9.1 | 0.9 | | 34.7 |
| 2009 | | | | | | | | | | | 0.1 | 1.6 | 2.1 | 7.6 | 1.3 | 0.4 | 1.3 | | | | 0.1 | 0.1 | 0.4 | 0.4 | | 1.7 | 1.0 | 4.9 | 12.0 | 24.0 | 4.7 | 0.1 | | | 3.8 |
| 2010 | | | | | | | | | 0.1 | 0.6 | 2.7 | 13.4 | 1.7 | | | 1.9 | | | | | 0.1 | 0.1 | 0.6 | 0.7 | 0.4 | 9.1 | 239.0 | 303.0 | 294.4 | 51.4 | 6.6 | 0.9 | | 69.7 | |
| 2011 | | | | | | | | | | 7.9 | 18.4 | 29.3 | 25.7 | 3.7 | | 8.5 | | | | | | 0.6 | 0.3 | 1.9 | 1.0 | 2.1 | 7.7 | 21.1 | 21.0 | 8.1 | 1.1 | 0.3 | | 5.0 | |
| 2012 | | | | | | | | | | 0.6 | 8.6 | 15.7 | 0.9 | | | 2.6 | | | | 0.1 | | 0.3 | 0.3 | 0.1 | 1.0 | 4.7 | 2.7 | 47.9 | 68.9 | 10.9 | 2.4 | | | 10.7 | |
| 2013 | | | | | | | | | | 0.6 | 1.9 | 11.7 | 7.3 | 0.3 | | 2.2 | | | | 0.6 | | 0.6 | 5.6 | 1.7 | 1.7 | 6.0 | 8.3 | 15.4 | 14.0 | 8.9 | 4.1 | 0.7 | | 5.2 | |
| 2014 | | | | | | | | | | | | | 20.4 | 6.1 | 0.7 | | 2.8 | | | | 0.1 | 0.3 | 0.4 | 0.1 | 0.4 | 0.1 | 1.0 | 9.7 | 36.6 | 28.0 | 22.3 | 6.6 | 0.4 | | 8.2 |
| 2015 | | | | | | | | | | 0.6 | 8.1 | 14.3 | 11.9 | 0.7 | | 3.6 | | | | | | | | | 0.1 | 1.4 | 5.3 | 17.1 | 26.3 | 12.0 | 1.6 | 0.3 | | | 4.6 |
| 2016 | | | | | | | | | | 0.6 | 2.0 | 16.3 | 9.9 | 1.3 | | 3.0 | | | | 0.4 | 0.3 | 0.1 | | 0.1 | 0.3 | 0.9 | 13.6 | 13.1 | 10.0 | 11.1 | 4.6 | 0.9 | 0.1 | | 4.0 |
| 2017 | | | | | | | | | 0.1 | 0.3 | 2.3 | 4.6 | 6.4 | 1.6 | | 1.5 | | | | | | | 0.6 | 0.1 | 1.4 | 3.7 | 20.4 | 28.0 | 19.9 | 6.7 | 3.4 | | 0.1 | | 6.0 |
| 2018 | | | | | | | | | 0.1 | 0.1 | 5.4 | 39.4 | 17.1 | 2.1 | | 6.4 | | | | | | | | 0.7 | 0.6 | 1.0 | 4.1 | 21.6 | 14.4 | 4.0 | 3.7 | 0.7 | 1.3 | | 3.7 |
| 2019 | | | | | | | | | 0.7 | 0.9 | 2.3 | 5.7 | 41.6 | 32.4 | 1.3 | 8.5 | | | | | | | | | | 3.1 | 5.4 | 8.4 | 10.1 | 7.1 | 5.9 | 2.6 | 0.3 | | 3.1 |
| Mean | 0.01 | | | | | <0.005 | | | | 0.09 | 1.0 | 4.4 | 13.9 | 10.8 | 3.9 | 0.2 | 3.5 | 0.01 | | <0.005 | 0.2 | 0.1 | 0.2 | 0.7 | 0.5 | 1.1 | 3.8 | 31.2 | 52.6 | 51.9 | 15.5 | 3.6 | 0.6 | 0.4 | 12.1 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|------|-----|-----|------|------|------|-----|------|-----|-----|----|------|------|-----|-----|-----|-----|-----|------|-------|-------|------|-----|-----|-----|-------|-----|
| 2005 | | | | | | | | | | | 3 | 2 | 1 | 8 | 11 | | 25 | | | | | | | 2 | | 2 | 14 | 76 | 21 | 30 | 12 | | | | 157 | |
| 2006 | | | | | | | | | | | 1 | 1 | 5 | 13 | 2 | | 22 | | | | | | | 2 | | 8 | 49 | 169 | 241 | 40 | 6 | 6 | 1 | | 522 | |
| 2007 | | | | | | | | | | | | | 19 | 6 | 7 | | 32 | | | | | | | 1 | 1 | | | | | | | | | | 68 | |
| 2008 | | | | | | | | | | 2 | 1 | 24 | 11 | 9 | | 47 | | | | | | | | | | 4 | 170 | 688 | 650 | 209 | 11 | | | | 1732 | |
| 2009 | | | | | | | | | | | | | 5 | 26 | 6 | | 37 | | | | | 1 | | | | 2 | 3 | 6 | 21 | 70 | 2 | 1 | | | 106 | |
| 2010 | | | | | | | | | | | | 3 | 19 | 8 | | 30 | | | | | | | | | 1 | | 27 | 881 | 750 | 605 | 88 | 7 | | | 2359 | |
| 2011 | | | | | | | | | | 4 | 26 | 22 | 48 | 2 | | 102 | | | | | | | | 2 | 1 | 1 | 10 | 33 | 31 | 30 | | | | | 108 | |
| 2012 | | | | | | | | | | 1 | 2 | 41 | 2 | | | 46 | | | | 1 | | 1 | | 1 | 4 | 6 | 2 | 84 | 170 | 21 | 2 | | | | 292 | |
| 2013 | | | | | | | | | | | 1 | 15 | 5 | 2 | | 23 | | | | | | | 13 | 4 | 3 | 6 | 5 | 24 | 36 | 13 | 3 | 1 | | | 108 | |
| 2014 | | | | | | | | | | | | | 45 | 8 | 3 | | 56 | | | | | | | | | 1 | 12 | 84 | 34 | 29 | 4 | | | | | 164 |
| 2015 | | | | | | | | | | | | 3 | 26 | 40 | | 69 | | | | | | | | | 1 | | 4 | 10 | 24 | 18 | | | | | | 57 |
| 2016 | | | | | | | | | | 1 | 2 | 25 | 16 | 1 | | 45 | | | | | | | 1 | | | 1 | 11 | 19 | 9 | 26 | 4 | | | | | 71 |
| 2017 | | | | | | | | | | | | 1 | 1 | 16 | 1 | 19 | | | | | | | | 1 | | 1 | 4 | 39 | 55 | 38 | 4 | 3 | | | | 145 |
| 2018 | | | | | | | | | | | | 2 | 81 | 19 | 6 | 108 | | | | | | | | 1 | | 1 | 4 | 21 | 2 | 3 | | | | | | 32 |
| 2019 | | | | | | | | | | 1 | 1 | | 8 | 51 | 110 | 171 | | | | | | | | | | 1 | 1 | 14 | 13 | 11 | 6 | 1 | | | | 47 |
| Mean | | | | | | | | | | 0.07 | 0.9 | 2.9 | 22.5 | 18.5 | 10.7 | | 55.5 | | | | 0.07 | 0.07 | 0.1 | 1.3 | 0.7 | 1.4 | 7.9 | 92.7 | 138.5 | 119.9 | 31.9 | 3.2 | 0.2 | | 397.9 | |

Yellow-rumped Warbler is a common spring and fall migrant at MBO, although abundance varies considerably among years. Spring arrival is generally between 21 April and 29 April, earlier or later in just one year each. The peak of spring migration is most frequently in Week 7, but has been one week later in four years, and not until Week 9 in 2005. Individuals have lingered into the first two days of June in just four years, and there was even one in early summer in 2007. In fall, there are often a few early migrants in the first half of the season, but numbers generally do not build substantially until late September, almost always peaking in Week 9 or 10, and generally dropping off sharply again in Weeks 11 and 12, with early November records only in the past four years, and once previously in 2008. In spring, there have been exceptionally high counts in 2011, 2018, and 2019; in fall the 2008 and 2010 totals were incredibly high, with 2006 also well above average, whereas four of the past five years have been unusually poor.

BTNW: Black-throated Green Warbler / Paruline à gorge noire (*Setophaga virens*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|------|------|------|------|
| First | 5-11 | 5-11 | 5-8 | 5-6 | 5-8 | 5-5 | 4-30 | 5-5 | 5-11 | 5-10 | 5-7 | 5-10 | 5-5 | 5-8 | 5-7 | 5-7 | 8-6 | 8-11 | 8-26 | 8-26 | 8-27 | 8-15 | 8-13 | 8-16 | 8-7 | 8-22 | 8-5 | 8-1 | 8-20 | 8-2 | 8-6 | 8-13 |
| Peak | 5-11 | 5-18 | 5-14 | 5-13 | 5-10 | 5-10 | 5-13 | 5-12 | 5-22 | 5-15 | 5-7 | 5-13 | 5-12 | 5-16 | 5-19 | 5-13 | 9-11 | 9-25 | 9-17 | 9-6 | 8-31 | 9-7 | 8-24 | 9-14 | 9-5 | 9-4 | 8-17 | 8-25 | 9-9 | 8-31 | 10-1 | 9-6 |
| Last | 5-30 | 6-2 | 6-1 | 5-27 | 5-22 | 5-22 | 5-26 | 5-28 | 6-4 | 5-27 | 5-25 | 6-1 | 6-5 | 5-28 | 6-5 | 5-29 | 10-9 | 10-4 | 10-3 | 10-3 | 10-6 | 10-5 | 10-7 | 9-26 | 10-4 | 10-27 | 9-27 | 9-29 | 10-2 | 10-4 | 10-2 | 10-4 |
| Span | 20 | 23 | 25 | 22 | 15 | 18 | 27 | 24 | 25 | 18 | 19 | 23 | 32 | 21 | 30 | 23 | 65 | 55 | 39 | 39 | 41 | 52 | 56 | 42 | 59 | 67 | 54 | 60 | 44 | 64 | 58 | 53 |
| # days | 6 | 14 | 12 | 13 | 6 | 7 | 13 | 10 | 12 | 12 | 10 | 17 | 10 | 15 | 16 | 12 | 33 | 33 | 10 | 25 | 15 | 28 | 23 | 19 | 21 | 13 | 20 | 17 | 17 | 23 | 16 | 21 |
| % days | 10 | 20 | 17 | 19 | 9 | 10 | 19 | 14 | 17 | 18 | 14 | 24 | 14 | 21 | 23 | 17 | 38 | 36 | 11 | 27 | 16 | 31 | 25 | 21 | 23 | 14 | 20 | 17 | 17 | 23 | 16 | 22 |
| High | 1 | 10 | 4 | 5 | 3 | 3 | 7 | 6 | 3 | 3 | 2 | 4 | 2 | 6 | 4 | 4 | 10 | 7 | 4 | 7 | 5 | 4 | 5 | 6 | 3 | 5 | 2 | 3 | 7 | 4 | 5 | 5 |
| Total | 6 | 33 | 24 | 27 | 10 | 12 | 25 | 26 | 18 | 18 | 13 | 33 | 13 | 26 | 33 | 21 | 67 | 67 | 18 | 45 | 28 | 46 | 56 | 39 | 33 | 21 | 24 | 22 | 26 | 36 | 24 | 37 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|------|-----|-----|-----|-----|-----|-----|-----|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|------|-----|-----|-----|
| 2005 | | | | | | | | | | | | | 0.3 | 0.3 | 0.1 | 0.2 | 0.1 | | 0.06 | 0.03 | 0.4 | 0.3 | 0.4 | 1.0 | 1.4 | 2.3 | 1.0 | 2.0 | 0.3 | 0.5 | | | | | 0.8 |
| 2006 | | | | | | | | | | | | | 0.4 | 2.7 | 1.3 | 0.3 | 0.5 | | 0.3 | 0.2 | | 0.7 | 0.4 | 0.7 | 1.6 | 1.1 | 1.6 | 2.7 | 0.6 | 0.1 | | | | | 0.7 |
| 2007 | | | | | | | | | | | | 0.3 | 2.0 | 0.4 | 0.6 | 0.1 | 0.3 | | | | | | | 0.1 | 0.3 | 0.4 | 0.6 | 0.9 | 0.1 | 0.1 | | | | | 0.2 |
| 2008 | | | | | | | | | | | | 0.4 | 2.3 | 1.0 | 0.1 | | 0.4 | | | | | | | 0.1 | 0.7 | 2.0 | 0.9 | 1.3 | 1.3 | 0.1 | | | | | 0.5 |
| 2009 | | | | | | | | | | | | 0.1 | 0.7 | 0.6 | | | 0.1 | | | | | | | 0.3 | 1.3 | 0.4 | 0.6 | 0.1 | 0.9 | 0.4 | | | | | 0.3 |
| 2010 | | | | | | | | | | | | 0.1 | 0.6 | 1.0 | | | 0.2 | | | | | | 0.6 | 0.4 | 1.1 | 1.0 | 1.7 | 1.0 | 0.6 | 0.1 | | | | | 0.5 |
| 2011 | | | | | | | | | | 0.1 | 0.4 | 2.3 | 0.6 | 0.1 | | 0.4 | | | | | 0.3 | 0.4 | 1.6 | 1.3 | 1.1 | 1.9 | 0.7 | 0.1 | 0.6 | | | | | 0.6 | |
| 2012 | | | | | | | | | | | 0.7 | 1.7 | 1.0 | 0.3 | | 0.4 | | | | | | 0.1 | 0.4 | 0.9 | 0.4 | 3.1 | 0.4 | 0.1 | | | | | | 0.4 | |
| 2013 | | | | | | | | | | | | 0.4 | 1.3 | 0.7 | 0.1 | 0.3 | | | | 0.1 | 0.1 | 0.6 | 0.1 | 0.9 | 1.3 | 1.1 | 0.1 | 0.3 | | | | | | 0.4 | |
| 2014 | | | | | | | | | | | | 1.4 | 0.7 | 0.4 | | 0.3 | | | | | | | 0.7 | 0.7 | | 0.7 | 0.4 | | 0.1 | 0.1 | | | | 0.2 | |
| 2015 | | | | | | | | | | | 0.3 | 0.9 | 0.4 | 0.3 | | 0.2 | | | | 0.1 | | 0.4 | 0.1 | 0.1 | 1.1 | 0.3 | 0.9 | 0.3 | | | | | | 0.2 | |
| 2016 | | | | | | | | | | | | 1.6 | 1.9 | 1.0 | 0.3 | 0.5 | | | | 0.1 | 0.3 | 0.1 | 0.9 | 0.1 | 0.3 | 0.4 | 0.7 | 0.1 | | | | | | 0.2 | |
| 2017 | | | | | | | | | | | 0.1 | 0.4 | 0.6 | 0.4 | 0.3 | 0.2 | | | | | | 0.1 | 0.1 | 0.6 | 1.6 | 0.7 | 0.3 | 0.3 | | | | | | 0.3 | |
| 2018 | | | | | | | | | | | 0.1 | 1.3 | 1.9 | 0.4 | | 0.4 | | 0.3 | 0.1 | 0.1 | | 0.3 | 0.9 | 1.0 | 0.4 | 0.3 | 0.3 | 1.6 | 0.3 | | | | | 0.4 | |
| 2019 | | | | | | | | | | | 0.4 | 0.6 | 2.0 | 1.4 | 0.3 | 0.5 | | | | 0.3 | | 0.1 | | | 0.7 | 0.4 | 0.7 | 1.1 | | | | | | 0.2 | |
| Mean | | | | | | | | | | 0.01 | 0.2 | 1.1 | 1.1 | 0.5 | 0.1 | 0.3 | | 0.07 | 0.04 | 0.09 | 0.1 | 0.2 | 0.5 | 0.8 | 0.9 | 1.0 | 0.9 | 0.5 | 0.2 | 0.01 | | 0.01 | | 0.4 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|------|-----|-----|------|-----|-----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|------|----|---|
| 2005 | | | | | | | | | | | | | | | | | | | | | 2 | | 1 | 2 | 4 | 6 | 1 | 7 | | 1 | | | | | 24 | |
| 2006 | | | | | | | | | | | | | | | | | | | 1 | 1 | | 1 | 1 | | 1 | 2 | 2 | 11 | 1 | | | | | | 19 | |
| 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2 | | | | | | | 3 | |
| 2008 | | | | | | | | | | | | | 1 | | | | | | | | | | | | 2 | 11 | 3 | 3 | 9 | | | | | | 28 | |
| 2009 | | | | | | | | | | | | | | 1 | | | | | | | | | | 1 | 2 | 1 | 1 | | 2 | | | | | 7 | | |
| 2010 | | | | | | | | | | | | | 1 | | | | | | | | | | 3 | | 3 | 4 | 7 | 6 | 2 | | | | | | 25 | |
| 2011 | | | | | | | | | | | | | | | 1 | | | | | | | | | 5 | 4 | 5 | 2 | 2 | 1 | 2 | | | | | 21 | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | 2 | | 2 | 15 | | 1 | | | | | | 20 | |
| 2013 | | | | | | | | | | | | | 1 | | | | | | | | 1 | | | 1 | | | 4 | 3 | 1 | 2 | | | | | 12 | |
| 2014 | | | | | | | | | | | | | 1 | 1 | | | | | | | | | | 4 | | | 2 | | | | | | 1 | | 7 | |
| 2015 | | | | | | | | | | | | | | | | | | | | | 1 | | | | | 3 | 1 | 2 | | | | | | | | 7 |
| 2016 | | | | | | | | | | | | | | | | | | | | | | 1 | | 2 | 1 | 2 | | 2 | | | | | | | 8 | |
| 2017 | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | 1 | 1 | 1 | | | | | | 3 | |
| 2018 | | | | | | | | | | | | 1 | | | | | | | | | 1 | | | 2 | 1 | | | 1 | 2 | | | | | | 7 | |
| 2019 | | | | | | | | | | | | | | 1 | | | | | | | 1 | | | | | | | 3 | 3 | | | | | | | 7 |
| Mean | | | | | | | | | | | | | 0.07 | 0.3 | 0.2 | 0.07 | 0.7 | | 0.07 | 0.07 | 0.4 | 0.1 | 0.3 | 1.2 | 1.3 | 2.4 | 2.5 | 3.0 | 1.5 | 0.3 | | 0.07 | | 13.2 | | |

Black-throated Green Warbler is a regular but uncommon spring and fall migrant at MBO. Aside from an unusually early arrival on 30 April 2011, the first sighting of spring has always been within a one-week span from 5 May to 11 May. The spring peak is always in either Week 7 or 8, including Week 8 for the past four years. Twice in the past three years, it has been seen up until the last day of spring, but to date there have been no early summer records. The three years with July observations likely represent early fall migrants. However, fall numbers tend not to build substantially until late August, and peak around mid-September, though timing varies a fair bit across years. The last sighting of fall has been in the first week of October in ten years, with later records in just two additional years. Spring numbers have fluctuated over the years, whereas in fall there has been a decline over time, especially with respect to numbers banded. Although mean daily counts are comparable in spring and fall, far fewer individuals are banded in spring.

CAWA: Canada Warbler / Paruline du Canada (*Cardellina canadensis*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | | 5-25 | 5-17 | 5-21 | 5-2 | 5-18 | 5-21 | 5-21 | 5-19 | 5-14 | 5-12 | 5-17 | 5-19 | 5-11 | 5-18 | 5-16 | 8-12 | 8-10 | 8-12 | 8-9 | 8-3 | 8-5 | 8-11 | 8-7 | 8-11 | 8-9 | 8-2 | 8-14 | 8-7 | 8-7 | 8-9 | 8-8 |
| Peak | | 5-28 | 5-27 | 5-24 | 5-18 | 5-18 | 5-25 | 5-24 | 5-22 | 5-28 | 5-21 | 5-27 | 5-23 | 5-19 | 5-24 | 5-23 | 8-17 | 8-14 | 8-26 | 8-19 | 8-31 | 8-18 | 8-19 | 8-11 | 8-13 | 8-16 | 8-18 | 8-26 | 8-13 | 8-26 | 8-24 | 8-19 |
| Last | | 5-29 | 6-1 | 6-1 | 5-29 | 5-30 | 5-31 | 5-27 | 5-27 | 5-28 | 5-28 | 5-28 | 5-31 | 5-25 | 6-1 | 5-29 | 9-15 | 9-12 | 9-4 | 9-10 | 8-31 | 9-18 | 9-14 | 9-7 | 9-13 | 9-14 | 9-20 | 9-2 | 9-11 | 9-15 | 9-25 | 9-12 |
| Span | | 5 | 16 | 12 | 28 | 13 | 11 | 7 | 9 | 15 | 17 | 12 | 13 | 15 | 15 | 13 | 35 | 34 | 24 | 33 | 29 | 45 | 35 | 32 | 34 | 37 | 50 | 20 | 36 | 40 | 48 | 35 |
| # days | | 3 | 6 | 8 | 7 | 2 | 7 | 7 | 4 | 6 | 9 | 7 | 7 | 7 | 14 | 7 | 10 | 12 | 6 | 16 | 10 | 25 | 21 | 11 | 17 | 15 | 26 | 16 | 20 | 21 | 21 | 16 |
| % days | | 4 | 9 | 11 | 10 | 3 | 10 | 10 | 6 | 9 | 13 | 10 | 10 | 10 | 20 | 10 | 11 | 13 | 7 | 18 | 11 | 27 | 23 | 12 | 19 | 16 | 27 | 16 | 20 | 21 | 21 | 18 |
| High | | 2 | 3 | 3 | 3 | 1 | 4 | 5 | 4 | 4 | 3 | 5 | 5 | 2 | 9 | 4 | 4 | 5 | 4 | 6 | 4 | 8 | 4 | 3 | 4 | 3 | 5 | 6 | 4 | 8 | 3 | 5 |
| Total | | 5 | 9 | 11 | 9 | 2 | 12 | 11 | 9 | 10 | 12 | 15 | 19 | 11 | 72 | 14 | 17 | 21 | 11 | 36 | 19 | 49 | 34 | 18 | 27 | 28 | 42 | 30 | 39 | 47 | 31 | 30 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|------|------|-----|-----|-----|------|-----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | 0.1 | 0.9 | 0.6 | 0.6 | 0.1 | 0.1 | | | | | | | 0.2 |
| 2006 | | | | | | | | | | | | | | | 0.7 | | 0.07 | | | | | | 1.1 | 0.9 | 0.1 | 0.6 | 0.1 | 0.1 | | | | | | | 0.2 |
| 2007 | | | | | | | | | | | | | | 0.6 | 0.6 | 0.1 | 0.1 | | | | | | 0.3 | 0.3 | 0.9 | 0.1 | | | | | | | | | 0.1 |
| 2008 | | | | | | | | | | | | | | | 0.1 | 1.1 | 0.3 | 0.2 | | | | | 1.6 | 2.4 | | 0.6 | 0.6 | | | | | | | | 0.4 |
| 2009 | | | | | | | | | | | | 0.1 | 0.1 | 0.7 | 0.3 | | 0.1 | | | | | 0.1 | | 1.1 | 0.6 | 0.9 | | | | | | | | | 0.2 |
| 2010 | | | | | | | | | | | | | | 0.1 | | 0.1 | 0.03 | | | | | 0.6 | 0.9 | 2.9 | 1.1 | 0.7 | 0.7 | 0.1 | | | | | | | 0.5 |
| 2011 | | | | | | | | | | | | | | 0.4 | 1.1 | 0.1 | 0.2 | | | | | | 0.6 | 1.4 | 0.7 | 0.9 | 0.9 | 0.4 | | | | | | | 0.4 |
| 2012 | | | | | | | | | | | | | | 0.3 | 1.3 | | 0.2 | | | | | 0.3 | 1.4 | 0.4 | 0.3 | | 0.1 | | | | | | | | 0.2 |
| 2013 | | | | | | | | | | | | | | | 0.7 | 0.6 | 0.1 | | | | | | 1.0 | 1.6 | 1.0 | | 0.1 | 0.1 | | | | | | | 0.3 |
| 2014 | | | | | | | | | | | | | 0.1 | 0.3 | 1.0 | | 0.1 | | | | | | 0.4 | 1.1 | 1.1 | 0.7 | | 0.6 | | | | | | | 0.3 |
| 2015 | | | | | | | | | | | | 0.4 | 0.9 | 0.4 | | | 0.2 | | | | | 1.0 | 0.9 | 2.1 | 0.7 | 0.7 | 0.3 | 0.1 | 0.1 | | | | | | 0.4 |
| 2016 | | | | | | | | | | | | | | 0.7 | 1.4 | | 0.2 | | | | | | 0.1 | 1.1 | 2.3 | 0.7 | | | | | | | | | 0.3 |
| 2017 | | | | | | | | | | | | | | 1.3 | 1.0 | 0.4 | 0.3 | | | | | 0.1 | 1.0 | 1.6 | 1.0 | 0.4 | 1.4 | | | | | | | | 0.4 |
| 2018 | | | | | | | | | | | | 0.1 | 0.9 | 0.6 | | | 0.2 | | | | | 0.1 | 0.9 | 0.9 | 3.1 | 1.4 | 0.1 | 0.1 | | | | | | | 0.5 |
| 2019 | | | | | | | | | | | | | | 1.9 | 6.7 | 1.7 | 1.0 | | | | | | 0.4 | 0.4 | 1.4 | 0.9 | 0.9 | | 0.4 | | | | | | 0.3 |
| Mean | | | | | | | | | | | | 0.01 | 0.06 | 0.6 | 1.1 | 0.2 | 0.2 | | | | | 0.2 | 0.7 | 1.3 | 1.0 | 0.6 | 0.4 | 0.1 | 0.04 | | | | | | 0.3 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|-----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | 1 | 6 | 2 | 4 | 1 | 1 | | | | | | | 15 |
| 2006 | | | | | | | | | | | | | | | 2 | | 2 | | | | | | 6 | 4 | 1 | 1 | 1 | | | | | | | | 13 |
| 2007 | | | | | | | | | | | | | | 3 | 1 | 1 | 5 | | | | | | 2 | 2 | 4 | 1 | | | | | | | | | 9 |
| 2008 | | | | | | | | | | | | | | | 3 | 1 | 4 | | | | | | 10 | 9 | | 2 | 3 | | | | | | | | 24 |
| 2009 | | | | | | | | | | | | | 1 | | | 1 | | | | | | 1 | | 6 | 3 | 4 | | | | | | | | | 14 |
| 2010 | | | | | | | | | | | | | 1 | | | 1 | 2 | | | | | 4 | 4 | 16 | 4 | 5 | 2 | | | | | | | | 35 |
| 2011 | | | | | | | | | | | | | 2 | 7 | 1 | 10 | | | | | | | 3 | 3 | 4 | 2 | 2 | 3 | | | | | | | 17 |
| 2012 | | | | | | | | | | | | | 1 | 4 | | 5 | | | | | | 2 | 7 | 2 | 2 | | 1 | | | | | | | | 14 |
| 2013 | | | | | | | | | | | | | 5 | 4 | | 9 | | | | | | | 5 | 7 | 4 | | 1 | 1 | | | | | | | 18 |
| 2014 | | | | | | | | | | | | | 1 | 6 | | 7 | | | | | | | 2 | 5 | 7 | 5 | | 4 | | | | | | | 23 |
| 2015 | | | | | | | | | | | | 2 | 4 | 2 | | 8 | | | | | | 5 | 5 | 14 | 4 | 2 | 1 | 1 | | | | | | | 32 |
| 2016 | | | | | | | | | | | | | 2 | 5 | | 7 | | | | | | | 1 | 4 | 10 | 4 | | | | | | | | | 19 |
| 2017 | | | | | | | | | | | | | 6 | 1 | | 7 | | | | | | | 3 | 6 | 4 | 1 | 6 | | | | | | | | 20 |
| 2018 | | | | | | | | | | | | | 4 | 1 | | 5 | | | | | | 1 | 5 | 5 | 9 | 7 | 1 | | | | | | | | 28 |
| 2019 | | | | | | | | | | | | | 8 | 29 | 6 | 43 | | | | | | | 2 | 3 | 6 | 4 | 2 | | 2 | | | | | | 19 |
| Mean | | | | | | | | | | | | 0.1 | 2.5 | 4.3 | 0.7 | 7.7 | | | | | | 0.9 | 3.7 | 6.1 | 4.3 | 2.8 | 1.4 | 0.7 | 0.1 | | | | | | 20.0 |

Canada Warbler is a late spring and early fall migrant at MBO. An exceptionally early individual was observed on 2 May 2009, and in 2006 none were observed until 25 May, but otherwise the species arrives at MBO between 12 May and 21 May. The spring peak has equally often been in Week 8 and Week 9, though overall abundance in Week 9 is nearly twice as high. In fall, there have been occasional sightings in the first week of August, but generally the vast majority of observations are between Week 2 and Week 6, with the peak of migration almost always in the second half of August. There have been only three records beyond the middle of September. Numbers were exceptional in spring 2019, but otherwise have been largely steady to slightly increasing over time; in fall, numbers have also fluctuated modestly, with a slight overall upward trend.

WIWA: Wilson's Warbler / Paruline à calotte noire (*Cardellina pusilla*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | 5-21 | 5-19 | 5-19 | 5-15 | 5-17 | 5-16 | 5-22 | 5-12 | 5-17 | 5-14 | 5-12 | 5-13 | 5-18 | 5-11 | 5-20 | 5-16 | 8-6 | 8-10 | 8-21 | 8-15 | 8-23 | 8-15 | 8-29 | 8-15 | 8-21 | 8-20 | 8-28 | 8-23 | 8-17 | 8-22 | 8-23 | 8-19 |
| Peak | 5-30 | 5-27 | 5-27 | 5-28 | 5-21 | 5-17 | 5-22 | 5-28 | 5-27 | 5-28 | 5-22 | 5-26 | 5-24 | 5-19 | 5-27 | 5-24 | 8-29 | 9-6 | 9-7 | 9-3 | 8-31 | 9-6 | 9-6 | 9-8 | 9-8 | 9-15 | 9-14 | 9-13 | 9-13 | 9-22 | 9-7 | 9-8 |
| Last | 5-31 | 5-30 | 6-1 | 6-3 | 6-1 | 5-24 | 5-31 | 6-2 | 5-31 | 6-1 | 5-28 | 6-1 | 6-1 | 6-2 | 6-1 | 5-31 | 9-23 | 9-16 | 10-3 | 9-12 | 10-1 | 10-3 | 9-25 | 9-22 | 9-24 | 10-7 | 10-1 | 9-28 | 9-28 | 10-1 | 9-27 | 9-26 |
| Span | 11 | 12 | 14 | 20 | 16 | 9 | 10 | 22 | 15 | 19 | 17 | 20 | 15 | 23 | 13 | 16 | 49 | 38 | 44 | 29 | 40 | 50 | 28 | 39 | 35 | 49 | 35 | 37 | 43 | 41 | 36 | 40 |
| # days | 5 | 10 | 9 | 12 | 16 | 6 | 7 | 17 | 10 | 16 | 14 | 15 | 12 | 16 | 13 | 12 | 24 | 19 | 24 | 22 | 15 | 26 | 21 | 24 | 19 | 23 | 14 | 23 | 22 | 19 | 15 | 21 |
| % days | 8 | 14 | 13 | 17 | 23 | 9 | 10 | 24 | 14 | 24 | 20 | 21 | 17 | 23 | 19 | 17 | 27 | 21 | 26 | 24 | 16 | 29 | 23 | 26 | 21 | 25 | 14 | 23 | 22 | 19 | 15 | 22 |
| High | 2 | 8 | 5 | 11 | 9 | 2 | 6 | 8 | 4 | 11 | 15 | 8 | 10 | 8 | 14 | 8 | 4 | 8 | 8 | 7 | 2 | 7 | 8 | 6 | 4 | 6 | 3 | 4 | 8 | 5 | 5 | 6 |
| Total | 6 | 25 | 20 | 46 | 48 | 7 | 26 | 50 | 21 | 67 | 76 | 34 | 37 | 62 | 109 | 42 | 41 | 52 | 60 | 75 | 17 | 55 | 83 | 46 | 38 | 39 | 27 | 33 | 46 | 29 | 33 | 45 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|------|------|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|
| 2005 | | | | | | | | | | | | | | 0.1 | 0.3 | 0.6 | 0.1 | | | | 0.1 | | | 0.6 | 1.4 | 1.6 | 0.4 | 1.3 | 0.4 | | | | | | 0.5 |
| 2006 | | | | | | | | | | | | | | 0.7 | 2.7 | 0.1 | 0.4 | | | | | 0.1 | 0.6 | 2.0 | 2.0 | 2.6 | 0.1 | | | | | | | 0.6 | |
| 2007 | | | | | | | | | | | | | | 0.7 | 1.7 | 0.4 | 0.3 | | | | | | 0.1 | 1.3 | 2.3 | 3.0 | 1.4 | 0.1 | 0.1 | 0.1 | | | | 0.7 | |
| 2008 | | | | | | | | | | | | 0.1 | 0.3 | 4.7 | 1.4 | 0.7 | | | | | | | 1.0 | 1.0 | 4.4 | 4.0 | 0.3 | | | | | | | 0.8 | |
| 2009 | | | | | | | | | | | | | | 3.1 | 2.9 | 0.9 | 0.7 | | | | | | | 0.3 | 0.7 | 0.3 | 0.7 | 0.3 | 0.1 | | | | | 0.2 | |
| 2010 | | | | | | | | | | | | | | 0.9 | 0.1 | | 0.1 | | | | | | 0.4 | 1.1 | 1.1 | 3.4 | 1.4 | 0.1 | | 0.1 | | | | 0.6 | |
| 2011 | | | | | | | | | | | | | | 0.9 | 2.6 | 0.3 | 0.4 | | | | | | | | 3.6 | 5.0 | 2.3 | 1.0 | | | | | | 0.9 | |
| 2012 | | | | | | | | | | | | 0.3 | 1.4 | 4.6 | 0.9 | 0.7 | | | | | | | 0.1 | 1.0 | 1.3 | 2.3 | 1.7 | 0.1 | | | | | | 0.5 | |
| 2013 | | | | | | | | | | | | | | 0.7 | 1.6 | 0.7 | 0.3 | | | | | | 0.1 | 0.4 | 0.9 | 2.6 | 1.1 | 0.3 | | | | | | 0.4 | |
| 2014 | | | | | | | | | | | | 0.6 | 2.6 | 6.0 | 0.5 | 1.0 | | | | | | | 0.1 | 0.6 | 0.4 | 0.3 | 2.7 | 0.7 | 0.4 | 0.3 | | | | 0.4 | |
| 2015 | | | | | | | | | | | | 0.7 | 5.6 | 4.6 | | 1.1 | | | | | | | 0.1 | 0.1 | 0.4 | 1.4 | 1.3 | 0.4 | | | | | | 0.3 | |
| 2016 | | | | | | | | | | | | 0.3 | 1.0 | 3.3 | 0.3 | 0.5 | | | | | | | 0.6 | 0.9 | 0.3 | 1.9 | 1.0 | 0.1 | | | | | | 0.3 | |
| 2017 | | | | | | | | | | | | | 1.1 | 3.0 | 1.1 | 0.5 | | | | | | | 0.1 | 0.9 | 0.6 | 2.7 | 2.0 | 0.1 | 0.1 | | | | | 0.5 | |
| 2018 | | | | | | | | | | | 0.9 | 4.3 | 3.6 | 0.1 | 0.9 | | | | | | | | 0.6 | 0.4 | 0.4 | 0.1 | 1.7 | 0.9 | | | | | | 0.3 | |
| 2019 | | | | | | | | | | | | | 2.1 | 9.7 | 3.7 | 1.6 | | | | | | | 0.1 | 0.1 | 3.3 | 0.4 | 0.4 | 0.3 | | | | | | 0.3 | |
| Mean | | | | | | | | | | | | 0.2 | 1.7 | 3.4 | 0.7 | 0.6 | | | | | | 0.01 | 0.01 | 0.2 | 0.8 | 1.4 | 2.1 | 1.3 | 0.5 | 0.2 | 0.04 | | | 0.5 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|-----|-----|------|-----|------|-----|-----|----|----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 2005 | | | | | | | | | | | | | | 1 | 2 | 2 | 5 | | | | 1 | | 3 | 3 | 9 | 2 | 7 | 2 | | | | | | | 27 |
| 2006 | | | | | | | | | | | | | | 2 | 12 | 1 | 15 | | | | | 1 | 3 | 9 | 6 | 9 | 1 | | | | | | | | 29 |
| 2007 | | | | | | | | | | | | | | 1 | 7 | 1 | 9 | | | | | | | 8 | 9 | 17 | 5 | 1 | 1 | | | | | | 41 |
| 2008 | | | | | | | | | | | | | | 1 | 19 | 4 | 24 | | | | | | | 4 | 6 | 22 | 20 | 1 | | | | | | | 53 |
| 2009 | | | | | | | | | | | | | | 15 | 9 | 4 | 28 | | | | | | | 2 | 5 | 2 | 3 | 1 | 1 | | | | | | 14 |
| 2010 | | | | | | | | | | | | | | 5 | 1 | | 6 | | | | | | | 3 | 5 | 5 | 18 | 7 | 1 | | | | | | 39 |
| 2011 | | | | | | | | | | | | | | 4 | 8 | 2 | 14 | | | | | | | | 15 | 18 | 8 | 5 | | | | | | | 46 |
| 2012 | | | | | | | | | | | | | 1 | 4 | 16 | 4 | 25 | | | | | | | 1 | 4 | 5 | 14 | 5 | 1 | | | | | | 30 |
| 2013 | | | | | | | | | | | | | | 4 | 9 | 4 | 17 | | | | | | | 1 | 2 | 5 | 11 | 5 | 1 | | | | | | 25 |
| 2014 | | | | | | | | | | | | | 1 | 7 | 24 | 3 | 35 | | | | | | | 4 | 1 | 2 | 12 | 3 | 3 | | | | | | 25 |
| 2015 | | | | | | | | | | | | | 3 | 21 | 15 | | 39 | | | | | | | 1 | 1 | 1 | 6 | 4 | 1 | | | | | | 14 |
| 2016 | | | | | | | | | | | | | 1 | 2 | 9 | 1 | 13 | | | | | | | 4 | 2 | 1 | 8 | 3 | 1 | | | | | | 19 |
| 2017 | | | | | | | | | | | | | | 5 | 7 | 3 | 15 | | | | | | | 1 | 2 | 3 | 9 | 9 | | 1 | | | | | 25 |
| 2018 | | | | | | | | | | | | | 1 | 15 | 10 | | 26 | | | | | | | | | 2 | 1 | 7 | 3 | | | | | | 13 |
| 2019 | | | | | | | | | | | | | | 9 | 33 | 12 | 54 | | | | | | | 1 | 1 | 13 | 2 | 2 | | | | | | | 19 |
| Mean | | | | | | | | | | | | | 0.5 | 6.4 | 12.1 | 2.7 | 21.7 | | | | | 0.07 | 0.07 | 1.1 | 3.4 | 5.9 | 9.3 | 5.3 | 2.1 | 0.7 | | | | | 27.9 |

Wilson's Warbler migrates through MBO in late spring and mid-fall. The earliest spring arrival to date is 11 May; in nine years observations have continued into the first three days of June. There is a strong overall peak in Week 9, although in some years numbers have been slightly higher the week before or after. In fall, there have been only single sightings in each of the first two weeks of August. Typically, migrants only start arriving in larger numbers by late August, most often peaking in Week 6, although migration appears to be shifting later over the years. There have been records extending into the first week of October in six years. Spring numbers have fluctuated, with a slight overall increase, whereas fall totals have decreased over time.

SCTA: Scarlet Tanager / Piranga écarlate (*Piranga olivacea*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First | 5-18 | 5-19 | 5-13 | 5-15 | 5-13 | 5-16 | 5-13 | 5-4 | 5-27 | 5-25 | 5-18 | 5-17 | 5-17 | 5-28 | 5-20 | 5-17 | 9-3 | 8-9 | 8-7 | 8-17 | 8-2 | 8-20 | 8-18 | 8-3 | 8-6 | 8-3 | 8-10 | 8-3 | 8-17 | 8-2 | 8-2 | 8-10 |
| Peak | 5-18 | 5-19 | 5-13 | 5-15 | 6-1 | 5-16 | 5-13 | 5-4 | 5-27 | 5-25 | 5-18 | 5-24 | 5-17 | 5-28 | 5-26 | 5-19 | 9-11 | 9-24 | 9-2 | 8-17 | 8-21 | 8-20 | 8-18 | 8-3 | 8-6 | 8-12 | 8-10 | 8-24 | 8-22 | 8-8 | 8-2 | 8-19 |
| Last | 6-1 | 5-24 | 5-29 | 5-23 | 6-1 | 6-4 | 6-4 | 5-30 | 6-1 | 6-4 | 5-30 | 6-1 | 5-30 | 5-31 | 5-28 | 5-30 | 9-15 | 10-3 | 9-25 | 9-1 | 9-22 | 9-1 | 10-4 | 9-25 | 8-20 | 9-18 | 9-18 | 9-29 | 9-15 | 9-30 | 9-22 | 9-18 |
| Span | 15 | 6 | 17 | 9 | 20 | 20 | 23 | 27 | 6 | 11 | 13 | 16 | 14 | 4 | 9 | 14 | 13 | 56 | 50 | 16 | 52 | 13 | 48 | 54 | 15 | 47 | 40 | 58 | 30 | 60 | 52 | 40 |
| # days | 6 | 2 | 4 | 2 | 5 | 4 | 4 | 6 | 2 | 2 | 6 | 10 | 7 | 2 | 8 | 5 | 5 | 9 | 9 | 3 | 9 | 3 | 3 | 10 | 3 | 11 | 8 | 12 | 13 | 21 | 10 | 9 |
| % days | 10 | 3 | 6 | 3 | 7 | 6 | 6 | 9 | 3 | 3 | 9 | 14 | 10 | 3 | 11 | 7 | 6 | 10 | 10 | 3 | 10 | 3 | 3 | 11 | 3 | 12 | 8 | 12 | 13 | 21 | 10 | 9 |
| High | 1 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 4 | 1 | 1 | 2 | 2 | 4 | 4 | 2 | 1 | 2 | 1 | 1 | 3 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Total | 6 | 3 | 4 | 2 | 6 | 5 | 4 | 6 | 2 | 2 | 8 | 17 | 7 | 2 | 10 | 6 | 8 | 16 | 10 | 3 | 11 | 3 | 3 | 12 | 3 | 13 | 10 | 13 | 19 | 26 | 11 | 11 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|------|------|-----|-----|-----|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|------|
| 2005 | | | | | | | | | | | | | | 0.3 | 0.3 | 0.4 | 0.1 | 0.06 | | 0.03 | | | | | 0.1 | 0.7 | 0.3 | | | | | | | | 0.09 |
| 2006 | | | | | | | | | | | | | | 0.3 | 0.1 | | 0.04 | 0.1 | | 0.05 | | 0.1 | 0.1 | | 0.1 | 0.1 | | 1.6 | | 0.1 | | | | | 0.2 |
| 2007 | | | | | | | | | | | | | 0.1 | 0.3 | 0.1 | | 0.06 | | | | 0.1 | | 0.1 | 0.3 | 0.4 | 0.1 | | 0.3 | | | | | | | 0.1 |
| 2008 | | | | | | | | | | | | | 0.1 | 0.1 | 0.1 | | 0.03 | 0.2 | | 0.1 | | | 0.3 | | 0.1 | | | | | | | | | | 0.03 |
| 2009 | | | | | | | | | | | | | 0.1 | 0.3 | 0.1 | 0.3 | 0.09 | 0.7 | | 0.3 | 0.1 | | 0.3 | 0.6 | 0.1 | 0.1 | 0.1 | 0.1 | | | | | | | 0.1 |
| 2010 | | | | | | | | | | | | | | 0.6 | | 0.1 | 0.07 | | | | | | 0.1 | 0.1 | 0.1 | | | | | | | | | | 0.03 |
| 2011 | | | | | | | | | | | | | 0.1 | 0.1 | 0.1 | 0.1 | 0.06 | | | | | | 0.3 | | | | | | | 0.1 | | | | | 0.03 |
| 2012 | | | | | | | | | | | | 0.1 | 0.1 | 0.1 | 0.3 | 0.1 | 0.09 | | | | 0.6 | 0.3 | 0.4 | | 0.3 | | | 0.1 | | | | | | | 0.1 |
| 2013 | | | | | | | | | | | | | | | 0.1 | 0.1 | 0.03 | | 0.3 | 0.1 | 0.1 | 0.1 | 0.3 | | | | | | | | | | | | 0.03 |
| 2014 | | | | | | | | | | | | | | | 0.1 | 0.2 | 0.03 | | | | 0.3 | 0.3 | | 0.3 | 0.6 | 0.1 | 0.3 | | | | | | | | 0.1 |
| 2015 | | | | | | | | | | | | | | 0.7 | 0.3 | 0.1 | 0.1 | 0.7 | | 0.3 | | 0.3 | 0.1 | | 0.6 | | 0.4 | | | | | | | | 0.1 |
| 2016 | | | | | | | | | | | | | | 0.6 | 1.3 | 0.6 | 0.2 | | | | | 0.4 | 0.3 | 0.1 | 0.7 | | 0.1 | | | | | 0.1 | | | 0.1 |
| 2017 | | | | | | | | | | | | | | 0.3 | 0.6 | 0.1 | 0.1 | | | | | | 0.1 | 1.4 | 0.3 | 0.4 | 0.4 | | | | | | | | 0.2 |
| 2018 | | | | | | | | | | | | | | | 0.1 | 0.1 | 0.03 | | | | 0.4 | 0.9 | 0.7 | 0.6 | 0.1 | 0.1 | 0.3 | 0.3 | 0.3 | | | | | | 0.3 |
| 2019 | | | | | | | | | | | | | | 0.3 | 1.1 | | 0.1 | | | | 0.4 | 0.4 | 0.3 | | 0.1 | 0.1 | 0.1 | 0.1 | | | | | | | 0.1 |
| Mean | | | | | | | | | | | | 0.01 | 0.05 | 0.3 | 0.3 | 0.2 | 0.08 | 0.1 | 0.01 | 0.05 | 0.2 | 0.2 | 0.2 | 0.3 | 0.2 | 0.1 | 0.1 | 0.2 | 0.03 | 0.02 | | | | | 0.1 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|------|-----|------|-----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|---|
| 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | 1 | | | | | | | | | 4 |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | 4 | | | | | | | 5 |
| 2007 | | | | | | | | | | | | | | | | | | | | | | 1 | | | 1 | | 1 | | | | | | | | | 3 |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | 1 |
| 2009 | | | | | | | | | | | | | | | | | | | | | | 1 | | | 1 | | | | | | | | | | | 2 |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | 1 |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | 1 |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | 1 | | | 2 | | | | | | | | | | 3 |
| 2013 | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | 1 |
| 2014 | | | | | | | | | | | | | | | | | | | | | | 2 | | | 1 | | 1 | 1 | | | | | | | | 5 |
| 2015 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | 1 | | 1 | | | | | | | | 3 |
| 2016 | | | | | | | | | | | | | | | | | | | | | | 1 | | 1 | 1 | | | | 1 | | | | | | | 4 |
| 2017 | | | | | | | | | | | | | | | | | | | | | | | | 2 | 1 | | 1 | | | | | | | | | 4 |
| 2018 | | | | | | | | | | | | | | | 1 | | 1 | | | | | 1 | 2 | 1 | 1 | 1 | | 1 | | | | | | | 7 | |
| 2019 | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | 1 |
| Mean | | | | | | | | | | | | | | | 0.07 | | 0.07 | | | | | 0.5 | 0.3 | 0.3 | 0.5 | 0.4 | 0.3 | 0.3 | 0.3 | 0.07 | | | | | 3.0 | |

Scarlet Tanager is a rare but regular spring and fall migrant at MBO, with scattered summer detections as well, mostly in the early years. From 2007 to 2012, spring arrival ranged between 4 May and 15 May, but in all other years it has been a later migrant, first detected between 17 May and 28 May. Ten or fewer individuals have been counted in each spring, except for a record high of 17 in 2016. Fall totals tend to be slightly higher, largely because they extend over much of August and September; there is no clear pattern in terms of peak abundance. Only one has been observed in October. Although the mean daily count is only slightly higher in fall than spring, far more individuals are banded in fall. In both seasons, numbers have fluctuated over time, without any clear trend.

NOCA: Northern Cardinal / Cardinal rouge (*Cardinalis cardinalis*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|-------|------|
| First | 4-5 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 3-29 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 3-28 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 |
| Peak | 4-25 | 4-29 | 4-10 | 3-29 | 4-20 | 4-2 | 4-18 | 5-1 | 4-22 | 4-15 | 5-5 | 4-18 | 5-9 | 4-19 | 4-21 | 4-20 | 10-23 | 9-5 | 8-17 | 10-12 | 8-1 | 10-13 | 10-30 | 10-27 | 8-18 | 10-7 | 10-27 | 9-27 | 8-22 | 11-4 | 10-23 | 9-28 |
| Last | 6-3 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-4 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-4 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 10-30 | 11-6 | 11-6 | 11-6 | 11-6 | 11-6 | 11-1 |
| Span | 60 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 68 | 70 | 70 | 70 | 70 | 70 | 69 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 98 | 98 | 98 | 98 | 98 | 93 |
| # days | 57 | 69 | 68 | 67 | 69 | 67 | 66 | 68 | 70 | 67 | 70 | 70 | 69 | 69 | 70 | 68 | 78 | 91 | 87 | 79 | 78 | 86 | 85 | 91 | 90 | 89 | 98 | 98 | 98 | 97 | 90 | |
| % days | 97 | 100 | 97 | 96 | 100 | 96 | 94 | 97 | 100 | 99 | 100 | 100 | 99 | 99 | 100 | 98 | 89 | 100 | 96 | 87 | 86 | 95 | 93 | 100 | 99 | 98 | 100 | 100 | 100 | 99 | 96 | |
| High | 5 | 12 | 9 | 5 | 13 | 7 | 9 | 12 | 10 | 11 | 16 | 12 | 16 | 13 | 16 | 11 | 12 | 12 | 8 | 6 | 7 | 11 | 13 | 20 | 11 | 10 | 16 | 32 | 20 | 18 | 16 | 14 |
| Total | 126 | 406 | 269 | 174 | 367 | 235 | 222 | 326 | 369 | 342 | 429 | 526 | 550 | 524 | 565 | 362 | 249 | 328 | 261 | 192 | 161 | 325 | 306 | 404 | 460 | 380 | 465 | 646 | 640 | 630 | 789 | 416 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|-----|------|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-----|
| 2005 | 2.8 | 1.5 | | 1.0 | 1.3 | 1.6 | | 1.2 | 1.9 | 1.7 | 2.4 | 3.0 | 2.7 | 2.1 | 2.1 | 1.8 | 2.1 | 2.3 | 2.3 | 2.3 | 1.6 | 2.3 | 1.6 | 1.7 | 2.0 | 2.9 | 1.7 | 3.0 | 3.0 | 3.5 | 3.7 | 4.1 | 6.0 | | 2.8 |
| 2006 | 3.5 | 4.7 | 1.8 | 2.9 | 2.5 | 3.1 | 3.4 | 4.7 | 6.7 | 8.1 | 7.7 | 6.3 | 7.0 | 5.0 | 6.3 | 3.4 | 5.9 | 3.4 | 3.7 | 3.5 | 4.1 | 3.0 | 3.6 | 5.0 | 4.4 | 4.7 | 3.9 | 3.4 | 2.6 | 2.3 | 3.1 | 3.4 | 3.3 | | 3.6 |
| 2007 | 4.4 | 4.6 | 3.3 | 0.2 | 3.8 | 3.6 | 3.7 | 3.6 | 3.0 | 5.1 | 3.7 | 4.7 | 4.6 | 3.3 | 3.9 | 2.9 | 3.8 | 1.6 | 1.5 | 1.5 | 3.6 | 2.9 | 4.0 | 3.4 | 2.1 | 2.7 | 3.4 | 3.0 | 2.3 | 2.0 | 2.6 | 2.0 | 3.3 | | 2.9 |
| 2008 | 2.6 | 2.5 | 0.4 | 0.6 | | 1.5 | 3.4 | 2.9 | 2.3 | 2.7 | 3.0 | 2.7 | 2.1 | 2.3 | 1.6 | 1.9 | 2.5 | 1.8 | 2.0 | 1.9 | 2.1 | 2.4 | 2.0 | 2.0 | 2.1 | 2.0 | 1.1 | 2.1 | 2.1 | 1.3 | 3.1 | 2.4 | 2.4 | | 2.1 |
| 2009 | 2.7 | 4.0 | 1.5 | 2.1 | 5.0 | 3.4 | 6.6 | 5.3 | 3.9 | 6.4 | 6.4 | 5.9 | 4.4 | 4.9 | 4.9 | 4.6 | 5.3 | 1.0 | 0.3 | 0.6 | 3.4 | 2.7 | 1.6 | 1.1 | 1.6 | 1.7 | 1.3 | 2.4 | 1.4 | 0.6 | 0.9 | 1.4 | 2.9 | | 1.8 |
| 2010 | 4.7 | 5.0 | 2.5 | 2.2 | 4.0 | 3.7 | 3.6 | 2.4 | 3.6 | 4.4 | 3.9 | 3.3 | 2.7 | 3.9 | 3.6 | 2.3 | 3.4 | 2.3 | 1.3 | 1.7 | 4.9 | 5.9 | 3.6 | 2.6 | 1.4 | 3.4 | 3.1 | 2.0 | 2.4 | 2.3 | 3.7 | 4.4 | 6.7 | | 3.6 |
| 2011 | 3.0 | 1.0 | 0.3 | 3.0 | 3.6 | 2.2 | 3.3 | 2.1 | 2.3 | 4.6 | 4.0 | 4.3 | 3.7 | 3.1 | 2.1 | 2.1 | 3.2 | 2.0 | 3.3 | 2.7 | 5.6 | 4.6 | 4.1 | 1.9 | 1.9 | 2.9 | 3.4 | 3.3 | 2.6 | 3.0 | 1.7 | 3.1 | 5.7 | | 3.4 |
| 2012 | 1.7 | 4.0 | 4.0 | 1.3 | 2.4 | 2.4 | 2.9 | 3.7 | 5.1 | 5.1 | 6.1 | 5.3 | 6.7 | 5.3 | 4.4 | 1.9 | 4.7 | 1.0 | 2.8 | 1.9 | 4.3 | 3.1 | 3.4 | 3.6 | 3.4 | 5.3 | 4.6 | 3.6 | 3.6 | 2.9 | 4.0 | 5.6 | 10.4 | | 4.4 |
| 2013 | 2.9 | 3.3 | 3.7 | 4.4 | 4.4 | 3.8 | 5.9 | 5.7 | 4.6 | 7.1 | 5.4 | 6.0 | 4.3 | 5.6 | 3.9 | 4.3 | 5.3 | 2.3 | 2.5 | 2.4 | 5.7 | 6.6 | 6.9 | 5.3 | 4.7 | 3.0 | 3.4 | 4.7 | 4.6 | 4.6 | 5.3 | 7.0 | 4.0 | | 5.1 |
| 2014 | 4.8 | 2.8 | 3.3 | 4.6 | 4.0 | 4.0 | 4.5 | 4.7 | 6.0 | 6.0 | 5.7 | 5.0 | 5.0 | 6.3 | 3.9 | 2.8 | 5.0 | 2.7 | 3.5 | 3.1 | 4.9 | 3.7 | 2.4 | 4.0 | 4.7 | 3.4 | 5.1 | 5.6 | 2.7 | 4.0 | 5.1 | 3.4 | 5.1 | | 4.2 |
| 2015 | 4.4 | 6.0 | 2.0 | 1.0 | 4.0 | 4.2 | 6.7 | 6.6 | 6.6 | 6.7 | 7.3 | 7.4 | 4.4 | 5.0 | 6.0 | 4.6 | 6.1 | 0.7 | 4.0 | 2.6 | 5.6 | 5.1 | 4.6 | 3.0 | 4.3 | 3.7 | 3.3 | 3.7 | 4.6 | 3.3 | 3.4 | 4.3 | 7.0 | 10.6 | 4.7 |
| 2016 | 8.0 | 2.9 | 5.8 | 6.0 | 5.4 | 5.6 | 5.3 | 5.7 | 7.4 | 9.0 | 8.4 | 8.9 | 8.3 | 8.6 | 8.3 | 5.3 | 7.5 | 4.0 | 8.0 | 6.0 | 9.9 | 7.1 | 5.1 | 5.7 | 4.9 | 5.1 | 5.6 | 5.1 | 7.7 | 5.3 | 5.0 | 6.4 | 10.7 | 8.6 | 6.6 |
| 2017 | 5.4 | 6.5 | 6.0 | 5.5 | 6.1 | 5.8 | 10.0 | 7.0 | 7.9 | 9.3 | 7.6 | 7.7 | 8.7 | 6.7 | 7.4 | 6.3 | 7.9 | 2.7 | 5.8 | 4.4 | 8.3 | 6.0 | 6.3 | 7.6 | 5.4 | 4.6 | 5.4 | 5.7 | 5.1 | 6.6 | 6.3 | 8.1 | 6.4 | 9.6 | 6.5 |
| 2018 | 5.0 | 4.5 | 3.9 | 5.1 | 5.0 | 4.7 | 8.1 | 7.9 | 7.6 | 10.0 | 9.6 | 8.6 | 6.4 | 6.1 | 6.3 | 4.3 | 7.5 | 4.0 | 3.8 | 3.9 | 8.1 | 7.4 | 5.6 | 6.7 | 6.1 | 5.6 | 6.1 | 3.7 | 6.4 | 4.9 | 5.0 | 6.3 | 7.0 | 11.0 | 6.4 |
| 2019 | 5.0 | 3.5 | 5.6 | 5.6 | 5.2 | 4.9 | 7.7 | 6.1 | 7.3 | 10.1 | 8.1 | 8.6 | 7.7 | 6.7 | 9.7 | 8.6 | 8.1 | 2.7 | 3.5 | 3.1 | 7.6 | 7.9 | 7.1 | 6.6 | 7.7 | 9.4 | 6.6 | 7.7 | 7.9 | 7.0 | 7.7 | 8.9 | 10.1 | 10.6 | 8.1 |
| Mean | 4.1 | 3.9 | 3.3 | 3.4 | 4.3 | 3.8 | 5.4 | 4.7 | 5.1 | 6.5 | 6.0 | 5.8 | 5.3 | 5.0 | 5.0 | 3.8 | 5.2 | 2.4 | 3.0 | 2.7 | 5.3 | 4.7 | 4.1 | 4.0 | 3.8 | 4.0 | 3.9 | 3.9 | 3.9 | 3.6 | 4.0 | 4.7 | 6.1 | 10.1 | 4.5 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|----|
| 2005 | 5 | 2 | | | | 7 | | | 1 | | | 1 | | 1 | 2 | | 5 | | | | | 1 | | 1 | | | 1 | | 1 | 1 | 2 | 1 | 1 | | 9 | |
| 2006 | 1 | 1 | 1 | 1 | | 4 | | | 1 | | 1 | 2 | | | | | 4 | | | | | 1 | | 1 | 1 | 1 | | | | 1 | 2 | | | | 7 | |
| 2007 | 2 | | | | | 2 | | | | | | | | | | | | | | | | 1 | 1 | | | | | | | 1 | 2 | | 2 | | 7 | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | 1 | | | | | | 1 | 3 | | | | 7 | |
| 2009 | | | | | 1 | 1 | | | | 3 | | 1 | | | | | 4 | 1 | | 1 | 1 | 1 | 1 | | | 1 | | 1 | | | 1 | 2 | | | 7 | |
| 2010 | 2 | | 2 | | | 4 | | | | | | | | | | | | | | | 4 | 2 | 1 | | | | 2 | | | | 2 | 1 | | | 12 | |
| 2011 | 3 | | | | 2 | 5 | | | | 2 | 1 | | | | | | 3 | | | | 3 | 1 | 2 | | 1 | 1 | | | 1 | 1 | 1 | 3 | | | 14 | |
| 2012 | 11 | | | | | 11 | | | | 1 | | 1 | 2 | 1 | | | 5 | | 1 | 1 | 2 | 1 | 2 | 1 | 1 | | | 1 | 1 | 1 | | 6 | 5 | | 21 | |
| 2013 | 4 | 2 | | | 3 | 9 | | | | 2 | | 1 | | | | | 5 | | 3 | 3 | 2 | 1 | | 1 | 2 | | 2 | | 2 | | 1 | | | 11 | | |
| 2014 | 7 | 2 | | | | 9 | | | | | | 2 | 1 | 1 | | | 4 | | 1 | 1 | 1 | 1 | 1 | | | | | 1 | 2 | 2 | 2 | | | 9 | | |
| 2015 | 14 | 3 | | | 2 | 19 | | | | | | | | | | | | | | 1 | 1 | 3 | 2 | 3 | 1 | 1 | | | 1 | 1 | 1 | 2 | 3 | 6 | 12 | 36 |
| 2016 | 11 | 3 | | | 4 | 18 | | | | | 3 | | 1 | 2 | | | 6 | 2 | | 2 | 2 | 3 | 1 | 1 | 3 | | 1 | 2 | 2 | 5 | 3 | 3 | 6 | 7 | 39 | |
| 2017 | 9 | 3 | | | | 12 | | | | 1 | 2 | 1 | | | | | 4 | | 5 | 5 | 3 | 5 | 1 | 1 | 1 | | 1 | 1 | | 3 | 2 | 1 | 9 | 3 | 31 | |
| 2018 | 6 | 3 | 2 | 2 | | 13 | | | | 2 | | 1 | | | | | 3 | | 1 | 1 | 7 | 4 | 3 | 2 | | 1 | 1 | | 1 | 4 | 2 | | 1 | 3 | 29 | |
| 2019 | 3 | | | | | 3 | | | | 1 | | 1 | 2 | | 5 | 1 | 10 | 1 | | 1 | 2 | 4 | 3 | 4 | | 1 | 1 | 1 | 1 | 1 | 3 | 4 | 7 | 3 | 35 | |
| Mean | 5.6 | 1.6 | 1.0 | 0.4 | 1.1 | 8.4 | | | 1.0 | 0.8 | 0.5 | 0.7 | 0.5 | 0.3 | 0.5 | 0.07 | 3.5 | 0.3 | 0.8 | 1.1 | 2.1 | 1.8 | 1.3 | 0.9 | 0.7 | 0.3 | 0.5 | 0.5 | 0.6 | 1.4 | 1.5 | 1.8 | 3.0 | 5.6 | 18.3 | |

Northern Cardinal is present at MBO throughout the year, and is one of only two species to have been observed during every observation period over 15 years. The mean daily count is between four and six individuals for most of the year, dipping a bit below from December to February, in summer, and again in September. There has often been a slight spring peak in Week 4; it is unclear whether this represents movement of birds as they establish breeding territories, or possibly just higher detectability during that period. In fall, the elevated mean daily counts in Week 13 and especially Week 14 likely reflect dispersal. In all seasons, numbers observed and banded have been well above average in most to all of the past five years.

RBGR: Rose-breasted Grosbeak / Cardinal à poitrine rose (*Phœucticus ludovicianus*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|-------|-------|-------|------|------|------|------|------|------|------|------|------|------|------|-----|
| First | 5-7 | 5-8 | 5-8 | 5-1 | 5-3 | 5-15 | 5-2 | 5-9 | 5-11 | 5-9 | 5-8 | 5-7 | 5-7 | 5-6 | 5-5 | 5-7 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 |
| Peak | 5-16 | 5-31 | 5-18 | 5-20 | 5-13 | 5-25 | 5-20 | 5-10 | 5-17 | 5-11 | 5-14 | 5-24 | 5-24 | 5-12 | 5-22 | 5-18 | 8-15 | 8-30 | 8-7 | 8-5 | 8-16 | 8-2 | 8-7 | 8-24 | 8-9 | 8-1 | 9-1 | 8-4 | 8-3 | 8-11 | 8-8 | 8-11 | |
| Last | 6-3 | 6-5 | 6-5 | 6-4 | 6-4 | 6-5 | 6-5 | 6-5 | 6-1 | 6-4 | 6-3 | 6-4 | 6-5 | 6-5 | 6-5 | 6-4 | 10-11 | 9-25 | 10-13 | 10-12 | 10-12 | 9-22 | 9-24 | 9-28 | 10-9 | 9-29 | 9-24 | 10-4 | 9-27 | 10-3 | 9-27 | 10-2 | |
| Span | 28 | 29 | 29 | 35 | 33 | 22 | 35 | 28 | 22 | 27 | 27 | 29 | 30 | 31 | 32 | 29 | 72 | 56 | 74 | 73 | 73 | 53 | 55 | 59 | 70 | 60 | 55 | 65 | 58 | 64 | 58 | 63 | |
| # days | 26 | 28 | 26 | 30 | 22 | 12 | 26 | 23 | 12 | 16 | 24 | 26 | 25 | 30 | 32 | 24 | 44 | 48 | 41 | 43 | 43 | 43 | 43 | 43 | 49 | 50 | 52 | 50 | 51 | 54 | 47 | 47 | |
| % days | 44 | 41 | 37 | 43 | 32 | 17 | 37 | 33 | 17 | 24 | 34 | 37 | 36 | 43 | 46 | 35 | 50 | 53 | 45 | 47 | 47 | 47 | 47 | 47 | 54 | 55 | 53 | 51 | 52 | 55 | 48 | 50 | |
| High | 8 | 8 | 9 | 10 | 7 | 6 | 11 | 7 | 6 | 4 | 7 | 8 | 6 | 6 | 12 | 8 | 9 | 13 | 12 | 15 | 10 | 10 | 7 | 14 | 10 | 11 | 10 | 16 | 10 | 15 | 7 | 11 | |
| Total | 80 | 103 | 100 | 124 | 58 | 20 | 69 | 47 | 20 | 28 | 67 | 85 | 63 | 86 | 145 | 73 | 123 | 213 | 133 | 138 | 131 | 117 | 82 | 122 | 141 | 162 | 211 | 203 | 190 | 230 | 131 | 155 | |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|
| 2005 | | | | | | | | | | | | 0.3 | 2.6 | 4.0 | 2.1 | 3.4 | 1.4 | 1.6 | 1.5 | 1.5 | 3.4 | 4.6 | 3.0 | 2.0 | 1.6 | 1.6 | 0.6 | 0.4 | 0.2 | 0.2 | 0.2 | | | | 1.4 |
| 2006 | | | | | | | | | | | | 0.1 | 1.9 | 4.4 | 4.3 | 4.0 | 1.5 | 1.2 | 3.1 | 2.2 | 6.6 | 6.6 | 2.6 | 4.9 | 4.3 | 2.9 | 2.4 | 0.3 | | | | | | 2.3 | |
| 2007 | | | | | | | | | | | | 0.4 | 4.9 | 5.4 | 2.6 | 1.0 | 1.4 | 0.9 | 2.7 | 1.7 | 5.1 | 4.1 | 3.6 | 1.4 | 2.9 | 0.7 | 0.9 | 0.1 | | | 0.1 | | | 1.5 | |
| 2008 | | | | | | | | | | 0.1 | 0.6 | 3.6 | 7.9 | 4.1 | 1.4 | 1.8 | 2.0 | 1.6 | 1.8 | 5.4 | 5.0 | 3.4 | 2.0 | 1.3 | 1.7 | 0.3 | 0.1 | 0.3 | | 0.1 | | | | 1.5 | |
| 2009 | | | | | | | | | | | 0.1 | 3.9 | 1.1 | 2.1 | 1.0 | 0.8 | 1.0 | 1.3 | 1.1 | 5.0 | 3.9 | 4.3 | 0.9 | 1.3 | 1.9 | 0.6 | 0.6 | 0.3 | | 0.1 | | | | 1.4 | |
| 2010 | | | | | | | | | | | | 0.1 | 0.6 | 1.1 | 1.0 | 0.3 | 0.3 | 1.3 | 1.0 | 4.7 | 2.7 | 1.9 | 1.9 | 0.9 | 2.7 | 1.6 | 0.4 | | | | | | | 1.3 | |
| 2011 | | | | | | | | | | | | 0.3 | 2.0 | 2.9 | 3.6 | 1.1 | 1.0 | 0.7 | | 0.3 | 2.3 | 1.9 | 1.9 | 1.6 | 1.6 | 1.1 | 0.9 | 0.6 | | | | | | 0.9 | |
| 2012 | | | | | | | | | | | | 3.0 | 1.1 | 1.1 | 1.4 | 0.7 | | 0.8 | 0.4 | 3.9 | 3.3 | 2.1 | 4.9 | 0.6 | 1.0 | 1.1 | 0.3 | 0.3 | | | | | | 1.3 | |
| 2013 | | | | | | | | | | | | 0.3 | 1.6 | 0.9 | 0.1 | 0.3 | 1.3 | 0.8 | 1.0 | 3.1 | 2.1 | 4.4 | 3.3 | 1.6 | 2.4 | 1.7 | 1.3 | | 0.1 | | | | | 1.5 | |
| 2014 | | | | | | | | | | | | 2.0 | 0.7 | 0.4 | 1.0 | 0.4 | 1.3 | 4.0 | 2.9 | 4.4 | 3.7 | 3.0 | 2.9 | 2.6 | 2.4 | 2.0 | 1.0 | 1.1 | | | | | | 1.8 | |
| 2015 | | | | | | | | | | | | 0.1 | 2.4 | 4.1 | 1.9 | 1.0 | 1.0 | 0.7 | 3.5 | 2.3 | 3.1 | 4.3 | 6.3 | 5.9 | 3.7 | 3.3 | 2.6 | 1.0 | | | | | | 2.2 | |
| 2016 | | | | | | | | | | | | 0.1 | 3.1 | 4.0 | 3.4 | 1.4 | 1.2 | 0.8 | 1.3 | 1.0 | 10.4 | 5.6 | 4.3 | 3.4 | 0.9 | 0.9 | 1.9 | 1.4 | 0.1 | 0.1 | | | | 2.1 | |
| 2017 | | | | | | | | | | | | 0.1 | 0.9 | 2.9 | 3.4 | 1.7 | 0.9 | 1.0 | 3.3 | 2.3 | 5.1 | 4.4 | 3.0 | 5.4 | 3.1 | 2.4 | 2.0 | 1.0 | 0.6 | | | | | 1.9 | |
| 2018 | | | | | | | | | | | | 0.4 | 3.9 | 4.0 | 2.7 | 1.3 | 1.2 | 0.7 | 4.3 | 2.7 | 7.1 | 8.3 | 3.6 | 3.3 | 4.3 | 2.1 | 2.4 | 1.0 | 0.6 | 0.1 | | | | 2.3 | |
| 2019 | | | | | | | | | | | | 1.3 | 3.9 | 7.0 | 5.6 | 3.0 | 2.1 | 1.3 | 3.0 | 2.3 | 3.1 | 4.6 | 4.6 | 1.9 | 1.0 | 1.6 | 0.9 | 1.0 | 0.1 | | | | | 1.3 | |
| Mean | | | | | | | | | | | 0.01 | 0.3 | 2.6 | 3.4 | 2.6 | 1.6 | 1.1 | 1.1 | 2.1 | 1.7 | 4.9 | 4.3 | 3.5 | 3.0 | 2.1 | 1.9 | 1.4 | 0.7 | 0.2 | 0.04 | 0.04 | | | 1.7 | |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|------|----|
| 2005 | | | | | | | | | | | | | 3 | 9 | | | 12 | | 4 | 4 | 2 | 11 | 6 | 6 | 2 | | 1 | 1 | | 1 | | | | 30 | |
| 2006 | | | | | | | | | | | | | 2 | 4 | 3 | | 9 | | 3 | 3 | 8 | 17 | 2 | 4 | 5 | 7 | 2 | | | | | | | 45 | |
| 2007 | | | | | | | | | | | | | 1 | 3 | | | 4 | | | | 14 | 4 | 8 | 1 | 3 | | | 1 | | | | | | 31 | |
| 2008 | | | | | | | | | | | | | 2 | 5 | | | 7 | | | | 15 | 8 | | 4 | 1 | 1 | | | 1 | | | | | 30 | |
| 2009 | | | | | | | | | | | | | 3 | 2 | 2 | | 7 | | 5 | 5 | 16 | 5 | 7 | | 1 | 1 | 1 | 2 | | 1 | | | | 35 | |
| 2010 | | | | | | | | | | | | | 1 | 1 | | | 2 | | 5 | 5 | 13 | 4 | 2 | 3 | 3 | 5 | 3 | | | | | | | 33 | |
| 2011 | | | | | | | | | | | | | | 1 | | | 1 | | | | 3 | 4 | 3 | | | 4 | 2 | 2 | | | | | | | 18 |
| 2012 | | | | | | | | | | | | | 1 | | | | 1 | | 1 | 1 | 6 | 5 | 2 | 15 | | 1 | 1 | | | | | | | | 30 |
| 2013 | | | | | | | | | | | | | | | | | | | 1 | 1 | 8 | 7 | 6 | 2 | 1 | 5 | 4 | 1 | | | | | | | 34 |
| 2014 | | | | | | | | | | | | | | | | | | | 8 | 8 | 7 | 6 | 2 | 7 | 5 | 3 | 4 | 1 | 1 | | | | | | 36 |
| 2015 | | | | | | | | | | | | | 3 | 7 | 1 | | 11 | | 8 | 8 | 5 | 8 | 14 | 4 | 2 | 6 | 4 | | | | | | | | 43 |
| 2016 | | | | | | | | | | | | | 1 | 4 | | | 5 | | 3 | 3 | 22 | 8 | 7 | 4 | | | 4 | 2 | | | | | | | 47 |
| 2017 | | | | | | | | | | | | | | 2 | 2 | | 4 | | 1 | 1 | 10 | 5 | 4 | 4 | | 1 | 2 | 2 | | | | | | | 28 |
| 2018 | | | | | | | | | | | | | 3 | 2 | 1 | | 6 | | 8 | 8 | 18 | 17 | 4 | 8 | 8 | 2 | 5 | 1 | 1 | | | | | | 64 |
| 2019 | | | | | | | | | | | | | 2 | 5 | | 2 | 9 | | 6 | 6 | 6 | 6 | 7 | 3 | 1 | 2 | 1 | 1 | | | | | | | 27 |
| Mean | | | | | | | | | | | | | 1.5 | 3.0 | 0.6 | 0.1 | 5.2 | | 3.5 | 3.5 | 10.2 | 7.7 | 4.9 | 4.3 | 2.1 | 2.5 | 2.3 | 0.9 | 0.3 | 0.07 | 0.07 | | | 35.4 | |

Rose-breasted Grosbeak occurs at MBO as a migrant and breeder. Except for late arrivals in 2010 and 2013, the first sightings of the year have always been in the first ten days of May; the peak of spring migration is most often in Week 8, occasionally one week earlier or later. Numbers taper off in Week 10 as only the local breeders remain. Fall numbers are highest in Week 1 and steadily decline over the course of August and September, with late records extending into October in nearly half of years. In all three seasons, numbers dipped somewhat during the middle years, but have since rebounded, most notably in summer. Numbers banded tend to be far higher in fall, and it is likely that some of the July banding records also represent early migrants.

INBU: Indigo Bunting / Passerin indigo (*Passerina cyanea*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | AVG |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|------|------|------|------|------|------|-------|------|------|------|------|------|
| First | 5-16 | 5-20 | 5-17 | 5-18 | 5-13 | 5-5 | 5-8 | 5-14 | 5-21 | 5-15 | 5-14 | 5-13 | 5-17 | 5-12 | 5-13 | 5-14 | 8-1 | 8-1 | 8-3 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | 8-1 | |
| Peak | 5-30 | 5-21 | 5-17 | 5-25 | 5-18 | 5-18 | 5-29 | 5-24 | 6-1 | 5-22 | 5-19 | 5-24 | 5-23 | 6-2 | 5-24 | 5-23 | 8-10 | 8-2 | 9-18 | 8-6 | 9-3 | 8-4 | 8-2 | 8-11 | 8-4 | 8-3 | 8-3 | 8-3 | 8-1 | 8-4 | 8-13 | 8-9 |
| Last | 6-3 | 6-2 | 6-1 | 6-2 | 6-5 | 6-5 | 6-5 | 6-5 | 6-5 | 6-4 | 6-5 | 6-4 | 6-5 | 6-5 | 6-3 | 6-3 | 10-4 | 10-27 | 10-3 | 10-7 | 10-8 | 10-6 | 10-1 | 9-23 | 9-30 | 10-2 | 10-10 | 9-29 | 10-5 | 9-26 | 10-8 | 10-4 |
| Span | 19 | 14 | 16 | 16 | 24 | 32 | 29 | 23 | 16 | 21 | 23 | 23 | 20 | 25 | 22 | 22 | 65 | 88 | 62 | 68 | 69 | 67 | 62 | 54 | 61 | 63 | 71 | 60 | 66 | 57 | 69 | 65 |
| # days | 11 | 6 | 6 | 13 | 20 | 26 | 16 | 22 | 13 | 17 | 22 | 22 | 18 | 22 | 16 | 17 | 43 | 36 | 23 | 47 | 59 | 56 | 50 | 37 | 52 | 38 | 55 | 35 | 31 | 39 | 45 | 43 |
| % days | 19 | 9 | 9 | 19 | 29 | 37 | 23 | 31 | 19 | 25 | 31 | 31 | 26 | 31 | 23 | 24 | 49 | 40 | 25 | 52 | 65 | 62 | 55 | 41 | 57 | 42 | 56 | 36 | 32 | 40 | 46 | 46 |
| High | 6 | 2 | 2 | 4 | 3 | 5 | 8 | 6 | 5 | 8 | 7 | 6 | 5 | 4 | 8 | 5 | 10 | 5 | 6 | 6 | 8 | 14 | 14 | 5 | 8 | 6 | 4 | 6 | 4 | 6 | 6 | 7 |
| Total | 20 | 7 | 8 | 22 | 39 | 61 | 36 | 73 | 35 | 54 | 80 | 54 | 45 | 43 | 58 | 42 | 97 | 76 | 43 | 98 | 197 | 199 | 159 | 64 | 171 | 65 | 118 | 71 | 60 | 92 | 95 | 107 |

| OBS | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|------|-----|-----|-----|
| 2005 | | | | | | | | | | | | | | 0.1 | 1.1 | 2.2 | 0.3 | 0.3 | 0.6 | 0.5 | 2.3 | 3.6 | 1.3 | 0.7 | 1.7 | 0.1 | 1.6 | 1.3 | 1.3 | 0.2 | | | | | 1.1 | |
| 2006 | | | | | | | | | | | | | | 0.6 | 0.3 | 0.1 | 0.1 | 0.7 | 2.2 | 1.5 | 2.9 | 1.7 | 0.7 | 0.4 | 2.0 | 1.9 | 0.9 | 0.3 | | | | | 0.1 | | 0.8 | |
| 2007 | | | | | | | | | | | | | | 0.4 | 0.3 | 0.4 | 0.1 | 0.6 | 0.5 | 0.5 | 0.4 | 0.3 | 0.1 | | 0.3 | 0.4 | 1.6 | 1.3 | 1.3 | 0.4 | | | | | 0.5 | |
| 2008 | | | | | | | | | | | | | | 0.6 | 2.1 | 0.4 | 0.3 | 1.2 | 1.4 | 1.3 | 3.4 | 2.4 | 1.7 | 0.9 | 1.1 | 1.6 | 0.1 | 0.7 | 1.1 | 0.9 | | | | | 1.1 | |
| 2009 | | | | | | | | | | | | | 0.3 | 1.6 | 1.9 | 1.9 | 0.6 | 0.7 | 0.8 | 0.7 | 4.1 | 4.0 | 2.4 | 1.7 | 2.1 | 3.0 | 3.3 | 4.6 | 2.4 | 0.4 | | | | | 2.2 | |
| 2010 | | | | | | | | | | | | 0.1 | 0.7 | 2.6 | 3.0 | 2.3 | 0.9 | 2.0 | 2.7 | 2.4 | 8.1 | 5.9 | 3.1 | 2.1 | 3.4 | 1.7 | 1.4 | 1.6 | 0.7 | 0.3 | | | | | 2.2 | |
| 2011 | | | | | | | | | | | | 0.1 | 0.4 | 0.7 | 2.1 | 1.7 | 0.5 | 0.7 | 2.3 | 1.6 | 5.9 | 2.4 | 1.4 | 2.3 | 2.1 | 2.1 | 2.9 | 3.1 | 0.4 | | | | | | 1.7 | |
| 2012 | | | | | | | | | | | | | 0.7 | 2.9 | 4.0 | 2.9 | 1.0 | 0.8 | 0.8 | 0.8 | 2.0 | 2.3 | 1.0 | 1.4 | 1.0 | 0.1 | 1.1 | 0.1 | | | | | | | 0.7 | |
| 2013 | | | | | | | | | | | | | | 0.9 | 1.1 | 3.0 | 0.5 | 0.3 | 0.3 | 0.3 | 6.6 | 4.1 | 3.6 | 1.9 | 2.1 | 2.1 | 2.4 | 0.7 | 0.9 | | | | | | 1.9 | |
| 2014 | | | | | | | | | | | | | | 0.1 | 2.3 | 3.7 | 1.8 | 0.8 | | 0.8 | 0.4 | 3.1 | 1.4 | 1.0 | 0.4 | 0.9 | 0.9 | 0.6 | 0.3 | 0.7 | | | | | | 0.7 |
| 2015 | | | | | | | | | | | | | 1.0 | 3.1 | 4.1 | 3.1 | 1.1 | | 0.3 | 0.1 | 2.9 | 2.4 | 2.1 | 1.3 | 1.1 | 0.9 | 1.4 | 1.6 | 2.1 | 0.9 | 0.1 | | | | | 1.2 |
| 2016 | | | | | | | | | | | | | 0.9 | 1.9 | 3.6 | 1.4 | 0.8 | 0.3 | 0.5 | 0.4 | 4.0 | 2.0 | 0.7 | 0.4 | 1.0 | 0.6 | 0.4 | 0.7 | 0.3 | | | | | | | 0.7 |
| 2017 | | | | | | | | | | | | | | 1.6 | 2.6 | 2.3 | 0.6 | 0.3 | 0.5 | 0.4 | 2.9 | 2.1 | 0.6 | 0.4 | 0.9 | 0.3 | 0.4 | 0.6 | 0.3 | 0.1 | | | | | | 0.6 |
| 2018 | | | | | | | | | | | | | | 1.1 | 1.9 | 1.3 | 1.9 | 0.6 | | 0.3 | 0.1 | 3.9 | 3.6 | 1.6 | 1.3 | 1.3 | 0.4 | 0.9 | | 0.3 | | | | | | 0.9 |
| 2019 | | | | | | | | | | | | | | 0.1 | 1.3 | 4.6 | 2.3 | 0.8 | | | | 2.1 | 3.6 | 2.7 | 1.9 | 0.7 | 1.1 | 0.7 | 0.3 | | 0.4 | | | | | 1.0 |
| Mean | | | | | | | | | | | | 0.02 | 0.4 | 1.5 | 2.4 | 1.8 | 0.6 | 0.5 | 1.0 | 0.8 | 3.6 | 2.8 | 1.6 | 1.1 | 1.5 | 1.2 | 1.3 | 1.1 | 0.8 | 0.2 | 0.01 | | 0.01 | | | 1.1 |

| BAND | Nov | Dec | Jan | Feb | Mar | WI | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | SP | Jun | Jul | SU | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | FA | | | |
|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|----|------|----|----|
| 2005 | | | | | | | | | | | | | | | 1 | 2 | 3 | | | | | 13 | 3 | | 8 | | 7 | 5 | 2 | 1 | | | | | | 39 | | |
| 2006 | | | | | | | | | | | | | | | 1 | 1 | 1 | | 1 | 1 | 2 | 4 | 1 | | 2 | 6 | 2 | 2 | | | | 1 | | | | 20 | | |
| 2007 | | | | | | | | | | | | | | | | 1 | 1 | | 1 | 1 | | | | | 2 | 2 | 2 | 2 | 5 | | | | | | | | 13 | |
| 2008 | | | | | | | | | | | | | | | 4 | 4 | 4 | | | | 4 | 2 | 4 | 3 | 3 | 3 | 2 | 2 | 6 | 5 | | | | | | | 32 | |
| 2009 | | | | | | | | | | | | | 1 | | 1 | 2 | 2 | | | | 4 | 3 | 2 | 5 | 5 | 6 | 10 | 10 | 6 | | | | | | | | 51 | |
| 2010 | | | | | | | | | | | | | | | | | | | 2 | 2 | 8 | 8 | 12 | 4 | 8 | 7 | 2 | 9 | 4 | | | | | | | | 62 | |
| 2011 | | | | | | | | | | | | | | | | | | | 2 | 2 | 7 | | 1 | 9 | 7 | 9 | 10 | 5 | | | | | | | | | 48 | |
| 2012 | | | | | | | | | | | | | | | 2 | 2 | 2 | | | | 3 | 2 | 2 | 9 | 2 | 1 | 6 | | | | | | | | | | 25 | |
| 2013 | | | | | | | | | | | | | | | 1 | 2 | 3 | | | | 4 | 2 | 5 | 7 | 7 | 8 | 6 | 3 | | | | | | | | | 42 | |
| 2014 | | | | | | | | | | | | | | | | | | | | | 1 | 1 | 4 | | 1 | 1 | 2 | | 4 | | | | | | | | | 14 |
| 2015 | | | | | | | | | | | | | 1 | 1 | | 2 | 2 | | | | 2 | 1 | 4 | 3 | 4 | 1 | 4 | 3 | 4 | 1 | | | | | | | 27 | |
| 2016 | | | | | | | | | | | | | | 1 | 1 | 2 | 2 | | | | 3 | 2 | | | 4 | 1 | 1 | | 1 | | | | | | | | 12 | |
| 2017 | | | | | | | | | | | | | | 1 | 1 | 1 | 1 | | 1 | 1 | 2 | | | | 2 | | 2 | | | | | | | | | | 6 | |
| 2018 | | | | | | | | | | | | | 1 | 2 | | 4 | 4 | | | | 3 | 3 | | 2 | 3 | 1 | 2 | | | | | | | | | | 14 | |
| 2019 | | | | | | | | | | | | | | | | | | | | | 1 | 3 | 3 | 2 | | 2 | 2 | | | | | | | | | | | 13 |
| Mean | | | | | | | | | | | | | 0.1 | 0.5 | 0.7 | 0.3 | 1.7 | | 0.5 | 0.5 | 2.9 | 2.9 | 2.7 | 2.9 | 3.9 | 3.2 | 3.9 | 2.7 | 2.1 | 0.5 | | | 0.07 | | | 27.9 | | |

Indigo Bunting tends to occur at MBO from around mid-May to early October, although summer records have become less regular since 2014. Spring arrivals were unusually early in 2010 and 2011, but otherwise were between 12 May and 21 May. The peak of spring migration is most commonly in Week 9. Indigo Bunting has often been detected in summer, and likely breeds annually, though is not always detected during the MAPS program as the species favours the edge of the farm field, which is away from the MAPS count area. Fall counts peaked in the first week of August in ten years, but especially in the early years there was a second wave of migrants passing through in mid-late September, sometimes in greater numbers than the first wave. Overall, numbers have increased slightly in spring, but decreased in fall, including below average fall results for the past four years, especially for banding.

Appendix F: Foreign recoveries

Although the success of migration monitoring does not depend on the recovery of banded birds, such data do provide some interesting insights into the travels of particular individuals. Listed below in taxonomic order (then sorted by date of banding) are the 129 individuals of 26 species that were banded at MBO between 2005 and 2019 and have subsequently been reported elsewhere. Included in the table twice are two Northern Saw-whet Owls that have each been recaptured at two different banding stations

Northern Saw-whet Owl is disproportionately numerous in this list, with 62 foreign recoveries of 60 individuals, representing 2.9% of individuals banded at MBO, and 48% of all MBO birds reported elsewhere. This is attributable to the use of an audiolure at MBO and other banding stations, which increases capture rate of Northern Saw-whet Owls far beyond that of other species. The next most commonly recaptured species are American Robin (14 individuals; 0.4% of the total banded at MBO), Common Grackle (9; 1.7%), and American Goldfinch (7; 0.2%). All three of these recovery rates are higher than average for songbirds, but reflect the fact that these species commonly occur in suburban areas, and the majority of reports were of individuals found dead as a result of cat predation or victims of vehicle or window collisions.

The recoveries can be subdivided into those that are local (within 10 km; 34 individuals, 26% of all recoveries), regional (within 100 km; 15, 12%), and long-distance (>100 km; 80, 62%). Only eight individuals (6% of all recoveries) have been recaptured more than 1000 km from MBO, with the greatest distance being covered by an American Robin recovered near Duson, Louisiana, approximately 2320 km to the southwest, less than two months after being banded. A Swainson's Thrush nearly 1400 km to the south in South Carolina after just 23 days was similarly impressive. The other six very distant recoveries were two Northern Saw-whet Owls in Minnesota, another American Robin in North Carolina, a Cedar Waxwing in Alabama, and American Goldfinches in Georgia and Tennessee. All but six of the Northern Saw-whet Owl recoveries are in the long-distance class, and 63% of them over 400 km away. Pennsylvania accounts for 24% of records, followed by New York (22%) and Ontario (17%). Six (10%) of the Northern Saw-whet Owls were banded over a five-day span (October 8-12, 2013), and another five (8%) over a three-day period (October 9-11, 2016); overall, more than half (55%) of the Northern Saw-whet Owls recaptured elsewhere were banded at MBO in the range of October 6-15.

Of the 28 recoveries (22%) within one month of banding, 19 (68%) were long-distance; the fastest to reach that category was a Northern Saw-whet Owl covering 114 km in 3 days; even more impressively, another Northern Saw-whet Owl traveled nearly 400 km in just 6 days. A further 23 birds (18%) were recovered within 6 months, and 15 (12%) more within 12 months. Just over one-quarter (36; 28%) of recoveries were more than two years after banding, with the longest period elapsed belonging to an American Robin found in New York after nearly 9.5 years. Among the Northern Saw-whet Owls, 27 recoveries (44%) were later in the same fall that they were banded (i.e., within three months). Of the local recoveries (<10 km, across all species), 42% were within 6 months of banding.

| Species | Band number | Date banded | Age | Sex | Date recovered | Location recovered | Distance & Direction | Time elapsed |
|-----------------------|-------------|-------------|-----|-----|----------------|--------------------|----------------------|---------------------------|
| Sharp-shinned Hawk | 1232-58582 | 5 Aug 08 | HY | M | 17 Dec 08 | Pincourt, QC | 8 km SW | 4 months, 12 days |
| Sharp-shinned Hawk | 1272-07831 | 2 Oct 08 | HY | M | 30 Nov 08 | Pincourt, QC | 8 km SW | 1 month, 28 days |
| Sharp-shinned Hawk | 1593-88634 | 11 Sep 12 | HY | F | 9 Nov 12 | Cape May, NJ | 727 km S | 1 month, 29 days |
| Eastern Screech-Owl | 1115-06054 | 11 Oct 14 | HY | U | 10 Apr 15 | Senneville, QC | 3 km S | 5 months, 30 days |
| Northern Saw-whet Owl | 0924-19545 | 12 Oct 09 | ASY | F | 15 Nov 09 | New Paltz, NY | 403 km S | 1 month, 3 days |
| Northern Saw-whet Owl | 0924-19541 | 12 Oct 09 | SY | F | 19 Oct 10 | Walnutport, PA | 537 km SSW | 1 year, 7 days |
| Northern Saw-whet Owl | 0924-19557 | 13 Oct 09 | HY | F | 2 Nov 09 | Park Hall, MD | 727 km SSW | 20 days |
| Northern Saw-whet Owl | 0924-19571 | 15 Oct 09 | HY | U | 6 Nov 10 | Port Colborne, ON | 508 km WSW | 1 year, 22 days |
| Northern Saw-whet Owl | 0924-19582 | 25 Oct 09 | HY | F | 8 Oct 10 | Long Point, ON | 607 km WSW | 11 months, 13 days |
| Northern Saw-whet Owl | 1014-18028 | 3 Oct 10 | HY | F | 4 Nov 11 | Carsonville, PA | 594 km SSW | 1 year, 1 month, 1 day |
| Northern Saw-whet Owl | 1014-18061 | 12 Oct 10 | SY | F | 1 Nov 12 | Long Point, ON | 607 km WSW | 2 years, 20 days |
| Northern Saw-whet Owl | 0924-66266 | 6 Oct 11 | HY | F | 5 Nov 12 | Eckville, PA | 558 km SSW | 1 year, 30 days |
| Northern Saw-whet Owl | 0924-66252 | 6 Oct 11 | SY | F | 24 Oct 12 | Andreas, PA | 541 km SSW | 1 year, 18 days |
| Northern Saw-whet Owl | 0924-66296 | 9 Oct 11 | SY | F | 8 Nov 12 | Gibraltar, MI | 830 km WSW | 1 year, 30 days |
| Northern Saw-whet Owl | 0924-66300 | 9 Oct 11 | ATY | F | 9 Nov 12 | Long Point, ON | 607 km WSW | 1 year, 1 month |
| Northern Saw-whet Owl | 1014-44207 | 11 Oct 11 | HY | F | 17 Oct 12 | Carsonville, PA | 594 km SSW | 1 year, 6 days |
| Northern Saw-whet Owl | 1014-44245 | 22 Oct 11 | HY | F | 7 Apr 13 | Toronto, ON | 479 km WSW | 1 year, 5 months, 16 days |

| Species | Band number | Date banded | Age | Sex | Date recovered | Location recovered | Distance & Direction | Time elapsed |
|------------------------|-------------|-------------|-----|-----|----------------|-----------------------------|----------------------|-----------------------------|
| Northern Saw-whet Owl | 1014-44241 | 22 Oct 11 | SY | F | 24 Oct 12 | Lincoln, MA | 393 km SSE | 1 year, 2 days |
| Northern Saw-whet Owl | 1014-47617 | 27 Sep 12 | HY | F | 7 Nov 12 | Mount Holly Springs, PA | 655 km SSW | 1 month, 11 days |
| Northern Saw-whet Owl | 1014-47669 | 7 Oct 12 | HY | F | 9 Nov 12 | McConnellsburg, PA | 697 km SSW | 1 month, 2 days |
| Northern Saw-whet Owl | 1014-47676 | 8 Oct 12 | HY | F | 10 Nov 12 | Kingstown, MD | 712 km SSW | 1 month, 2 days |
| Northern Saw-whet Owl | 1014-64413 | 13 Oct 12 | HY | F | 5 Nov 12 | Cape May, NJ | 727 km S | 23 days |
| Northern Saw-whet Owl | 1014-64436 | 16 Oct 12 | HY | U | 15 Nov 12 | Jumtptown, MD | 742 km SSW | 30 days |
| Northern Saw-whet Owl | 1014-64441 | 17 Oct 12 | HY | F | 6 Nov 12 | Eckville, PA | 558 km SSW | 20 days |
| Northern Saw-whet Owl | 1014-64466 | 18 Oct 12 | HY | F | 14 Jan 13 | North Haven, CT | 463 km S | 2 months, 27 days |
| Northern Saw-whet Owl | 1014-64507 | 23 Oct 12 | HY | U | 15 Nov 12 | Edinburg, NY | 249 km S | 23 days |
| Northern Saw-whet Owl | 1014-64574 | 4 Oct 13 | SY | F | 14 Oct 16 | New Paltz, NY | 403 km S | 3 years, 10 days |
| Northern Saw-whet Owl | 1014-64574 | 4 Oct 13 | SY | F | 23 Oct 16 | Danielsville, PA | 531 km SSW | 3 years, 19 days |
| Northern Saw-whet Owl | 1014-64593 | 8 Oct 13 | SY | F | 24 Oct 13 | Shelburne, VT | 127 km SSE | 16 days |
| Northern Saw-whet Owl | 1014-64596 | 9 Oct 13 | SY | F | 12 Oct 13 | Paul Smiths, NY | 114 km SSW | 3 days |
| Northern Saw-whet Owl | 1014-90222 | 10 Oct 13 | SY | F | 13 Mar 14 | Saint-Calixte, QC | 55 km N | 5 months, 3 days |
| Northern Saw-whet Owl | 1014-90227 | 10 Oct 13 | SY | F | 28 Oct 13 | Charlton, NY | 281 km S | 18 days |
| Northern Saw-whet Owl | 1014-90236 | 11 Oct 13 | TY | F | 19 Nov 13 | Friedensburg, PA | 570 km SSW | 1 month, 8 days |
| Northern Saw-whet Owl | 1014-90247 | 12 Oct 13 | ASY | F | 30 Oct 14 | Carsonville, PA | 594 km SSW | 1 year, 18 days |
| Northern Saw-whet Owl | 1014-90303 | 27 Oct 13 | SY | F | 24 Oct 14 | Long Point, ON | 605 km WSW | 11 months, 27 days |
| Northern Saw-whet Owl | 1014-90336 | 6 Nov 13 | AHY | F | 18 Oct 16 | Bobcaygeon, ON | 372 km WSW | 2 years, 11 months, 12 days |
| Northern Saw-whet Owl | 1014-90346 | 29 Sep 14 | HY | F | 5 Oct 15 | Montpelier, VT | 167 km SE | 1 year, 6 days |
| Northern Saw-whet Owl | 1014-90355 | 1 Oct 14 | HY | F | 29 Oct 14 | Lincoln, MA | 393 km SSE | 28 days |
| Northern Saw-whet Owl | 1014-90379 | 11 Oct 14 | HY | M | 24 Oct 14 | New Paltz, NY | 403 km S | 13 days |
| Northern Saw-whet Owl | 1014-94209 | 13 Oct 14 | HY | U | 15 Nov 14 | North Castle, NY | 489 km S | 1 month, 2 days |
| Northern Saw-whet Owl | 1014-94252 | 24 Oct 14 | HY | F | 12 May 17 | Deerland, NY | 170 km SSW | 2 years, 6 months, 18 days |
| Northern Saw-whet Owl | 1014-95102 | 5 Oct 15 | HY | F | 26 Oct 16 | Cape May, NJ | 727 km S | 1 year, 21 days |
| Northern Saw-whet Owl | 1014-95106 | 6 Oct 15 | SY | F | 1 Oct 16 | Finland, MN | 1342 km W | 11 months, 25 days |
| Northern Saw-whet Owl | 1014-95173 | 14 Oct 15 | HY | F | 20 Oct 17 | Albany NY | 301 km S | 2 years, 6 days |
| Northern Saw-whet Owl | 1014-95187 | 15 Oct 15 | SY | F | 5 Nov 19 | Carsonville, PA | 594 km SSW | 4 years, 21 days |
| Northern Saw-whet Owl | 1104-03163 | 20 Oct 15 | ASY | F | 2 Nov 16 | Bartonsville, PA | 504 km SSW | 1 year, 13 days |
| Northern Saw-whet Owl | 1104-03189 | 21 Oct 15 | HY | U | 26 Oct 15 | Sainte-Anne-de-Bellevue, QC | 1 km S | 5 days |
| Northern Saw-whet Owl | 1104-03280 | 3 Oct 16 | HY | M | 5 Nov 16 | Bliss, NY | 466 km SW | 1 month, 2 days |
| Northern Saw-whet Owl | 1104-03289 | 4 Oct 16 | HY | F | 29 Oct 16 | Carsonville, PA | 594 km SSW | 25 days |
| Northern Saw-whet Owl | 1104-03289 | 4 Oct 16 | HY | F | 11 Nov 17 | Millersburg, PA | 596 km SSW | 1 year, 1 month, 7 days |
| Northern Saw-whet Owl | 1104-24602 | 5 Oct 16 | HY | U | 19 Oct 19 | Williamstown, MA | 306 km S | 3 years, 14 days |
| Northern Saw-whet Owl | 1104-24631 | 7 Oct 16 | TY | F | 16 Mar 19 | Westbrook, MA | 351 km SSE | 2 years, 5 months, 9 days |
| Northern Saw-whet Owl | 1104-24641 | 9 Oct 16 | HY | U | 18 Nov 16 | Cape May, NJ | 727 km S | 1 month, 9 days |
| Northern Saw-whet Owl | 1104-24658 | 10 Oct 16 | HY | U | 31 Oct 16 | New Paltz, NY | 403 km S | 21 days |
| Northern Saw-whet Owl | 1104-24660 | 10 Oct 16 | HY | F | 25 Oct 16 | New Paltz, NY | 403 km S | 15 days |
| Northern Saw-whet Owl | 1104-24661 | 10 Oct 16 | HY | F | 22 Oct 19 | Bobcaygeon ON | 372 km WSW | 3 years, 12 days |
| Northern Saw-whet Owl | 1104-24665 | 11 Oct 16 | HY | M | 28 Sep 19 | Duluth MN | 1405 km WNW | 2 years, 11 months, 17 days |
| Northern Saw-whet Owl | 1104-24690 | 20 Oct 16 | SY | F | 26 Oct 16 | Sainte-Anne-de-Bellevue QC | 1 km S | 6 days |
| Northern Saw-whet Owl | 1104-10512 | 26 Oct 16 | HY | F | 13 Nov 16 | Williamstown, MA | 306 km S | 18 days |
| Northern Saw-whet Owl | 1104-10581 | 30 Sep 17 | SY | F | 19 Oct 17 | Sainte-Anne-de-Bellevue, QC | 1 km S | 19 days |
| Northern Saw-whet Owl | 1104-25927 | 9 Oct 17 | AHY | F | 7 Oct 18 | Ottawa, ON | 155 km W | 11 months, 28 days |
| Northern Saw-whet Owl | 1104-25976 | 12 Oct 17 | HY | F | 4 May 18 | Sainte-Anne-de-Bellevue, QC | 1 km S | 6 months, 22 days |
| Northern Saw-whet Owl | 1014-92476 | 4 Nov 17 | SY | F | 27 Apr 18 | Hilliardton Marsh ON | 506 km NW | 5 months, 23 days |
| Northern Saw-whet Owl | 1104-49119 | 5 Oct 18 | HY | F | 3 Nov 19 | Valhalla, NY | 486 km S | 1 year, 29 days |
| Northern Saw-whet Owl | 1104-49245 | 23 Oct 18 | HY | U | 27 Mar 19 | Sainte-Anne-de-Bellevue, QC | 1 km S | 5 months, 4 days |
| Northern Saw-whet Owl | 1104-33605 | 20 Oct 19 | ASY | F | 26 Oct 19 | Dickinson, NY | 399 km SSW | 6 days |
| Merlin | 1583-85911 | 19 Apr 07 | ASY | M | 27 May 12 | Rindge, NH | 334 km SSE | 5 years, 1 month, 8 days |
| Northern Shrike | 1352-95290 | 23 Mar 16 | ASY | U | 1 Apr 17 | Dunrobin, ON | 164 km W | 1 year, 9 days |
| Blue Jay | 1603-43837 | 17 Sep 08 | HY | U | 8 Jun 10 | Saint-Jean-de-Matha, QC | 96 km NNE | 1 year, 8 months, 22 days |
| Blue Jay | 1342-00907 | 19 Oct 09 | HY | U | 26 Feb 10 | Sainte-Anne-de-Bellevue, QC | 3 km S | 4 months, 7 days |
| Blue Jay | 1342-36105 | 8 Sep 11 | HY | U | 15 Aug 19 | Baie d'Urfé, QC | 3 km SE | 7 years, 11 months, 7 days |
| Black-capped Chickadee | 2460-40011 | 1 Feb 06 | SY | U | 20 Feb 06 | Sainte-Anne-de-Bellevue, QC | 1 km W | 19 days |
| Black-capped Chickadee | 2490-24914 | 9 Sep 07 | HY | U | 6 Nov 07 | Lachine, QC | 20 km E | 1 month, 28 days |
| Black-capped Chickadee | 2500-65183 | 16 Aug 08 | HY | U | 1 Nov 10 | Sainte-Anne-de-Bellevue, QC | 1 km W | 2 years, 2 months, 16 days |
| Black-capped Chickadee | 2650-43061 | 18 Mar 12 | SY | M | 29 Mar 12 | Sainte-Anne-de-Bellevue, QC | 2 km SW | 11 days |
| Veery | 2471-50035 | 4 Aug 18 | HY | U | 22 May 19 | Pointe-Calumet, QC | 8 km NNW | 9 months, 18 days |
| Swainson's Thrush | 2571-23287 | 17 Sep 12 | HY | U | 10 Oct 12 | Millwood, SC | 1394 km SSW | 23 days |

| Species | Band number | Date banded | Age | Sex | Date recovered | Location recovered | Distance & Direction | Time elapsed |
|------------------------|-------------|-------------|-----|-----|----------------|-------------------------------|----------------------|-----------------------------|
| American Robin | 1222-70269 | 21 Apr 06 | SY | M | 22 Apr 07 | Sainte-Anne-de-Bellevue, QC | 3 km WSW | 1 year, 1 day |
| American Robin | 1232-08355 | 17 Oct 06 | HY | M | 1 Oct 09 | Ile Perrot, QC | 6 km SW | 2 years, 11 months, 14 days |
| American Robin | 1232-08343 | 17 Oct 06 | HY | M | 6 Dec 06 | Duson, LA | 2319 km SW | 1 month, 19 days |
| American Robin | 1232-08515 | 26 Oct 06 | HY | M | 12 Jul 07 | Val d'Or, QC | 429 km NW | 8 months, 16 days |
| American Robin | 1232-26413 | 5 Oct 07 | HY | U | 14 Jun 12 | Kirkland, QC | 7 km ENE | 4 years, 8 months, 9 days |
| American Robin | 1272-07989 | 19 Oct 08 | AHY | M | 12 Jul 09 | Sainte-Anne-de-Bellevue, QC | 3 km S | 8 months, 23 days |
| American Robin | 1212-69255 | 2 Aug 09 | HY | U | 27 Mar 17 | Victor, NY | 388 km SW | 7 years, 7 months, 25 days |
| American Robin | 1292-00670 | 17 Oct 09 | HY | M | 26 Mar 19 | Frankfort, NY | 280 km SSW | 9 years, 5 months, 9 days |
| American Robin | 1342-00944 | 22 Oct 09 | AHY | F | 1 Apr 10 | Henderson, NC | 1080 km SSW | 5 months, 10 days |
| American Robin | 1342-36341 | 18 Aug 12 | HY | U | 22 Apr 13 | Pierrefonds, QC | 9 km ENE | 8 months, 4 days |
| American Robin | 1342-36433 | 7 Nov 12 | HY | F | 26 Apr 13 | Trois-Rivières, QC | 149 km NE | 5 months, 19 days |
| American Robin | 1352-01617 | 27 Oct 13 | AHY | M | 27 Mar 16 | Dollard-des-Ormeaux, QC | 11 km NE | 2 years, 5 months |
| American Robin | 1352-01653 | 28 Oct 13 | HY | U | 27 Apr 14 | Montreal, QC | 29 km ENE | 5 months, 30 days |
| American Robin | 1372-14746 | 17 Oct 16 | AHY | M | 23 Sep 17 | Ile Perrot, QC | 6 km SW | 11 months, 6 days |
| European Starling | 1232-08517 | 25 Mar 07 | AHY | M | 17 Dec 08 | Rome, NY | 273 km SSW | 1 year, 8 months, 22 days |
| Cedar Waxwing | 2691-45557 | 25 Apr 14 | SY | M | 6 Mar 15 | Montgomery, AL | 1794 km SW | 10 months, 9 days |
| House Finch | 2431-86824 | 1 Nov 10 | AHY | M | 2 Aug 11 | Laval, QC | 23 km NE | 9 months, 1 day |
| Purple Finch | 2021-84154 | 1 Aug 13 | HY | U | 26 May 16 | Vaudreuil-Dorion, QC | 9 km WSW | 2 years, 9 months, 25 days |
| American Goldfinch | 2510-81047 | 14 May 07 | ASY | F | 4 May 10 | Sainte-Anne-de-Bellevue, QC | 0 km W | 2 years, 11 months, 20 days |
| American Goldfinch | 2600-17001 | 15 Sep 10 | HY | U | 28 Aug 12 | Saint-Dominique, QC | 19 km WSW | 1 year, 11 months, 13 days |
| American Goldfinch | 2650-41217 | 18 May 12 | SY | M | 8 Aug 15 | Seymour, TN | 1343 km SW | 3 years, 2 months, 21 days |
| American Goldfinch | 2730-80137 | 25 Aug 13 | AHY | F | 6 Jan 18 | Columbus, GA | 1731 km SW | 4 years, 4 months, 12 days |
| American Goldfinch | 2650-44078 | 10 Sep 14 | HY | U | 2 Oct 14 | Potsdam, NY | 120 km SW | 22 days |
| American Goldfinch | 2740-76544 | 10 Nov 15 | HY | M | 29 Aug 18 | Liverpool, NY | 314 km SSW | 2 years, 9 months, 19 days |
| American Goldfinch | 2720-00947 | 26 Apr 16 | SY | M | 13 Jul 17 | Senneville, QC | 2 km SW | 1 year, 2 months, 17 days |
| American Tree Sparrow | 2600-15486 | 26 Oct 09 | AHY | U | 22 Apr 10 | Lac Megantic, QC | 240 km E | 5 months, 27 days |
| Dark-eyed Junco | 2740-77763 | 3 Nov 17 | HY | F | 20 Nov 17 | Sainte-Anne-de-Bellevue, QC | 1 km S | 17 days |
| White-throated Sparrow | 2261-90366 | 24 Sep 07 | HY | U | 12 Jul 11 | Blainville, QC | 37 km N | 3 years, 9 months, 18 days |
| White-throated Sparrow | 2661-75519 | 13 Oct 13 | AHY | U | 25 Mar 15 | Terre Hill, PA | 612 km SSW | 1 year, 5 months, 12 days |
| White-throated Sparrow | 2691-52136 | 11 Oct 14 | HY | U | 3 May 16 | Long Point, ON | 607 km WSW | 1 year, 6 months, 22 days |
| Red-winged Blackbird | 1152-34065 | 30 Apr 05 | SY | M | 26 Apr 10 | Sainte-Anne-de-Bellevue, QC | 2 km S | 4 years, 11 months, 27 days |
| Red-winged Blackbird | 1222-70315 | 22 Apr 06 | SY | M | 4 Jul 06 | Sainte-Anne-de-Bellevue, QC | 3 km WSW | 2 months, 12 days |
| Red-winged Blackbird | 1232-08594 | 22 May 07 | SY | M | 18 Apr 11 | Long Point, ON | 607 km WSW | 3 years, 10 months, 27 days |
| Red-winged Blackbird | 1951-51396 | 10 May 08 | SY | F | 31 May 08 | Lacolle, QC | 54 km SE | 21 days |
| Red-winged Blackbird | 1292-00599 | 24 May 09 | SY | M | 30 Apr 14 | Sainte-Anne-de-Bellevue, QC | 3 km SW | 4 years, 11 months, 6 days |
| Red-winged Blackbird | 1342-36275 | 3 May 12 | ASY | M | 26 Apr 17 | Ile Perrot, QC | 6 km SW | 4 years, 11 months, 23 days |
| Common Grackle | 1323-93244 | 3 May 06 | AHY | M | 2 Dec 12 | Saint-Michel-de-Wentworth, QC | 59 km NW | 6 years, 6 months, 29 days |
| Common Grackle | 1363-68390 | 7 May 07 | ASY | M | 21 Apr 11 | Sainte-Anne-de-Bellevue, QC | 2 km SW | 3 years, 11 months, 14 days |
| Common Grackle | 2003-45007 | 7 Aug 08 | AHY | U | 20 Jul 11 | Hudson, QC | 15 km W | 2 years, 11 months, 13 days |
| Common Grackle | 1603-88220 | 24 Apr 10 | SY | F | 24 May 11 | Beaconsfield, QC | 5 km E | 1 year, 1 month |
| Common Grackle | 1603-88249 | 29 Aug 10 | HY | U | 6 May 12 | Laval, QC | 23 km NE | 1 year, 8 months, 7 days |
| Common Grackle | 1713-34521 | 13 Oct 12 | HY | M | 1 Jun 14 | Pointe-des-Cascades, QC | 14 km S | 1 year, 7 months, 19 days |
| Common Grackle | 1713-34524 | 14 Oct 12 | HY | U | 3 Mar 14 | Southampton Township, NJ | 616 km S | 1 year, 4 months, 17 days |
| Common Grackle | 1713-34525 | 17 Oct 12 | HY | F | 17 Jun 16 | Saint-Charles-Borromée, QC | 78 km SSW | 3 years, 8 months |
| Common Grackle | 1833-10924 | 29 May 18 | AHY | M | 19 Apr 19 | Pennsville, NJ | 656 km SSW | 10 months, 21 days |
| Ovenbird | 2631-76213 | 3 Sep 16 | HY | U | 24 May 17 | St-Jérôme, QC | 39 km NNW | 8 months, 21 days |
| American Redstart | 2410-92963 | 2 Sep 05 | HY | F | 18 May 10 | Trois-Rivières, QC | 152 km NE | 4 years, 8 months, 16 days |
| Magnolia Warbler | 2630-69192 | 4 Sep 12 | HY | M | 17 Jun 14 | Gore, QC | 40 km NW | 1 year, 9 months, 13 days |
| Yellow Warbler | 2460-40300 | 1 Aug 07 | HY | M | 9 Aug 07 | Sainte-Anne-de-Bellevue, QC | 1 km SSW | 8 days |
| Yellow Warbler | 2720-01071 | 18 May 16 | SY | M | 2 Jul 18 | Montreal, QC | 8 km ENE | 2 years, 1 month, 14 days |
| Yellow-rumped Warbler | 2510-81875 | 30 Sep 06 | HY | M | 16 Oct 06 | Chestertown, MD | 708 km SSW | 16 days |
| Yellow-rumped Warbler | 2650-42001 | 15 Sep 13 | HY | F | 23 Sep 13 | Kirkland, QC | 2 km NNE | 8 days |
| Indigo Bunting | 2351-48783 | 9 Sep 10 | HY | M | 27 May 11 | King City, ON | 478 km WSW | 8 months, 18 days |

During the same period, 63 birds of 10 species banded elsewhere have been recaptured at MBO, as summarized in the table below. Northern Saw-whet Owl dominates this list with 53 birds (84%); two foreign-banded Ruby-crowned Kinglets have been recaptured, and all eight other species are represented by a single individual. More birds on this list are long-distance recoveries (98%, vs. 62% for birds banded at MBO), but this largely reflects the scarcity of other banding efforts within 100 km of MBO. Only three individuals recaptured at MBO were banded >1000 km away, all Northern Saw-whet Owls (one recaptured 29 days after being banded in Minnesota nearly 1300 km to the west, and two others the fall after being banded, near Thunder Bay, Ontario, 1200 km to the west, and in Indiana, 1100 km to the southwest). Among the owls, 13 (21%) were banded in Pennsylvania, 10 (16%) in Ontario, 7 (11%) in New York, with the remainder from nine other provinces and states.

Just over half (27) of the foreign Northern Saw-whet Owls recaptured at MBO were banded the previous fall, while only two (4%) were banded earlier in the same season, and four (8%) in spring or summer of the same year; the remainder were all banded in fall and recaptured at MBO either two (15 individuals; 28%), three (four individuals; 8%), or four (one individual; 2%) years later. Among the other species, time elapsed ranges from an incredibly quick recapture of a Nashville Warbler just three days after being banded in Rochester, New York, to a Northern Waterthrush banded in Pennsylvania and recaptured at MBO just over 7 years later.

| Species | Band number | Date banded | Location banded | Age | Sex | Date recovered | Distance & Direction | Time elapsed |
|-----------------------|-------------|-------------|---------------------|-----|-----|----------------|----------------------|-----------------------------|
| Northern Saw-whet Owl | 0934-86010 | 1 Jul 08 | Whitefish Point, MI | ASY | F | 19 Oct 09 | 861 km E | 1 year, 3 months, 18 days |
| Northern Saw-whet Owl | 1014-11228 | 18 Oct 08 | Charlton, NY | ASY | U | 13 Oct 12 | 279 km N | 3 years, 11 months, 25 days |
| Northern Saw-whet Owl | 0924-37161 | 5 Nov 08 | Bentonville, VI | ASY | F | 20 Oct 09 | 813 km NNE | 11 months, 15 days |
| Northern Saw-whet Owl | 1014-02489 | 19 Oct 09 | Northbridge, MA | SY | U | 3 Oct 10 | 419 km NNW | 11 months, 14 days |
| Northern Saw-whet Owl | 1014-01834 | 25 Oct 09 | Picton, ON | TY | F | 6 Oct 11 | 285 km NE | 1 year, 11 months, 11 days |
| Northern Saw-whet Owl | 1014-01881 | 29 Oct 09 | Picton, ON | ASY | U | 23 Oct 11 | 285 km NE | 1 year, 11 months, 24 days |
| Northern Saw-whet Owl | 0924-57535 | 4 Oct 10 | New Liskeard, ON | HY | F | 11 Oct 10 | 510 km ESE | 7 days |
| Northern Saw-whet Owl | 0924-64977 | 8 Oct 10 | Thunder Cape, ON | TY | F | 30 Oct 11 | 1185 km E | 1 year, 22 days |
| Northern Saw-whet Owl | 1014-20019 | 9 Oct 10 | Charlton, NY | ASY | F | 11 Oct 13 | 276 km N | 3 years, 2 days |
| Northern Saw-whet Owl | 1014-25330 | 10 Oct 10 | Ellenville, NY | ASY | F | 3 Oct 13 | 408 km N | 2 years, 11 months, 23 days |
| Northern Saw-whet Owl | 1014-33312 | 13 Oct 10 | Fort Loudon, PA | SY | F | 5 Oct 11 | 693 km NNE | 11 months, 22 days |
| Northern Saw-whet Owl | 1014-07024 | 13 Oct 10 | South Hadley, MA | ASY | F | 11 Oct 11 | 365 km NNW | 11 months, 28 days |
| Northern Saw-whet Owl | 1014-08661 | 17 Oct 10 | Picton, ON | SY | F | 23 Oct 11 | 285 km NE | 1 year, 6 days |
| Northern Saw-whet Owl | 0924-59832 | 17 Oct 10 | Huntsdale, PA | ASY | F | 9 Oct 12 | 649 km NNE | 1 year, 11 months, 22 days |
| Northern Saw-whet Owl | 1014-26965 | 1 Nov 10 | Friedensburg, PA | TY | F | 22 Oct 11 | 566 km NNE | 11 months, 21 days |
| Northern Saw-whet Owl | 1014-50214 | 4 Nov 10 | Berlinsville, PA | ASY | F | 21 Oct 13 | 534 km NNE | 2 years, 11 months, 17 days |
| Northern Saw-whet Owl | 1014-12027 | 10 Nov 10 | Bentonville, VI | ATY | F | 11 Oct 11 | 813 km NNE | 11 months, 1 day |
| Northern Saw-whet Owl | 1014-33802 | 25 Sep 11 | Tofte, MN | SY | F | 24 Oct 11 | 1306 km E | 29 days |
| Northern Saw-whet Owl | 1014-07171 | 26 Oct 11 | South Hadley, MA | ASY | F | 11 Oct 13 | 365 km NNW | 1 year, 11 months, 15 days |
| Northern Saw-whet Owl | 0924-30411 | 5 Nov 11 | Park Hall, MD | TY | F | 10 Oct 13 | 727 km NNE | 1 year, 11 months, 5 days |
| Northern Saw-whet Owl | 1014-36196 | 26 Sep 12 | New Liskeard, ON | TY | F | 27 Oct 14 | 510 km ESE | 2 years, 1 month, 1 day |
| Northern Saw-whet Owl | 1014-50867 | 7 Oct 12 | Lincoln, MA | SY | F | 10 Oct 13 | 393 km NNW | 1 year, 3 days |
| Northern Saw-whet Owl | 1014-51480 | 11 Oct 12 | New Paltz, NY | SY | F | 8 Oct 13 | 403 km N | 11 months, 27 days |
| Northern Saw-whet Owl | 1014-76916 | 17 Oct 12 | Dreherstown, PA | SY | F | 9 Oct 13 | 554 km NNE | 11 months, 22 days |
| Northern Saw-whet Owl | 1014-50425 | 17 Oct 12 | Berlinsville, PA | TY | F | 11 Oct 14 | 534 km NNE | 1 year, 11 months, 24 days |
| Northern Saw-whet Owl | 1014-77160 | 20 Oct 12 | Evansville, PA | SY | F | 8 Oct 13 | 570 km NNE | 11 months, 18 days |
| Northern Saw-whet Owl | 1014-36952 | 3 Nov 12 | Malden Centre, ON | ASY | F | 21 Oct 13 | 820 km ENE | 11 months, 18 days |
| Northern Saw-whet Owl | 1014-13827 | 3 Nov 12 | Huntsdale, PA | SY | F | 5 Oct 13 | 649 km NNE | 11 months, 2 days |
| Northern Saw-whet Owl | 1014-51646 | 4 Nov 12 | Dunlapville, IN | SY | F | 28 Oct 13 | 1109 km NE | 11 months, 24 days |
| Northern Saw-whet Owl | 1014-51372 | 5 Nov 12 | New Paltz, NY | TY | F | 27 Oct 14 | 403 km N | 1 year, 11 months, 22 days |
| Northern Saw-whet Owl | 1014-78897 | 14 Nov 12 | Berlinsville, PA | SY | F | 16 Oct 13 | 534 km NNE | 11 months, 2 days |
| Northern Saw-whet Owl | 1014-04452 | 14 Nov 12 | Kiptopeke, VI | SY | U | 11 Oct 13 | 931 km N | 10 months, 27 days |
| Northern Saw-whet Owl | 1014-49227 | 16 Nov 12 | Park Hall, MD | SY | F | 10 Oct 13 | 727 km NNE | 10 months, 24 days |
| Northern Saw-whet Owl | 0914-91705 | 16 Apr 13 | Whitefish Point, MI | SY | F | 3 Oct 13 | 861 km E | 5 months, 17 days |
| Northern Saw-whet Owl | 0914-91873 | 25 Apr 13 | Whitefish Point, MI | SY | F | 28 Oct 13 | 861 km E | 6 months, 3 days |
| Northern Saw-whet Owl | 1014-53065 | 14 Oct 13 | South Hadley, MA | ASY | F | 3 Oct 15 | 369 km NNW | 1 year, 11 months, 19 days |
| Northern Saw-whet Owl | 1014-80043 | 28 Oct 13 | Sherburne, VT | TY | F | 22 Oct 14 | 125 km NNW | 11 months, 24 days |
| Northern Saw-whet Owl | 1014-93219 | 1 Oct 14 | Ottawa, ON | ASY | U | 10 Oct 15 | 155 km E | 1 year, 9 days |
| Northern Saw-whet Owl | 1014-69005 | 19 Oct 14 | Tadoussac, QC | ASY | F | 14 Oct 17 | 445 km SW | 2 years, 11 months, 25 days |
| Northern Saw-whet Owl | 1014-88914 | 12 Nov 14 | Hedgesville, WV | AHY | F | 23 Oct 15 | 731 km NNE | 11 months, 11 days |

| Species | Band number | Date banded | Location banded | Age | Sex | Date recovered | Distance & Direction | Time elapsed |
|------------------------|-------------|-------------|----------------------|-----|-----|----------------|----------------------|-----------------------------|
| Northern Saw-whet Owl | 1014-88429 | 12 Nov 14 | Hedgesville, WV | ASY | U | 10 Oct 16 | 731 km NNE | 1 year, 10 months, 28 days |
| Northern Saw-whet Owl | 1014-98142 | 10 Oct 15 | Picton, ON | ASY | F | 9 Oct 17 | 285 km NE | 1 year, 11 months, 29 days |
| Northern Saw-whet Owl | 1014-54726 | 7 Nov 15 | Brooktondale, NY | ASY | U | 16 Oct 17 | 387 km NNE | 1 year, 11 months, 9 days |
| Northern Saw-whet Owl | 1014-81273 | 17 Nov 15 | Central City, PA | TY | F | 1 Oct 17 | 711 km NNE | 1 year, 10 months, 14 days |
| Northern Saw-whet Owl | 1104-08554 | 7 Nov 16 | Newtown Square, PA | SY | F | 26 Oct 17 | 616 km N | 11 months, 19 days |
| Northern Saw-whet Owl | 1094-46773 | 10 Jul 17 | Whitefish Point, MI | HY | F | 11 Oct 17 | 861 km E | 3 months, 1 day |
| Northern Saw-whet Owl | 1094-46882 | 18 Jul 17 | Whitefish Point, MI | AHY | U | 27 Oct 17 | 861 km E | 3 months, 9 days |
| Northern Saw-whet Owl | 1014-69546 | 26 Sep 17 | Tadoussac, QC | ASY | F | 19 Oct 19 | 445 km SW | 2 years, 23 days |
| Northern Saw-whet Owl | 1104-10185 | 18 Oct 17 | Bobcaygeon, ON | ASY | F | 19 Oct 19 | 372 km ENE | 2 years, 1 day |
| Northern Saw-whet Owl | 1014-82988 | 21 Oct 17 | Ellenville, NY | ASY | F | 23 Oct 18 | 415 km N | 1 year, 2 days |
| Northern Saw-whet Owl | 1104-07379 | 31 Oct 18 | Hedgesville, WV | SY | F | 3 Oct 19 | 731 km NNE | 11 months, 2 days |
| Northern Saw-whet Owl | 1124-00555 | 3 Nov 18 | Walnutport ,PA | SY | F | 2 Oct 19 | 537 km NNE | 10 months, 29 days |
| Northern Saw-whet Owl | 1104-36173 | 12 Nov 18 | Bittinger, MD | SY | F | 10 Oct 19 | 783 km NE | 10 months, 28 days |
| Trail's Flycatcher | 2150-12970 | 5 Jun 03 | Alpena, MI | ASY | U | 27 May 06 | 742 km E | 2 years, 11 months, 22 days |
| Tree Swallow | 1921-10760 | 18 Jun 06 | Sainte-Guillaume, QC | AHY | M | 11 May 07 | 109 km WSW | 10 months, 23 days |
| Ruby-crowned Kinglet | 2410-08206 | 9 Oct 05 | Toronto, ON | AHY | M | 2 May 06 | 472 km ENE | 6 months, 23 days |
| Ruby-crowned Kinglet | 2790-66295 | 19 May 18 | Bergeronnes, QC | AHY | F | 13 Oct 18 | 458 km SW | 4 months, 24 days |
| American Goldfinch | 2330-07413 | 5 Oct 05 | Laval, QC | HY | M | 18 Nov 05 | 23 km SW | 1 month, 13 days |
| White-throated Sparrow | 2741-32693 | 8 Apr 17 | State College, PA | ASY | M | 6 May 17 | 605 km NNE | 28 days |
| Northern Waterthrush | 1821-03311 | 16 May 03 | Hidden Valley, PA | ASY | U | 21 May 10 | 737 km NE | 7 years, 5 days |
| Nashville Warbler | 2530-77537 | 14 May 09 | Greece, NY | SY | F | 17 May 09 | 389 km NE | 3 days |
| Common Yellowthroat | 2510-64888 | 25 Sep 11 | Block Island, RI | SY | F | 23 Jun 12 | 500 km NNW | 8 months, 29 days |
| Yellow-rumped Warbler | 2750-17914 | 5 May 15 | Lyndhurst, NJ | ASY | M | 12 May 16 | 513 km N | 1 year, 7 days |

Appendix G: Wing length

This appendix summarizes wing chord measurements for species banded at MBO, excluding those for which overall sample size is too small to provide a meaningful distribution of data. For species that can commonly be sexed, results are typically presented for females and males. For species that can usually be sexed only by brood patch or cloacal protuberance, data are generally provided for unknown sex individuals (U), and in some cases also for males and females. Species have been loosely taxonomically grouped, and arranged from smallest to largest within each section.

Data for each species/sex are summarized on a single line, reporting the sample size (N), mean wing chord length (in mm), standard deviation (SD) of wing chord length, and the frequency (percentage) of each wing chord length over a span of up to 19 mm. Only wing chord lengths documented for at least 0.5% of individuals (i.e., >1 in 200) banded in a sex class are reported. To highlight the peak frequencies, results are shaded as below:

| | | | | | | |
|---------|----------|----------|----------|------------|------------|------|
| Unknown | 0.5-0.9% | 1.0-4.9% | 5.0-9.9% | 10.0-14.9% | 15.0-19.9% | >20% |
| Female | 0.5-0.9% | 1.0-4.9% | 5.0-9.9% | 10.0-14.9% | 15.0-19.9% | >20% |
| Male | 0.5-0.9% | 1.0-4.9% | 5.0-9.9% | 10.0-14.9% | 15.0-19.9% | >20% |

Raptors:

| Species | Sex | N | Mean | SD | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 | 135 | 136 | 137 | 138 | 139 |
|---------|-----|------|-------|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|
| NSWO | M | 160 | 129.7 | 2.8 | | 0.6 | 1.3 | 1.3 | 5.0 | 5.0 | 6.3 | 13.1 | 11.3 | 16.9 | 13.1 | 13.8 | 3.1 | 3.8 | 3.8 | 0.6 | 1.3 | | |
| | F | 1540 | 138.4 | 3.8 | 0.6 | 1.0 | 1.2 | 2.3 | 3.6 | 4.3 | 7.7 | 7.3 | 10.4 | 12.5 | 9.4 | 10.8 | 7.8 | 5.5 | 5.7 | 3.6 | 2.7 | 1.2 | 0.7 |
| SSHA | M | 74 | 168.5 | 3.4 | 1.3 | 2.6 | | | 5.3 | 5.3 | 2.6 | 6.6 | 5.3 | 17.1 | 10.5 | 11.8 | 13.2 | 5.3 | 6.6 | 3.9 | | 1.3 | 1.3 |
| | F | 34 | 199.9 | 4.0 | | 2.9 | | | 2.9 | 8.6 | 11.4 | 5.7 | 2.9 | 8.6 | 11.4 | 5.7 | 5.7 | 11.4 | 8.6 | 2.9 | 5.7 | 2.9 | |

Woodpeckers:

| Species | Sex | N | Mean | SD | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 |
|---------|-----|-----|-------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|
| DOWO | F | 126 | 93.9 | 3.3 | | | 1.6 | 0.8 | 1.6 | 2.4 | 7.9 | 11.1 | 13.5 | 7.1 | 8.7 | 14.3 | 8.7 | 6.3 | 7.1 | 4.0 | 3.2 | 1.6 | |
| | M | 191 | 93.1 | 2.7 | 0.5 | 0.5 | | 1.0 | 3.6 | 4.1 | 7.7 | 14.4 | 11.8 | 8.7 | 11.3 | 19.0 | 5.1 | 7.2 | 2.1 | 2.1 | 0.5 | | |
| YBSA | F | 26 | 120.4 | 4.1 | | | 3.8 | | 3.8 | 3.8 | 3.8 | 3.8 | 3.8 | | 15.4 | 11.5 | 3.8 | 11.5 | 11.5 | 3.8 | | | 3.8 |
| | M | 29 | 119.8 | 4.0 | 3.3 | 3.3 | | | | | 3.3 | 6.7 | 3.3 | 6.7 | 10.0 | 10.0 | 16.7 | 13.3 | 6.7 | 3.3 | 6.7 | 3.3 | |
| HAWO | F | 42 | 120.9 | 2.9 | | 2.4 | 2.4 | 2.4 | 4.7 | 4.7 | 7.1 | 23.8 | 16.7 | 4.7 | 14.2 | | 11.9 | 4.7 | | | | | |
| | M | 42 | 122.4 | 3.0 | | | 4.7 | | 4.7 | 2.3 | 2.3 | 11.6 | 4.7 | 14.0 | 14.0 | 9.3 | 18.6 | 7.0 | 4.7 | | | 2.3 | |
| YSFL | M | 52 | 151.0 | 5.5 | 3.9 | 3.9 | 1.9 | 5.8 | 1.9 | 1.9 | 1.9 | 3.9 | 3.9 | 5.8 | 7.7 | 7.7 | 1.9 | 11.6 | 5.8 | 7.7 | 7.7 | 1.9 | 9.6 |
| | F | 24 | 156.0 | 3.9 | 4.0 | | | | | 12.0 | 20.0 | | 4.0 | 12.0 | 4.0 | 8.0 | 12.0 | 4.0 | 8.0 | 4.0 | | 4.0 | 4.0 |

Other non-passerines:

| Species | Sex | N | Mean | SD | 134 | 135 | 136 | 137 | 138 | 139 | 140 | 141 | 142 | 143 | 144 | 145 | 146 | 147 | 148 | 149 | 150 | 151 | 152 |
|---------|-----|----|-------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|-----|------|-----|-----|-----|-----|
| MODO | F | 32 | 141.7 | 4.0 | 3.1 | 6.3 | | | 3.1 | 12.5 | 15.6 | 18.8 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 3.1 | | 3.1 | | | |
| | M | 34 | 146.2 | 3.9 | | | | 2.9 | | 2.9 | 2.9 | | 8.6 | 8.6 | 8.6 | 5.7 | 8.6 | 5.7 | 14.3 | 5.7 | 8.6 | 5.7 | 8.6 |
| RTHU | F | 74 | 46.2 | 1.1 | | | | | | | | | 1.4 | 4.1 | 16.2 | 37.8 | 31.1 | 9.5 | | | | | |
| | M | 79 | 42.3 | 1.5 | | | | | 3.8 | 11.4 | 6.3 | 34.2 | 24.1 | 16.5 | 2.5 | 1.3 | | | | | | | |

Flycatchers:

| Species | Sex | N | Mean | SD | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 |
|---------|-----|-----|-------|-----|-----|-----|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| YBFL | U | 297 | 64.0 | 2.4 | | | | | | 1.3 | 3.4 | 12.1 | 16.1 | 12.8 | 9.4 | 12.4 | 14.1 | 13.1 | 3.7 | 1.0 | | | |
| LEFL | U | 313 | 61.1 | 2.5 | | | 1.6 | 3.8 | 10.5 | 12.5 | 14.1 | 16.6 | 12.8 | 9.9 | 8.0 | 6.4 | 1.6 | 2.2 | | | | | |
| | F | 13 | 60.8 | 1.7 | | | | 7.1 | 7.1 | 14.3 | 21.4 | 28.6 | | 14.3 | 7.1 | | | | | | | | |
| | | | | | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 |
| TRFL | U | 528 | 69.4 | 2.8 | | | | | | 3.0 | 6.4 | 7.8 | 8.1 | 11.0 | 8.7 | 15.5 | 13.6 | 13.6 | 5.5 | 4.2 | 1.3 | | |
| | F | 21 | 66.4 | 2.7 | | | 9.1 | | | 4.5 | 22.7 | 18.2 | 13.6 | 4.5 | 9.1 | 4.5 | 9.1 | | | | | 4.5 | |
| | | | | | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 |
| EAWP | U | 23 | 80.9 | 3.6 | | | | | | 10.0 | 10.0 | 15.0 | 20.0 | | 10.0 | 5.0 | | 25.0 | | | | 5.0 | |
| EAPH | U | 155 | 81.9 | 3.4 | 0.6 | | 0.6 | 1.3 | 1.9 | | 3.2 | 4.5 | 10.2 | 15.3 | 7.6 | 11.5 | 5.1 | 11.5 | 6.4 | 5.1 | 1.9 | 0.6 | |
| | F | 10 | 81.8 | 2.5 | | | | | | | | | 20.0 | 20.0 | | 30.0 | 10.0 | 10.0 | | | | 10.0 | |
| | | | | | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 |
| GCFL | U | 53 | 99.4 | 3.7 | | | 4.8 | 1.6 | 3.2 | 1.6 | 11.3 | 3.2 | 11.3 | 14.5 | 21.0 | 6.5 | 3.2 | 3.2 | 1.6 | 4.8 | 1.6 | 6.5 | |
| | F | 8 | 101.0 | 4.6 | | | 12.5 | | | | | | 12.5 | 12.5 | | | 25 | | 12.5 | 12.5 | 12.5 | | |
| | | | | | 106 | 107 | 108 | 109 | 110 | 111 | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 | 124 |
| EAKI | U | 17 | 115.9 | 4.4 | | | | 5.9 | 11.8 | 5.9 | 5.9 | | 5.9 | 5.9 | 17.7 | | 5.9 | 11.8 | 11.8 | | 5.9 | 5.9 | |
| | F | 10 | 113.2 | 3.4 | | | 10.0 | | 10.0 | 20.0 | 10.0 | 10.0 | | 10.0 | | 20.0 | 10.0 | | | | | | |
| | M | 8 | 114.1 | 4.0 | | | | | 14.3 | 14.3 | | | 14.3 | | | 42.9 | | 14.3 | | | | | |

Vireos, Swallows, Corvids:

| Species | Sex | N | Mean | SD | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 |
|---------|-----|------|-------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|
| PHVI | U | 119 | 65.9 | 1.8 | | 0.6 | 1.3 | 0.6 | 1.3 | 1.9 | 4.5 | 12.8 | 12.2 | 17.9 | 19.2 | 10.9 | 9.0 | 3.8 | 2.6 | 0.6 | | 0.6 | |
| WAVI | U | 154 | 68.1 | 2.4 | | | | | | | | | | 0.6 | 1.2 | 5.4 | 11.3 | 20.9 | 21.2 | 19.4 | 13.1 | 3.0 | 1.8 |
| | F | 10 | 65.4 | 2.2 | | | | 20.0 | | | 30.0 | 30.0 | | 10.0 | 10.0 | | | | | | | | |
| | | | | | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 |
| BHVI | U | 336 | 72.9 | 2.0 | 0.6 | 1.2 | 5.4 | 11.3 | 20.9 | 21.2 | 19.4 | 13.1 | 3.0 | 1.8 | | | | | | | | | |
| REVI | U | 1361 | 77.2 | 2.5 | | | | 0.8 | 1.5 | 2.9 | 5.1 | 12.2 | 15.1 | 17.4 | 14.6 | 11.9 | 9.8 | 3.9 | 2.4 | 0.9 | | | |
| | F | 63 | 77.4 | 2.2 | | | | | 1.6 | 3.2 | 6.3 | 7.9 | 9.5 | 25.4 | 19.0 | 14.3 | 4.8 | 3.2 | 3.2 | 1.6 | | | |
| | M | 23 | 79.4 | 2.6 | | | | | | | | 8.7 | 4.3 | 8.7 | 17.4 | 17.4 | 8.7 | 17.4 | 8.7 | | | 4.3 | 4.3 |
| | | | | | 105 | 106 | 107 | 108 | 109 | 110 | 111 | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 |
| TRES | F | 90 | 112.6 | 2.8 | 1.1 | 2.2 | | 5.5 | 2.2 | 12.1 | 8.8 | 15.4 | 20.9 | 6.6 | 6.6 | 9.9 | 3.3 | 3.3 | 1.1 | | | | |
| | M | 83 | 117.1 | 2.8 | | | | | | | 2.4 | 6.0 | 1.2 | 10.7 | 8.3 | 7.1 | 16.7 | 15.5 | 10.7 | 8.3 | 7.1 | 3.6 | 1.2 |
| | | | | | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 | 135 | 136 | 137 | 138 | 139 | 140 | 141 |
| BLJA | U | 555 | 131.6 | 4.3 | 0.7 | 0.9 | 3.8 | 4.7 | 4.8 | 7.0 | 5.4 | 8.9 | 8.6 | 8.1 | 12.2 | 8.1 | 7.7 | 6.3 | 2.9 | 3.2 | 2.0 | 1.6 | |

Chickadees, Creeper, Nuthatches, Wrens, and Kinglets:

| Species | Sex | N | Mean | SD | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 |
|---------|-----|------|------|-----|----|----|-----|-----|------|------|------|------|------|------|------|------|------|-----|-----|----|----|----|----|
| WIWR | U | 92 | 45.6 | 1.7 | | | 1.1 | 5.4 | 23.9 | 26.1 | 14.1 | 15.2 | 9.8 | 2.2 | 1.1 | 1.1 | | | | | | | |
| HOWR | U | 328 | 49.5 | 1.7 | | | | 0.6 | 0.9 | 1.2 | 7.3 | 17.6 | 24.0 | 20.4 | 17.3 | 7.6 | 2.1 | 0.6 | | | | | |
| | F | 26 | 48.9 | 1.4 | | | | | | | | 19.2 | 23.1 | 23.1 | 26.9 | 3.8 | 3.8 | | | | | | |
| | M | 11 | 50.9 | 1.7 | | | | | | | | | 9.1 | 9.1 | 18.2 | 36.4 | 9.1 | 9.1 | 9.1 | | | | |
| | | | | | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 |
| GCKI | F | 548 | 55.4 | 1.3 | | | 0.5 | 4.9 | 18.7 | 28.1 | 26.9 | 15.1 | 4.0 | 1.1 | | | | | | | | | |
| | M | 629 | 57.3 | 1.3 | | | | | 1.0 | 5.2 | 17.8 | 32.0 | 24.0 | 14.5 | 4.5 | 0.5 | | | | | | | |
| RCKI | F | 2683 | 55.6 | 1.4 | | | 0.7 | 3.7 | 15.0 | 29.7 | 27.9 | 16.0 | 5.1 | 1.0 | | | | | | | | | |
| | M | 2970 | 58.3 | 1.5 | | | | | | 1.9 | 7.4 | 20.8 | 25.8 | 23.3 | 14.5 | 4.1 | 1.0 | | | | | | |
| | | | | | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 |
| BRCR | U | 214 | 63.5 | 2.0 | | | | 2.3 | 4.2 | 14.0 | 13.6 | 12.1 | 19.6 | 20.1 | 9.3 | 2.3 | 1.9 | 0.5 | | | | | |
| BCCH | U | 2331 | 63.6 | 2.1 | | | | 1.2 | 3.5 | 10.2 | 18.1 | 16.5 | 14.5 | 16.9 | 9.9 | 5.3 | 2.4 | 0.7 | | | | | |
| | F | 45 | 63.0 | 2.2 | | | | | 4.4 | 24.4 | 20.0 | 20.0 | 11.1 | 4.4 | 6.7 | 4.4 | 2.2 | 2.2 | | | | | |
| | M | 15 | 65.5 | 1.8 | | | | | | | 6.7 | | 26.7 | 20.0 | 13.3 | 26.7 | | 6.7 | | | | | |
| RBNU | F | 8 | 66.3 | 2.1 | | | | | | | | 25.0 | | | 12.5 | 25.0 | 37.5 | | | | | | |
| | M | 14 | 66.9 | 1.5 | | | | | | | | | | 21.4 | 14.3 | 42.9 | 7.1 | 7.1 | | | | | |
| | | | | | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 |
| WBNU | F | 18 | 88.2 | 1.7 | | | | | | 5.6 | 5.6 | 27.8 | 22.2 | 16.7 | 5.6 | 16.7 | | | | | | | |
| | M | 35 | 89.6 | 1.8 | | | | | | | 2.9 | 11.4 | 14.3 | 17.1 | 22.9 | 14.3 | 14.3 | 2.9 | | | | | |

Thrushes, Mimids, Starling, Waxwings:

| Species | Sex | N | Mean | SD | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 97 | 97 | 98 | 99 |
|---|-----|------|-------|-----|-----|------|-----|------|------|------|------|-------|------|------|------|------|------|------|------|------|------|-----|------|
| GRCA | U | 1197 | 87.6 | 2.4 | | 1.3 | 1.8 | 3.8 | 9.8 | 14.1 | 14.3 | 18.2 | 14.5 | 10.9 | 6.3 | 2.6 | 0.7 | | | | | | |
| | F | 31 | 87.8 | 2.3 | | 3.1 | | 6.3 | 9.4 | 12.5 | 21.9 | 9.4 | 15.6 | 9.4 | 3.1 | 6.3 | 3.1 | | | | | | |
| | M | 45 | 89.0 | 2.6 | | 2.1 | 2.1 | | 12.8 | 6.4 | 12.8 | 12.8 | 4.3 | 17.0 | 14.9 | 4.3 | 8.5 | 2.1 | | | | | |
| HETH | U | 859 | 89.2 | 3.1 | | 0.9 | 1.6 | 3.7 | 6.3 | 6.6 | 11.0 | 11.3 | 12.4 | 11.8 | 9.9 | 9.3 | 6.7 | 4.3 | 2.1 | 0.9 | | | |
| CEDW | F | 496 | 92.1 | 2.6 | | | | | 1.0 | 0.6 | 1.6 | 4.2 | 7.2 | 12.5 | 14.1 | 16.9 | 13.9 | 10.3 | 8.0 | 5.2 | 2.6 | 1.0 | 0.6 |
| | M | 628 | 92.5 | 2.6 | | | | | | 1.1 | 1.3 | 2.5 | 6.3 | 10.8 | 14.3 | 13.8 | 13.9 | 12.4 | 10.9 | 5.7 | 4.1 | 1.6 | 0.6 |
| 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 | | | | | | | | | | | | | | | | | | | | | | | |
| VEER | U | 351 | 95.0 | 3.2 | | 0.6 | 0.6 | 5.0 | 6.7 | 9.0 | 10.1 | 10.1 | 11.5 | 12.9 | 9.8 | 8.1 | 5.6 | 3.1 | 1.7 | 1.7 | 1.1 | | |
| | F | 12 | 94.1 | 2.8 | | 8.3 | 8.3 | | | | 8.3 | 8.3 | 41.7 | 8.3 | 16.7 | | | | | | | | |
| | M | 24 | 96.0 | 2.3 | | | | | 4.0 | 4.0 | 4.0 | 8.0 | 20.0 | 16.0 | 12.0 | 16.0 | 4.0 | 8.0 | | | | 4.0 | |
| SWTH | U | 1070 | 95.8 | 3.1 | | 0.7 | 0.7 | 2.4 | 3.3 | 6.4 | 8.8 | 10.5 | 13.4 | 11.0 | 11.3 | 8.8 | 9.3 | 6.1 | 2.8 | 1.9 | 0.9 | | |
| | F | 61 | 93.9 | 2.5 | | 1.6 | 3.3 | 3.3 | 11.5 | 9.8 | 11.5 | 18.0 | 16.4 | 9.8 | 8.2 | 3.3 | 3.3 | | | | | | |
| | M | 7 | 98.1 | 2.4 | | | | 12.5 | | | | | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | | 12.5 | | 12.5 | | |
| BITH | U | 7 | 90.1 | 4.7 | | | | 28.6 | | | | | 14.3 | | 14.3 | | | 28.6 | 14.3 | | | | |
| 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 | | | | | | | | | | | | | | | | | | | | | | | |
| GCTH | U | 134 | 100.5 | 3.5 | 0.7 | 1.5 | 5.2 | 5.2 | 6.7 | 12.6 | 9.6 | 8.1 | 11.9 | 9.6 | 8.9 | 5.2 | 5.2 | 3.7 | 2.2 | 0.7 | 0.7 | 1.5 | |
| BRTH | U | 126 | 100.7 | 3.5 | | 2.4 | 0.8 | 3.1 | 9.4 | 7.9 | 7.1 | 22.0 | 10.2 | 7.9 | 8.7 | 3.1 | 5.5 | 3.9 | 1.6 | 1.6 | 0.8 | 0.8 | 0.8 |
| | F | 2 | 100.0 | 0 | | | | | | | | 100.0 | | | | | | | | | | | |
| | M | 6 | 102.3 | 2.3 | | | | | | | | 33.3 | 16.7 | | | 33.3 | 16.7 | | | | | | |
| 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 | | | | | | | | | | | | | | | | | | | | | | | |
| WOTH | U | 55 | 105.5 | 2.3 | | | | | 1.8 | 1.8 | 7.1 | 3.6 | 10.7 | 26.8 | 19.6 | 10.7 | 7.1 | 3.6 | 3.6 | | 1.8 | | |
| | F | 12 | 102.2 | 2.3 | | | 8.3 | | 16.7 | 8.3 | 33.3 | | 16.7 | 8.3 | 8.3 | | | | | | | | |
| | M | 13 | 105.2 | 2.7 | | 6.7 | | | | | 20.0 | | 20.0 | 20.0 | | 13.3 | | | 13.3 | | | | |
| 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 | | | | | | | | | | | | | | | | | | | | | | | |
| BOWA | F | 13 | 111.4 | 4.7 | | 7.7 | | | 7.7 | 7.7 | | 15.4 | 7.7 | 15.4 | | 23.0 | 7.7 | 7.7 | | | | | |
| | M | 3 | 115.3 | 9.1 | | 33.3 | | | | | | | | | | | | | | 33.3 | | | 33.3 |
| 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 | | | | | | | | | | | | | | | | | | | | | | | |
| EUST | F | 7 | 122.3 | 2.7 | | | | | 14.3 | 14.3 | | 28.6 | | | 14.3 | 14.3 | | | | | | | |
| | M | 6 | 125.4 | 2.4 | | | | | | | 16.7 | | | | 50.0 | 16.7 | 16.7 | | 16.7 | | | | |
| AMRO | F | 1315 | 123.9 | 3.8 | 0.9 | 1.0 | 1.8 | 3.9 | 4.5 | 7.3 | 7.5 | 7.9 | 10.0 | 10.3 | 13.0 | 7.6 | 5.3 | 6.6 | 4.5 | 3.3 | 1.5 | 0.9 | 0.5 |
| | | | | | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 | 135 | 136 | 137 |
| AMRO | M | 1228 | 128.1 | 3.9 | 0.9 | 1.0 | 1.8 | 3.9 | 4.5 | 7.3 | 7.5 | 7.9 | 10.0 | 10.3 | 13.0 | 7.6 | 5.3 | 6.6 | 4.5 | 3.3 | 1.5 | 0.9 | 0.5 |

Lark, Snow Bunting, and Longspur:

| Species | Sex | N | Mean | SD | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 |
|--|-----|-------|-------|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|
| LALO | F | 22 | 88.6 | 3.1 | | 8.3 | | | 12.5 | 12.5 | 16.7 | 12.5 | 12.5 | 4.2 | 4.2 | | | 12.5 | 4.2 | | | | |
| | M | 112 | 93.1 | 2.5 | | | | | | | 1.8 | 1.8 | 3.6 | 8.9 | 8.9 | 13.4 | 17.0 | 13.4 | 15.2 | 7.1 | 6.3 | 1.8 | 0.9 |
| 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 | | | | | | | | | | | | | | | | | | | | | | | |
| SNBU | F | 990 | 100.1 | 3.0 | 0.5 | 0.6 | 2.5 | 3.0 | 4.3 | 6.9 | 11.5 | 14.6 | 12.5 | 14.7 | 9.1 | 7.2 | 6.3 | 2.6 | 1.2 | 0.8 | | 0.5 | |
| 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 | | | | | | | | | | | | | | | | | | | | | | | |
| SNBU | M | 14244 | 107.2 | 2.8 | | 0.8 | 1.3 | 2.5 | 4.0 | 6.3 | 11.2 | 13.4 | 13.0 | 13.6 | 12.1 | 10.7 | 5.6 | 3.2 | 1.0 | 0.5 | | | |
| HOLA | F | 26 | 103.7 | 3.6 | 7.7 | 15.4 | 11.5 | 11.5 | 11.5 | 7.7 | 7.7 | 3.9 | 3.9 | 3.9 | 3.9 | 7.7 | 3.9 | | | | | | |
| | M | 54 | 107.8 | 3.2 | 3.6 | | 3.6 | | 1.8 | 5.5 | 5.5 | 5.5 | 12.7 | 10.9 | 9.1 | 23.6 | 10.9 | 3.6 | 1.8 | | 1.8 | | |

Cardinals, Piranga tanagers, and allies:

| Species | Sex | N | Mean | SD | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 |
|---|-----|-----|-------|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|
| INBU | F | 52 | 62.8 | 1.8 | | | 1.9 | 1.9 | 7.7 | 9.6 | 21.2 | 23.1 | 19.2 | 13.5 | | | 1.9 | | | | | | |
| | M | 180 | 65.8 | 2.0 | | | | 0.6 | 1.1 | 1.1 | 1.1 | 8.8 | 10.5 | 16.6 | 23.8 | 17.1 | 12.7 | 5.0 | 0.6 | 0.6 | | | 0.6 |
| 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 97 97 98 99 | | | | | | | | | | | | | | | | | | | | | | | |
| NOCA | F | 223 | 89.2 | 2.7 | 0.9 | | 1.3 | 1.8 | 6.7 | 6.7 | 4.9 | 12.6 | 13.0 | 20.2 | 12.1 | 11.2 | 4.5 | 1.8 | 0.9 | | | | |
| | M | 201 | 91.2 | 2.8 | | 1.0 | | | 2.5 | 3.9 | 4.9 | 6.4 | 7.8 | 14.2 | 11.3 | 15.7 | 11.8 | 6.9 | 8.8 | 3.4 | | 1.0 | 0.5 |
| SCTA | F | 11 | 91.1 | 2.3 | | | | | | | 9.1 | 9.1 | | 18.2 | 27.3 | 9.1 | | 27.3 | | | | | |
| | M | 28 | 92.4 | 2.3 | | | | | | | | 6.9 | 3.4 | 10.3 | 17.2 | 13.8 | 10.3 | 13.8 | 10.3 | 10.3 | 3.4 | | |
| 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 | | | | | | | | | | | | | | | | | | | | | | | |
| RBGR | F | 348 | 98.0 | 2.5 | 1.1 | 2.9 | 2.9 | 9.7 | 11.2 | 14.0 | 16.9 | 13.5 | 13.8 | 6.6 | 3.7 | 2.3 | 0.6 | 0.6 | | | | | |
| | M | 323 | 100.1 | 2.8 | 0.6 | | 0.6 | 2.2 | 5.0 | 6.5 | 10.8 | 17.3 | 14.9 | 11.1 | 14.6 | 5.6 | 4.0 | 3.7 | | 1.5 | | | |

Finches and sparrows:

| Species | Sex | N | Mean | SD | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
|---------|-----|------|------|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|-----|
| SWSP | U | 713 | 58.5 | 2.2 | | | 1.5 | 7.4 | 10.1 | 14.7 | 14.4 | 18.4 | 14.2 | 10.5 | 5.3 | 1.8 | 0.7 | | | | | | |
| | F | 46 | 57.1 | 2.0 | 2.1 | 2.1 | 2.1 | 17.0 | 10.6 | 23.4 | 17.0 | 12.8 | 8.5 | 2.1 | | | | | | | | | |
| | M | 66 | 59.9 | 1.7 | | | | | 1.5 | 3.0 | 14.9 | 20.9 | 23.9 | 19.4 | 6.0 | 7.5 | 1.5 | | 1.5 | | | | |
| LISP | U | 285 | 60.6 | 2.2 | | | | 1.1 | 1.8 | 6.0 | 10.2 | 10.9 | 18.6 | 14.0 | 17.5 | 8.8 | 7.0 | 3.9 | | | | | |
| SOSP | U | 3420 | 63.1 | 2.3 | | | | | | | 0.8 | 3.2 | 9.2 | 12.5 | 15.2 | 14 | 14.9 | 14.7 | 8.6 | 3.6 | 1.8 | 0.8 | |
| | F | 97 | 61.8 | 2.1 | | | | | | 1.0 | 3.1 | 9.3 | 13.4 | 24.7 | 13.4 | 15.5 | 6.2 | 9.3 | 4.1 | | | | |
| | M | 86 | 64.9 | 1.6 | | | | | | | | | 1.1 | 3.4 | 1.1 | 9.2 | 21.8 | 28.7 | 17.2 | 12.6 | 2.3 | 1.1 | |
| | | | | | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 |
| SAVS | U | 29 | 67.1 | 2.9 | | 3.4 | 10.3 | 3.4 | 13.8 | 13.8 | 13.8 | 10.3 | 6.9 | 10.3 | 3.4 | 10.3 | | | | | | | |
| CHSP | U | 223 | 67.3 | 2.4 | | 1.3 | 4.4 | 8.4 | 8.0 | 15.1 | 14.2 | 17.3 | 12.0 | 8.9 | 6.2 | 1.8 | 0.9 | | | | | | |
| | F | 7 | 67.0 | 1.6 | | | | 14.3 | | 14.3 | 28.6 | 28.6 | 14.3 | | | | | | | | | | |
| | M | 20 | 68.2 | 1.5 | | | | | 5.0 | 10.0 | 15.0 | 20.0 | 40.0 | | 10.0 | | | | | | | | |
| WTSP | U | 5376 | 70.7 | 2.3 | | | | | 0.7 | 1.5 | 4.5 | 11.5 | 13.7 | 15.3 | 12.9 | 15.3 | 13.0 | 8.5 | 2.1 | 0.6 | | | |
| | F | 8 | 68.5 | 2.7 | | | | | 12.5 | 12.5 | | 37.5 | 12.5 | 12.5 | | | | 12.5 | | | | | |
| | M | 7 | 72.3 | 4.1 | | | | | 14.3 | | | | | 14.3 | | 28.7 | 14.3 | | 14.3 | | | 14.3 | |
| ATSP | U | 944 | 72.7 | 2.7 | | | | | | | 1.6 | 3.2 | 6.4 | 13.1 | 11.9 | 11.0 | 12.2 | 11.1 | 12.4 | 9.0 | 5.0 | 2.2 | |
| | | | | | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 |
| AMGO | F | 1348 | 68.9 | 1.7 | | | 2.4 | 4.8 | 16.3 | 21.0 | 22.5 | 18.9 | 8.5 | 2.7 | 1.1 | | | | | | | | |
| | M | 1711 | 71.1 | 1.8 | | | | | 1.8 | 4.0 | 9.1 | 20.1 | 23.9 | 21.7 | 10.5 | 5.4 | 2.3 | 0.6 | | | | | |
| PISI | U | 40 | 71.0 | 2.0 | | | | | 2.5 | 5.0 | 20.0 | 20.0 | 10.0 | 22.5 | 7.5 | 5.0 | 7.5 | | | | | | |
| | F | 2 | 70.0 | 4.2 | | | | | 50.0 | | | | | | 50.0 | | | | | | | | |
| | M | 13 | 71.3 | 1.4 | | | | | | | 15.4 | 15.4 | 7.7 | 46.2 | 15.4 | | | | | | | | |
| CORE | F | 233 | 71.0 | 2.0 | | | | | 1.8 | 6.1 | 14.0 | 15.1 | 20.5 | 11.5 | 10.8 | 5.4 | 6.5 | 2.9 | 1.4 | 0.7 | 2.2 | | 0.7 |
| | M | 289 | 72.6 | 1.8 | | | | | | 0.7 | 4.0 | 6.6 | 12.3 | 22.6 | 23.3 | 13.3 | 8.6 | 3.7 | 3.0 | | 0.7 | 1.0 | |
| | | | | | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 |
| SCJU | F | 1363 | 72.3 | 1.9 | 1.7 | 3.9 | 10.9 | 17.8 | 22.0 | 19.4 | 12.0 | 6.5 | 3.5 | 1.5 | | | | | | | | | |
| | M | 1905 | 76.1 | 2.1 | | | 0.7 | 1.4 | 2.8 | 5.0 | 10.4 | 17.3 | 21.2 | 16.4 | 12.1 | 8.2 | 3.3 | 0.7 | | | | | |
| WCSP | U | 643 | 76.2 | 2.8 | | | | 1.7 | 5.0 | 9.7 | 13.6 | 16.6 | 11.4 | 10.6 | 9.9 | 7.8 | 5.6 | 4.2 | 2.7 | 0.6 | | | |
| HOSP | F | 15 | 75.1 | 1.7 | | | | | | 20.0 | 20.0 | 26.7 | 13.3 | 6.7 | 13.3 | | | | | | | | |
| | M | 21 | 77.8 | 1.3 | | | | | | | | 4.8 | 14.3 | 19.0 | 42.9 | 9.5 | 9.5 | | | | | | |
| HOFI | F | 39 | 75.4 | 1.8 | | | | 2.5 | 5.0 | 10.0 | 5.0 | 22.5 | 27.5 | 15.0 | 10.0 | | 2.5 | | | | | | |
| | M | 337 | 77.2 | 2.0 | | | | | 1.2 | 1.8 | 5.0 | 13.4 | 14.5 | 17.5 | 19.0 | 15.4 | 7.4 | 3.6 | 0.9 | | | | |
| PUFI | F | 57 | 77.6 | 2.1 | | | | 1.8 | 3.5 | | 1.8 | 1.8 | 10.5 | 24.6 | 26.3 | 15.8 | 7.0 | 7.0 | | | | | |
| | M | 80 | 80.6 | 2.2 | | | | | | | | 1.3 | 2.5 | 6.3 | 6.3 | 13.8 | 15.0 | 16.3 | 23.8 | 7.5 | 5.0 | 2.5 | |
| | | | | | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 |
| FOSP | U | 657 | 85.0 | 2.9 | | | 2.5 | 2.0 | 7.7 | 8.1 | 11.0 | 13.3 | 12.3 | 11.3 | 10.4 | 8.1 | 7.0 | 3.5 | 1.5 | 0.5 | | | |

Blackbirds:

| Species | Sex | N | Mean | SD | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 |
|---------|-----|-----|-------|-----|-----|------|-----|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|
| BAOR | F | 260 | 87.9 | 2.1 | | 0.8 | | 3.4 | 6.9 | 12.2 | 18.7 | 17.6 | 20.6 | 10.3 | 3.8 | 1.5 | 1.9 | 1.1 | | | 0.8 | | |
| | M | 249 | 92.4 | 2.1 | | | | | | 0.8 | 1.2 | 2.4 | 5.5 | 9.4 | 12.2 | 20.5 | 17.3 | 14.2 | 8.7 | 4.3 | 2.4 | 0.8 | |
| | | | | | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 |
| RWBL | F | 541 | 98.5 | 2.9 | 0.6 | | 0.7 | 3.5 | 7.9 | 11.4 | 10.3 | 16.6 | 15.8 | 12.7 | 7.9 | 5.0 | 2.9 | 2.0 | | | | | |
| BHCO | F | 28 | 96.8 | 2.1 | | 3.6 | 3.6 | 7.1 | 3.6 | 28.6 | 25.0 | 7.1 | 7.1 | 10.7 | 3.6 | | | | | | | | |
| | M | 20 | 107.8 | 2.2 | | 4.5 | | | | | 4.5 | 13.6 | 9.1 | 18.2 | | 22.7 | 13.6 | 9.1 | | | 4.5 | | |
| | | | | | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 | 112 | 113 | 114 | 115 | 116 | 117 | 118 |
| RUBL | F | 10 | 106.4 | 2.8 | | 10.0 | | 10.0 | | 10.0 | 10.0 | 30.0 | 10.0 | | 20.0 | | | | | | | | |
| | M | 12 | 114.1 | 2.2 | | | | | | | 7.7 | | | | | | 23.1 | | 15.4 | 23.1 | 15.4 | | 7.7 |
| | | | | | 110 | 111 | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 |
| RWBL | M | 904 | 117.5 | 3.3 | 0.8 | 2.3 | 2.4 | 5.0 | 5.7 | 12.9 | 10.9 | 9.2 | 13.1 | 11.9 | 10.6 | 3.7 | 3.3 | 1.9 | 2.0 | 2.2 | 0.7 | 0.8 | |
| | | | | | 117 | 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 | 135 |
| COGR | F | 141 | 126.5 | 4.3 | 0.7 | 2.1 | 0.7 | 5.6 | 4.2 | 3.5 | 7.0 | 7.0 | 9.9 | 9.9 | 11.3 | 9.2 | 4.9 | 4.2 | 5.6 | 5.6 | 2.1 | 1.4 | 2.8 |
| | M | 348 | 139.2 | 4.8 | 0.6 | 3.2 | 0.6 | 1.7 | 2.6 | 2.9 | 4.9 | 6.6 | 7.5 | 8.3 | 6.9 | 12.6 | 8.0 | 5.7 | 6.3 | 6.3 | 6.3 | 3.2 | 1.1 |

Warblers:

| Species | Sex | N | Mean | SD | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | |
|---------|-----|------|------|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|
| WIWA | F | 189 | 52.2 | 1.1 | 0.5 | | 5.8 | 20.5 | 32.6 | 28.4 | 9.5 | 2.6 | | | | | | | | | | | | |
| | M | 540 | 54.2 | 1.6 | | | 1.1 | 4.4 | 7.8 | 15.4 | 26.5 | 23.7 | 13.0 | 7.6 | | | | | | | | | | |
| COYE | F | 268 | 52.1 | 1.7 | | 4.8 | 10.7 | 20.4 | 24.8 | 21.5 | 11.9 | 2.2 | 1.1 | | 0.7 | 0.7 | | | | | | | | |
| | M | 860 | 54.7 | 1.7 | | | 0.7 | 1.6 | 4.8 | 12.9 | 24.4 | 28.0 | 15.8 | 7.3 | 2.9 | 0.6 | | | | | | | | |
| NOPA | F | 40 | 55.5 | 1.3 | | | | | | 2.4 | 17.1 | 34.1 | 26.8 | 9.8 | 4.9 | 2.4 | | | | | | | | |
| | M | 36 | 57.5 | 2.1 | | | | | | | 10.8 | 10.8 | 5.4 | 16.2 | 21.6 | 13.5 | 13.5 | 5.4 | 2.7 | | | | | |
| NAWA | F | 405 | 56.3 | 1.8 | | | | 0.6 | 0.6 | 1.6 | 7.0 | 17.0 | 23.2 | 25.0 | 12.4 | 8.3 | 2.6 | 0.8 | 0.7 | | | | | |
| | M | 525 | 58.5 | 2.0 | | | | | | | 0.8 | 2.7 | 6.1 | 11.9 | 17.2 | 20.6 | 21.3 | 11.6 | 5.7 | 1.5 | | | | |
| MAWA | F | 1075 | 56.5 | 1.7 | | | | | 0.7 | 3.9 | 7.6 | 21.1 | 25.2 | 18.6 | 10.3 | 5.6 | 2.9 | 2.2 | 1.0 | | | | | |
| | M | 1618 | 58.9 | 1.9 | | | | | | | 2.5 | 6.6 | 7.4 | 11.9 | 17.7 | 20.2 | 19.2 | 8.3 | 4.2 | 1.1 | | | | |
| OCWA | F | 36 | 56.8 | 2.0 | | | | | | 5.4 | 2.7 | 13.5 | 27.0 | 16.2 | 21.6 | | 2.7 | 8.1 | | | | | | |
| | M | 48 | 59.0 | 1.7 | | | | | | | 2.0 | | 10.2 | 10.2 | 10.2 | 28.6 | 18.4 | 16.3 | 4.1 | | | | | |
| Species | Sex | N | Mean | SD | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | |
| MOWA | F | 50 | 58.0 | 1.9 | | 8.0 | 14.0 | 20.0 | 20.0 | 12.0 | 10.0 | 8.0 | 2.0 | 2.0 | | | | 2.0 | | 2.0 | | | | |
| | M | 65 | 60.7 | 1.8 | | | 1.5 | 4.6 | 4.6 | 9.2 | 27.7 | 16.9 | 21.5 | 7.7 | 3.1 | | 1.5 | | 1.5 | | | | | |
| AMRE | F | 639 | 58.8 | 1.6 | | 1.6 | 4.1 | 13.6 | 25.0 | 19.4 | 21.1 | 9.5 | 3.4 | 1.1 | | | | | | | | | | |
| | M | 1018 | 61.1 | 1.8 | | | 0.5 | 2.8 | 4.4 | 7.9 | 17.2 | 25.8 | 20.7 | 12.1 | 5.7 | 1.6 | 0.6 | | | | | | | |
| YEWA | F | 350 | 58.9 | 1.7 | | 1.1 | 3.1 | 16.3 | 24.3 | 20.3 | 15.4 | 9.4 | 6.6 | 2.0 | 0.9 | | | | | | | | | |
| | M | 556 | 61.2 | 1.9 | | | 0.7 | 3.2 | 2.7 | 7.6 | 18.7 | 22.5 | 19.6 | 14.4 | 6.1 | 2.9 | 0.9 | | | | | | | |
| CSWA | F | 96 | 59.5 | 2.0 | | | 2.1 | | 14.6 | 25.0 | 12.5 | 11.5 | 7.3 | 6.3 | 2.1 | 1.0 | | | | | | | | |
| | M | 202 | 61.8 | 2.0 | | | | 2.5 | 2.5 | 7.9 | 10.4 | 18.8 | 16.8 | 22.8 | 7.9 | 7.9 | 0.5 | 1.0 | | 0.5 | | | | |
| BTNW | F | 73 | 59.8 | 1.7 | | | 1.4 | 8.2 | 9.6 | 23.3 | 27.4 | 12.3 | 9.6 | 6.8 | | 1.4 | | | | | | | | |
| | M | 124 | 61.9 | 1.6 | | | 0.8 | 1.6 | 3.2 | 0.8 | 13.7 | 16.9 | 25.0 | 27.4 | 7.3 | 2.4 | 0.8 | | | | | | | |
| BTBW | F | 270 | 60.3 | 1.4 | | | | 2.2 | 5.9 | 16.3 | 30.4 | 26.3 | 14.4 | 2.6 | | | | | | | | | | |
| | M | 230 | 63.3 | 1.5 | | | | | 0.9 | | 2.6 | 5.2 | 20.0 | 28.3 | 23.0 | 13.0 | 4.8 | 0.9 | 0.9 | | | | | |
| TEWA | F | 637 | 60.7 | 2.0 | 0.6 | | 0.5 | 1.7 | 6.8 | 14.6 | 25.7 | 20.7 | 11.0 | 8.8 | 5.0 | 2.7 | 1.1 | | | | | | | |
| | M | 765 | 63.3 | 2.1 | | | | | 0.7 | 1.8 | 6.0 | 6.9 | 16.9 | 17.0 | 20.1 | 17.9 | 6.9 | 3.8 | 1.2 | | | | | |
| CAWA | F | 199 | 61.1 | 1.7 | | | | | 3.5 | 12.1 | 22.6 | 24.6 | 17.6 | 8.5 | 6.0 | 4.5 | 0.5 | | | | | | | |
| | M | 192 | 63.6 | 1.9 | | | | | 1.0 | 1.0 | 2.6 | 9.9 | 12.0 | 19.8 | 21.4 | 18.8 | 8.3 | 4.2 | 0.5 | | | | | |
| WPWA | U | 194 | 62.6 | 2.1 | | | | | 1.5 | 4.6 | 8.2 | 18.6 | 20.1 | 12.9 | 9.3 | 14.4 | 8.2 | 1.5 | 0.5 | | | | | |
| | M | 14 | 63.9 | 2.1 | | | | | | | | 14.3 | 7.1 | 28.6 | 14.3 | 14.3 | 7.1 | 7.1 | 7.1 | | | | | |
| YPWA | U | 51 | 63.9 | 2.0 | | | | | | 2.0 | 3.9 | 7.8 | 7.8 | 15.7 | 19.6 | 25.5 | 11.8 | 2.0 | 3.9 | | | | | |
| | M | 20 | 64.5 | 1.6 | | | | | | | | 0.0 | 15.0 | 15.0 | 20.0 | 20.0 | 20.0 | 10.0 | | | | | | |
| CMWA | F | 97 | 63.4 | 1.6 | | | | | | 1.0 | 2.1 | 6.2 | 18.6 | 32.0 | 17.5 | 13.4 | 5.2 | 2.1 | 2.1 | | | | | |
| | M | 81 | 66.0 | 1.4 | | | | | | | | | 1.2 | | 14.8 | 27.2 | 22.2 | 19.8 | 9.9 | 2.5 | 1.2 | | | |
| BLBW | F | 17 | 63.3 | 1.4 | | | | | | | | 11.8 | 11.8 | 35.3 | 23.5 | 11.8 | 5.9 | | | | | | | |
| | M | 19 | 66.5 | 1.9 | | | | | | | | | 5.3 | 5.3 | | 15.8 | 10.5 | 36.8 | 15.8 | 5.3 | 5.3 | | | |
| BAWW | F | 243 | 65.1 | 2.0 | | | | | | 1.6 | | 2.1 | 5.8 | 6.2 | 20.6 | 25.1 | 13.2 | 13.6 | 7.0 | 3.3 | 0.8 | | | |
| | M | 166 | 67.5 | 2.0 | | | | 0.6 | | 1.2 | | 0.6 | | | 1.2 | 3.6 | 7.2 | 11.4 | 19.9 | 22.3 | 19.3 | 10.2 | 1.8 | 0.6 |
| Species | Sex | N | Mean | SD | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | |
| MYWA | F | 3080 | 68.3 | 1.8 | 1.0 | 2.9 | 8.9 | 19.5 | 24.2 | 19.7 | 13.2 | 6.0 | 2.1 | 1.4 | | | | | | | | | | |
| | M | 3142 | 71.8 | 1.7 | | | | 1.0 | 1.9 | 5.2 | 13.1 | 22.2 | 23.7 | 17.0 | 10.7 | 3.1 | 1.2 | | | | | | | |
| BBWA | F | 41 | 70.1 | 2.2 | | 2.4 | 2.4 | 12.2 | 7.3 | 7.3 | 24.4 | 17.1 | 9.8 | 12.2 | 4.9 | | | | | | | | | |
| | M | 56 | 72.7 | 2.1 | | | | | 3.6 | | 8.9 | 12.5 | 30.4 | 10.7 | 12.5 | 10.7 | 7.1 | 3.6 | | | | | | |
| BLPW | F | 123 | 69.9 | 2.0 | | | 2.4 | 6.5 | 18.7 | 17.1 | 22.0 | 14.6 | 8.9 | 4.9 | 2.4 | 0.8 | 1.6 | | | | | | | |
| | M | 204 | 73.4 | 2.1 | | | 0.5 | 0.5 | 0.5 | 2.5 | 5.4 | 11.3 | 10.3 | 18.1 | 15.7 | 21.1 | 9.8 | 3.4 | | 1.0 | | | | |
| OVEN | U | 785 | 72.4 | 2.3 | | | | 1.0 | 2.3 | 6.4 | 12.7 | 14.6 | 15.3 | 15.3 | 12.8 | 9.9 | 5.9 | 2.4 | 0.8 | | | | | |
| | F | 16 | 70.6 | 2.2 | | | | 12.5 | 6.3 | 6.3 | 25.0 | 12.5 | 31.3 | | | | 6.3 | | | | | | | |
| | M | 5 | 74.2 | 2.2 | | | | | | | | | 20.0 | 40.0 | | | 20.0 | 20.0 | | | | | | |
| NOWA | U | 912 | 73.9 | 2.7 | | | | | 1.3 | 3.6 | 5.7 | 8.0 | 13.5 | 13.1 | 10.6 | 15.1 | 10.1 | 9.1 | 4.9 | 2.8 | 0.9 | 0.5 | | |

Appendix H: Weights

This appendix summarizes weight measurements for species banded at MBO, excluding those for which overall sample size is too small to provide a meaningful distribution of data. For species that can commonly be sexed, results are typically presented for females and males. For species that can usually be sexed only by brood patch or cloacal protuberance, data are generally provided for unknown sex individuals (U), and in some cases also for males and females. Species have been loosely taxonomically grouped, and arranged from smallest to largest within each section.

Data for each species/sex are summarized on a single line, reporting the sample size (N), mean weight (in grams), standard deviation (SD) of weight, and the frequency (percentage) of each weight class, ranging from intervals of 0.1 g (for Ruby-throated Hummingbird) to 5 g (for raptors, Mourning Dove, and Common Grackle), with intervals of 0.5 g to 1.0 g used most frequently. Only weights documented for at least 0.5% of individuals (i.e., >1 in 200) banded in a sex class are reported. To highlight the peak frequencies, results are shaded as below:

| Unknown | 0.5-0.9% | 1.0-4.9% | 5.0-9.9% | 10.0-14.9% | 15.0-19.9% | >20% |
|---------|----------|----------|----------|------------|------------|------|
| Female | 0.5-0.9% | 1.0-4.9% | 5.0-9.9% | 10.0-14.9% | 15.0-19.9% | >20% |
| Male | 0.5-0.9% | 1.0-4.9% | 5.0-9.9% | 10.0-14.9% | 15.0-19.9% | >20% |

Raptors:

| Species | Sex | N | Mean | SD | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | 95 | 100 | 105 | 110 | 115 | 120 | 125 | 130 | 135 | 140 | |
|---------|-----|------|-------|-----|----|----|----|-----|-----|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|--|
| NSWO | M | 160 | 78.7 | 2.8 | | | | 1.3 | 8.1 | 54.4 | 35.6 | 0.6 | | | | | | | | | | | | |
| | F | 1538 | 97.1 | 6.0 | | | | | | | | 10.1 | 29.3 | 31.1 | 18.4 | 7.6 | 2.3 | 0.7 | | | | | | |
| SSHA | M | 72 | 94.8 | 6.2 | | | | | | | | 23.3 | 30.1 | 28.8 | 9.6 | 5.5 | 1.4 | | | | | | | |
| | F | 33 | 158.8 | 9.2 | | | | | | | 8.8 | 8.8 | 20.6 | 23.5 | 5.9 | 14.7 | 11.8 | 2.9 | | | | | | |

Woodpeckers:

| Species | Sex | N | Mean | SD | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | |
|---------|-----|-----|-------|------|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|
| DOWO | F | 120 | 26.2 | 1.6 | | | | | 2.5 | 8.2 | 16.4 | 21.6 | 23.7 | 12.3 | 15.6 | 4.1 | 0.8 | | | | | | | |
| | M | 189 | 26.1 | 1.4 | | | | 0.5 | 1.0 | 5.7 | 16.6 | 22.3 | 28.0 | 15.5 | 7.8 | 2.1 | | | | 0.5 | | | | |
| YBSA | F | 24 | 44.5 | 2.3 | | 4.0 | | 8.0 | 12.0 | 20.0 | 16.0 | 12.0 | 8.0 | 4.0 | 8.0 | 4.0 | | | | | 4.0 | | | |
| | M | 29 | 46.2 | 4.8 | 3.3 | 3.3 | 3.3 | 10.0 | 6.7 | 6.7 | 10.0 | 13.3 | 3.3 | 10.0 | 6.7 | | 3.3 | 3.3 | | | | 6.7 | 3.3 | 3.3 |
| HAWO | F | 40 | 65.6 | 3.4 | | | 4.7 | 4.7 | 9.3 | 14.0 | 20.9 | 23.3 | 14.0 | 2.3 | 4.7 | | | | | | | | | |
| | M | 40 | 73.6 | 3.9 | | | | | | 2.4 | 2.4 | 2.4 | 14.3 | 7.1 | 23.8 | 16.7 | 16.7 | 4.8 | 7.1 | | | | | |
| YSFL | F | 24 | 131.4 | 7.7 | | | | | | | | 4.0 | 8.0 | 8.0 | 28.0 | 36.0 | | 8.0 | 4.0 | | | | | |
| | M | 55 | 123.4 | 14.1 | | 1.8 | | 1.8 | 5.3 | 5.3 | 5.3 | 12.3 | 15.8 | 7.0 | 10.5 | 15.8 | 3.5 | 12.3 | 1.8 | | | | 1.8 | |

Other non-passerines:

| Species | Sex | N | Mean | SD | 2.3 | 2.4 | 2.5 | 2.6 | 2.7 | 2.8 | 2.9 | 3.0 | 3.1 | 3.2 | 3.3 | 3.4 | 3.5 | 3.6 | 3.7 | 3.8 | 3.9 | 4.0 | 4.1 | |
|---------|-----|----|-------|------|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|-----|-----|------|-----|-----|-----|-----|--|
| RTHU | F | 74 | 3.2 | 0.2 | | | | | | 1.4 | 5.4 | 10.8 | 18.9 | 29.7 | 13.5 | 6.8 | 5.4 | 4.1 | 2.7 | | 1.4 | | | |
| | M | 78 | 2.9 | 0.2 | | | 1.3 | 3.8 | 9.0 | 11.5 | 33.3 | 17.9 | 6.4 | 10.3 | 5.1 | 1.3 | | | | | | | | |
| MODO | F | 32 | 128.1 | 11.3 | | | 6.3 | 3.1 | | 12.5 | 12.5 | 15.6 | 21.9 | 15.6 | 6.3 | 6.3 | | | | | | | | |
| | M | 34 | 140.0 | 13.7 | | | | 3.0 | | 6.1 | 6.1 | 15.2 | 6.1 | 18.2 | 12.1 | 12.1 | 6.1 | | 12.1 | 3.0 | | | | |

Flycatchers:

| Species | Sex | N | Mean | SD | 7.5 | 8.0 | 8.5 | 9.0 | 9.5 | 10.0 | 10.5 | 11.0 | 11.5 | 12.0 | 12.5 | 13.0 | 13.5 | 14.0 | 14.5 | 15.0 | 15.5 | 16.0 | 16.5 | |
|---------|-----|-----|------|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| LEFL | U | 307 | 10.1 | 0.8 | | | 2.6 | 15.3 | 26.7 | 25.7 | 14.3 | 9.5 | 2.9 | 2.0 | 0.7 | | | | | | | | | |
| | F | 14 | 10.5 | 0.8 | | | | 14.3 | 7.1 | 28.6 | 14.3 | 28.6 | 7.1 | | | | | | | | | | | |
| YBFL | U | 306 | 11.2 | 0.9 | | | | | 5.4 | 14.9 | 20.3 | 29.1 | 13.2 | 9.1 | 5.1 | 1.7 | | | | | | | | |
| TRFL | U | 527 | 12.9 | 1.2 | | | | | | | 1.5 | 8.5 | 11.0 | 14.7 | 15.9 | 15.9 | 13.0 | 8.3 | 6.1 | 3.0 | 0.9 | 0.6 | | |
| | F | 21 | 12.0 | 1.1 | | | | | 4.6 | | 13.6 | 18.2 | 9.1 | 13.6 | 18.2 | 9.1 | 9.1 | | | | | | 4.6 | |
| EAWP | U | 22 | 13.1 | 1.1 | | | | | | | | | 5.3 | 26.3 | 10.5 | 36.8 | | 5.3 | 5.3 | 5.3 | | 5.3 | | |
| | | | | | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | |
| EAPH | U | 148 | 18.5 | 2.0 | | | 2.0 | 2.7 | 0.7 | 1.3 | 9.4 | 18.1 | 24.8 | 16.1 | 13.4 | 9.4 | 2.0 | | | | | | | |
| | F | 10 | 18.7 | 1.6 | | | | | | | 20.0 | 20.0 | 10.0 | 10.0 | 40.0 | | | | | | | | | |
| | | | | | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | |
| GCFL | U | 59 | 33.7 | 2.8 | 1.6 | 1.6 | 3.2 | 6.5 | 17.7 | 14.5 | 14.5 | 12.9 | 6.5 | 8.1 | 4.8 | | | 3.2 | 3.2 | | | | 1.6 | |
| | F | 7 | 34.6 | 3.6 | | | 14.1 | | 14.1 | 14.1 | | | | 14.1 | 42.3 | | | | | | | | | |
| EAKI | U | 17 | 39.8 | 2.4 | | | | | | | | | | 17.6 | 5.9 | 5.9 | 23.5 | 17.6 | 17.6 | | 5.9 | 5.9 | | |
| | F | 10 | 38.8 | 2.3 | | | | | | | 10.0 | | | 10.0 | | 30.0 | 20.0 | 10.0 | 20.0 | | | | | |
| | M | 7 | 38.0 | 4.4 | | | | | 14.3 | | 14.3 | | | | | 28.6 | 14.3 | | | 14.3 | | | | 14.3 |

Vireos, Swallows, Corvids:

| Species | Sex | N | Mean | SD | 9.5 | 10.0 | 10.5 | 11.0 | 11.5 | 12.0 | 12.5 | 13.0 | 13.5 | 14.0 | 14.5 | 15.0 | 15.5 | 16.0 | 16.5 | 17.0 | 17.5 | 18.0 | 18.5 | |
|---------|-----|------|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--|
| PHVI | U | 119 | 11.7 | 0.8 | 0.9 | 3.5 | 6.9 | 26.7 | 21.6 | 23.3 | 10.3 | 6.0 | | 0.9 | | | | | | | | | | |
| WAVI | U | 153 | 13.3 | 0.8 | | | 0.7 | | 2.6 | 10.3 | 21.9 | 26.5 | 16.8 | 11.6 | 3.9 | 3.9 | 0.7 | 0.7 | | | | 0.7 | | |
| | F | 10 | 13.0 | 0.9 | | | 10.0 | | | | 10.0 | 50.0 | 30.0 | | | | | | | | | | | |
| BHVI | U | 334 | 15.9 | 1.0 | | | | | | | | | | 3.9 | 9.0 | 19.2 | 23.1 | 18.0 | 12.0 | 6.9 | 3.0 | 3.3 | 0.9 | |
| | | | | | 13.0 | 13.5 | 14.0 | 14.5 | 15.0 | 15.5 | 16.0 | 16.5 | 17.0 | 17.5 | 18.0 | 18.5 | 19.0 | 19.5 | 20.0 | 20.5 | 21.0 | 21.5 | 22.0 | |
| REVI | U | 1356 | 17.3 | 1.3 | | | | 0.7 | 4.2 | 6.7 | 13.7 | 15.6 | 18.6 | 13.3 | 11.4 | 5.7 | 4.4 | 2.1 | 1.4 | 0.7 | 0.6 | | | |
| | F | 62 | 16.7 | 1.1 | | | 3.2 | 3.2 | 3.2 | 15.9 | 11.1 | 28.6 | 14.3 | 11.1 | | 4.8 | 3.2 | | 1.6 | | | | | |
| | M | 22 | 17.1 | 0.9 | | | | | 4.4 | | 26.1 | 26.1 | 26.1 | 4.4 | | 4.4 | 8.7 | | | | | | | |
| | | | | | 16.0 | 16.5 | 17.0 | 17.5 | 18.0 | 18.5 | 19.0 | 19.5 | 20.0 | 20.5 | 21.0 | 21.5 | 22.0 | 22.5 | 23.0 | 23.5 | 24.0 | 24.5 | 25.0 | |
| TRES | F | 87 | 20.2 | 1.3 | | | | 2.3 | 5.8 | 6.9 | 14.9 | 12.6 | 19.5 | 8.1 | 14.9 | 5.8 | 2.3 | 2.3 | 2.3 | 1.2 | 1.2 | | | |
| | M | 80 | 21.0 | 1.0 | | | | 1.2 | | 1.2 | 6.1 | 11.0 | 14.6 | 13.4 | 20.7 | 17.1 | 7.3 | 3.7 | 2.4 | 1.2 | | | | |
| | | | | | 72 | 74 | 76 | 78 | 80 | 82 | 84 | 86 | 88 | 90 | 92 | 94 | 96 | 98 | 100 | 102 | 104 | 106 | 108 | |
| BLJA | U | 555 | 75 | 105 | | | 0.8 | 1.7 | 4.0 | 6.3 | 10.3 | 9.0 | 13.4 | 12.4 | 13.2 | 8.6 | 7.3 | 4.8 | 4.2 | 1.5 | 0.6 | 0.8 | | |

Chickadees, Creeper, Nuthatches, Wrens, and Kinglets:

| Species | Sex | N | Mean | SD | 4.0 | 4.5 | 5.0 | 5.5 | 6.0 | 6.5 | 7.0 | 7.5 | 8.0 | 8.5 | 9.0 | 9.5 | 10.0 | 10.5 | 11.0 | 11.5 | 12.0 | 12.5 | 13.0 | |
|---------|-----|------|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--|
| GCKI | F | 550 | 6.1 | 0.4 | | 0.5 | 5.4 | 30.4 | 44.6 | 16.1 | 2.4 | | | | | | | | | | | | | |
| | M | 626 | 6.3 | 0.4 | | | 1.3 | 21.9 | 46.9 | 24.5 | 4.6 | 0.5 | | | | | | | | | | | | |
| RCKI | F | 2674 | 6.3 | 0.4 | | | 1.4 | 18.6 | 49.8 | 24.0 | 5.3 | 0.7 | | | | | | | | | | | | |
| | M | 2970 | 6.8 | 0.5 | | | | 1.8 | 25.0 | 40.7 | 24.1 | 6.5 | 1.5 | | | | | | | | | | | |
| BRCR | U | 213 | 8.3 | 0.6 | | | | | 0.5 | 5.2 | 22.1 | 31.5 | 27.2 | 11.3 | 1.9 | 0.5 | | | | | | | | |
| WIWR | U | 90 | 8.7 | 0.7 | | | | | | | | 11.1 | 28.9 | 21.1 | 24.4 | 10.0 | 2.22 | 2.22 | | | | | | |
| RBNU | F | 7 | 10.5 | 0.9 | | | | | | | | | | | 14.3 | 14.3 | 28.6 | | 14.3 | 28.6 | | | | |
| | M | 14 | 10.8 | 0.7 | | | | | | | | | | | 7.1 | 7.1 | 14.3 | 14.3 | 42.9 | 7.1 | 7.1 | | | |
| HOWR | U | 329 | 10.6 | 0.7 | | | | | | | | | | 0.6 | 5.4 | 15.7 | 24.8 | 21.1 | 20.5 | 8.2 | 2.1 | 0.9 | | |
| | F | 26 | 10.6 | 0.8 | | | | | | | | | | | 3.9 | 19.2 | 23.1 | 19.2 | 26.9 | | 3.9 | 3.9 | | |
| | M | 11 | 10.8 | 0.5 | | | | | | | | | | | | 9.1 | 9.1 | 45.5 | 27.3 | 9.1 | | | | |
| BCCH | U | 2307 | 10.8 | 0.7 | | | | | | | | | | | 2.7 | 7.8 | 24.2 | 20.8 | 26.2 | 10.7 | 6.0 | 1.1 | | |
| | F | 45 | 10.9 | 0.9 | | | | | | | | | | | 4.4 | 11.1 | 15.6 | 17.8 | 20.0 | 20.0 | 8.9 | 2.2 | | |
| | M | 14 | 11.6 | 0.6 | | | | | | | | | | | | 7.1 | 7.1 | 21.4 | 35.7 | 21.4 | 7.1 | | | |
| | | | | | 17.0 | 17.5 | 18.0 | 18.5 | 19.0 | 19.5 | 20.0 | 20.5 | 21.0 | 21.5 | 22.0 | 22.5 | 23.0 | 23.5 | 24.0 | 24.5 | 25.0 | 25.5 | 26.0 | |
| WBNU | F | 17 | 20.6 | 1.0 | | | | | 17.6 | 5.9 | 29.3 | 11.7 | 5.9 | 17.6 | 11.7 | | | | | | | | | |
| | M | 32 | 21.2 | 1.1 | | | | | 3.1 | 12.5 | 12.5 | 12.5 | 21.8 | 12.5 | 9.3 | 9.3 | 6.2 | | | | | | | |

Thrushes, Mimids, Starling, Waxwings:

| Species | Sex | N | Mean | SD | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 |
|---------|-----|------|------|-----|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|-------|-----|------|
| BITH | U | 6 | 28.3 | 2.6 | 16.7 | | 16.7 | 16.7 | 16.7 | | 16.7 | 16.7 | | | | | | | | | | | |
| HETH | U | 855 | 30.5 | 2.1 | | 0.7 | 2.3 | 5.3 | 13.7 | 19.6 | 19.6 | 16.3 | 10.1 | 6.4 | 2.4 | 1.3 | 1.3 | | | | | | |
| VEER | U | 355 | 31.1 | 2.2 | | 0.6 | 1.4 | 3.4 | 10.1 | 15.1 | 18.2 | 18.4 | 15.9 | 7.5 | 3.6 | 2.8 | 1.1 | 0.8 | | | | | |
| | F | 13 | 30.4 | 2.0 | | | 7.7 | 7.7 | | 23.1 | 23.1 | 23.1 | | 15.4 | | | | | | | | | |
| | M | 24 | 30.2 | 1.2 | | | | 4.0 | 8.0 | 32.0 | 28.0 | 12.0 | 12.0 | | 4.0 | | | | | | | | |
| SWTH | U | 1077 | 31.2 | 2.2 | | | 1.3 | 3.5 | 9.9 | 14.6 | 18.0 | 18.1 | 13.7 | 9.4 | 5.6 | 2.2 | 1.1 | 0.5 | 0.7 | | | | |
| | F | 60 | 29.3 | 1.9 | | 3.3 | 8.2 | 13.1 | 13.1 | 31.1 | 9.8 | 9.8 | 4.9 | 4.9 | | | | | | | | | |
| | M | 8 | 31.4 | 2.7 | | | | | 12.5 | 25.0 | 25.0 | | 12.5 | 12.5 | | | 12.5 | | | | | | |
| CEDW | F | 493 | 32.4 | 2.5 | | | 0.8 | 2.6 | 2.6 | 8.3 | 13.3 | 16.7 | 15.7 | 15.9 | 10.1 | 4.8 | 4.0 | 1.8 | 1.2 | 0.6 | | | |
| | M | 628 | 31.6 | 2.4 | | | 2.2 | 3.2 | 6.4 | 12.7 | 14.6 | 18.7 | 14.1 | 13.7 | 6.2 | 3.7 | 2.2 | 0.8 | 0.6 | | | | |
| GCTH | U | 131 | 33.6 | 3.0 | | | 1.5 | 1.5 | 4.5 | 2.3 | 6.0 | 10.5 | 14.3 | 16.5 | 9.0 | 7.5 | 9.0 | 6.8 | 6.8 | 0.8 | 1.5 | 0.8 | |
| | | | | | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 |
| GRCA | U | 1189 | 37.3 | 2.8 | | 0.9 | 2.4 | 5.4 | 10.2 | 12.3 | 16.0 | 14.2 | 12.7 | 8.5 | 6.7 | 3.8 | 1.9 | 1.5 | 1.2 | 0.8 | | | |
| | F | 31 | 37.0 | 2.3 | | | | 6.3 | 12.5 | 9.4 | 28.1 | 15.6 | 9.4 | 3.1 | 6.3 | 6.3 | | | | | | 3.1 | |
| | M | 46 | 35.9 | 2.3 | 2.1 | 6.4 | | 10.6 | 10.6 | 8.5 | 29.8 | 17.0 | 6.4 | 2.1 | 2.1 | | 2.1 | | | | | | 2.1 |
| | | | | | 52 | 54 | 56 | 58 | 60 | 62 | 64 | 66 | 68 | 70 | 72 | 74 | 76 | 78 | 80 | 82 | 84 | 86 | 88 |
| BRTH | U | 125 | 71.9 | 5.5 | | 0.8 | | 0.8 | 1.6 | 4.8 | 7.9 | 9.5 | 11.9 | 12.7 | 11.9 | 16.7 | 8.7 | 5.6 | 3.2 | 3.2 | 0.8 | | |
| | F | 2 | 71.9 | 3.6 | | | | | | | | | 50.0 | | | 50.0 | | | | | | | |
| | M | 6 | 71.7 | 4.9 | | | | | | | | 16.7 | 33.3 | 16.7 | | 16.7 | | 16.7 | | | | | |
| EUST | F | 6 | 79.1 | 5.8 | | | | | | | | | | | 14.3 | 14.3 | 28.6 | | | 14.3 | 14.3 | | 14.3 |
| | M | 7 | 76.3 | 5.0 | | | | | | | | | | | 57.1 | 14.3 | | | | 28.6 | | | |
| | | | | | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 |
| WOTH | U | 56 | 50.1 | 3.4 | 1.8 | 5.4 | 5.4 | 5.4 | 5.4 | 23.2 | 7.1 | 10.7 | 7.1 | 10.7 | 5.4 | 7.1 | 3.6 | 1.8 | | 1.8 | | | |
| | F | 11 | 51.7 | 4.4 | | | 8.3 | 8.3 | 8.3 | 8.3 | | 8.3 | | 16.7 | 8.3 | | | 8.3 | 8.3 | 8.3 | | 8.3 | |
| | M | 15 | 47.7 | 1.9 | | 6.7 | 13.3 | 20 | 6.7 | 33.3 | 6.7 | 6.7 | 6.7 | | | | | | | | | | |
| BOWA | F | 14 | 53.2 | 2.7 | | | | | 7.1 | | 7.1 | | 7.1 | 14.3 | 21.4 | 14.3 | 14.3 | 14.3 | | | | | |
| | M | 1 | 59.3 | 0 | | | | | | | | | | | | | | | | | 100.0 | | |
| | | | | | 66 | 68 | 70 | 72 | 74 | 76 | 78 | 80 | 82 | 84 | 86 | 88 | 90 | 92 | 94 | 96 | 98 | 100 | 102 |
| AMRO | F | 1318 | 81.6 | 5.3 | | 0.7 | 2.4 | 3.3 | 6.8 | 10.4 | 14.7 | 14.6 | 15.6 | 12.5 | 7.8 | 5.4 | 3.2 | 0.8 | | | | | |
| | M | 1225 | 83.2 | 6.3 | | | 1.3 | 3.4 | 5.2 | 8.5 | 12.2 | 13.1 | 15.1 | 10.8 | 9.4 | 6.9 | 3.3 | 3.2 | 3.6 | 1.3 | 1.0 | | |

Lark, Snow Bunting, and Longspur:

| Species | Sex | N | Mean | SD | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 |
|---------|-----|-------|------|-----|----|-----|-----|-----|------|------|------|------|------|------|------|------|------|-----|------|-----|-----|-----|-----|
| LALO | F | 22 | 27.1 | 2.0 | | 4.4 | | | 13.1 | 17.4 | 17.4 | 13.1 | 17.4 | 4.4 | 13.0 | | | | | | | | |
| | M | 95 | 30.0 | 2.1 | | | | | | 1.0 | 7.2 | 11.3 | 15.5 | 14.4 | 18.6 | 10.3 | 13.4 | 3.1 | 4.1 | | 1.0 | | |
| | | | | | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 |
| SNBU | F | 834 | 33.6 | 2.4 | | 1.6 | 3.5 | 8.7 | 13.0 | 14.5 | 17.0 | 14.7 | 10.0 | 7.3 | 4.3 | 3.0 | 0.5 | 0.7 | 0.6 | | | | |
| SNBU | M | 11821 | 37.4 | 2.6 | | | | | 0.9 | 2.3 | 5.0 | 8.9 | 12.9 | 15.8 | 15.4 | 12.9 | 10.1 | 6.5 | 4.3 | 2.3 | 1.2 | 0.7 | |
| | | | | | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 |
| HOLA | F | 21 | 40.1 | 2.9 | | | 6.3 | | | 12.5 | | 12.5 | 12.5 | 6.3 | 12.5 | 18.8 | 12.5 | | | | | 6.3 | |
| | M | 46 | 44.6 | 2.8 | | 4.1 | | | | 2.0 | 2.0 | 2.0 | 6.1 | 18.4 | 10.2 | 14.3 | 10.2 | 6.1 | 12.2 | 2.0 | 4.1 | 2.0 | 2.0 |

Cardinals, Piranga tanagers, and allies:

| Species | Sex | N | Mean | SD | 11.0 | 11.5 | 12.0 | 12.5 | 13.0 | 13.5 | 14.0 | 14.5 | 15.0 | 15.5 | 16.0 | 16.5 | 17.0 | 17.5 | 18.0 | 18.5 | 19.0 | 19.5 | 20.0 |
|---------|-----|-----|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| INBU | F | 50 | 13.9 | 1.0 | | | 5.9 | 15.7 | 13.7 | 19.6 | 21.6 | 9.8 | 9.8 | | 2.0 | 2.0 | | | | | | | |
| | M | 180 | 14.5 | 1.1 | | 0.6 | 1.7 | 3.3 | 8.3 | 11.1 | 27.2 | 18.3 | 13.3 | 6.7 | 3.9 | 2.8 | 1.1 | 0.6 | 0.6 | | | 0.6 | |
| | | | | | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| SCTA | F | 9 | 29.1 | 1.4 | | | | 11.1 | | 22.2 | | | 55.5 | | | | 11.1 | | | | | | |
| | M | 27 | 29.5 | 1.8 | | | 3.5 | 3.5 | 6.9 | 6.9 | 17.2 | 17.2 | 24.1 | 6.9 | 10.3 | | | | | 3.5 | | | |
| | | | | | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 |
| NOCA | F | 223 | 42.6 | 2.8 | 0.9 | 0.5 | 0.9 | 3.1 | 4.9 | 4.5 | 8.5 | 15.2 | 17.0 | 13.9 | 12.6 | 8.1 | 4.9 | 1.8 | 1.4 | 0.5 | | 0.9 | 0.5 |
| | M | 201 | 44.1 | 3.1 | | | 1.0 | 2.0 | 2.5 | 4.5 | 5.9 | 8.9 | 10.4 | 12.4 | 11.9 | 11.9 | 10.4 | 8.4 | 5.5 | 1.0 | 2.5 | | 0.5 |
| RBGR | F | 346 | 43.4 | 2.8 | | 0.6 | | 2.0 | 2.3 | 5.4 | 8.0 | 12.0 | 11.7 | 16.0 | 13.5 | 10.9 | 6.3 | 4.9 | 2.3 | 1.4 | | | 0.9 |
| | M | 320 | 43.2 | 2.7 | | | | 0.9 | 2.5 | 5.9 | 9.6 | 11.2 | 16.1 | 18.3 | 9.6 | 11.2 | 5.6 | 3.1 | 2.2 | 0.6 | 0.6 | | |

Finches and sparrows:

| Species | Sex | N | Mean | SD | 9.5 | 10.0 | 10.5 | 11.0 | 11.5 | 12.0 | 12.5 | 13.0 | 13.5 | 14.0 | 14.5 | 15.0 | 15.5 | 16.0 | 16.5 | 17.0 | 17.5 | 18.0 | 18.5 | |
|---------|-----|------|------|-----|------|------|------|------|------|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|--|
| CHSP | U | 223 | 12.1 | 0.8 | | 1.4 | 2.7 | 16.9 | 25.1 | 23.3 | 17.4 | 6.4 | 4.6 | 1.8 | | | | | | | | | | |
| | F | 7 | 12.5 | 1.5 | | 14.3 | 14.3 | | | | | 28.6 | 28.6 | 14.3 | | | | | | | | | | |
| | M | 20 | 12.1 | 0.5 | | | | 15.0 | 20.0 | 45.0 | 15.0 | 5.0 | | | | | | | | | | | | |
| AMGO | F | 1328 | 12.7 | 0.8 | | | 0.8 | 5.3 | 10.0 | 25.1 | 21.7 | 20.8 | 9.9 | 4.0 | 1.3 | 0.9 | | | | | | | | |
| | M | 1679 | 13.1 | 0.9 | | | | 2.0 | 5.7 | 14.2 | 18.4 | 24.4 | 16.7 | 11.2 | 3.9 | 2.6 | | | | | | | | |
| CORE | F | 234 | 12.7 | 1.0 | | | 0.7 | 5.0 | 13.3 | 25.5 | 13.3 | 11.5 | 6.8 | 7.6 | 2.9 | 3.2 | 1.8 | 2.9 | 0.7 | 2.2 | 1.1 | 1.1 | | |
| | M | 288 | 13.1 | 0.9 | | | | | 7.0 | 15.9 | 20.6 | 22.6 | 11.3 | 8.6 | 4.0 | 4.3 | 3.3 | | | | 0.7 | | | |
| PISI | U | 39 | 13.2 | 1.0 | | | 2.5 | | 5.0 | 15.0 | 25.0 | 20.0 | 15.0 | 7.5 | 2.5 | 5.0 | | 2.5 | | | | | | |
| | F | 2 | 12.3 | 0 | | | | | | 100.0 | | | | | | | | | | | | | | |
| | M | 13 | 13.9 | 1.4 | | | | | | | 15.4 | 7.7 | 30.8 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 | 15.4 | | | | | |
| | | | | | 13.0 | 13.5 | 14.0 | 14.5 | 15.0 | 15.5 | 16.0 | 16.5 | 17.0 | 17.5 | 18.0 | 18.5 | 19.0 | 19.5 | 20.0 | 20.5 | 21.0 | 21.5 | 22.0 | |
| SWSP | U | 706 | 16.4 | 1.4 | | 1.4 | 4.1 | 6.6 | 12.3 | 12.5 | 16.8 | 12.0 | 11.1 | 6.8 | 8.5 | 3.1 | 2.4 | 0.6 | | | | | | |
| | F | 43 | 15.8 | 1.0 | | 2.2 | 6.5 | 10.9 | 19.6 | 15.2 | 13.0 | 13.0 | 10.9 | 2.2 | 4.4 | | 2.2 | | | | | | | |
| | M | 66 | 16.8 | 1.1 | | | | 6.0 | 3.0 | 9.0 | 17.9 | 17.9 | 20.9 | 9.0 | 4.5 | 4.5 | 6.0 | | 1.5 | | | | | |
| LISP | U | 283 | 17.4 | 1.7 | | | 1.1 | 3.5 | 6.7 | 8.8 | 9.5 | 12.0 | 15.8 | 9.5 | 9.2 | 7.8 | 4.9 | 2.8 | 3.2 | 2.5 | 0.7 | | 1.1 | |
| SAVS | U | 31 | 17.7 | 1.7 | | | | 3.5 | 6.9 | 3.5 | 17.2 | 10.3 | 3.5 | 10.3 | 13.8 | 10.3 | 6.9 | 3.5 | 3.5 | 3.5 | 3.5 | | | |
| ATSP | U | 944 | 17.7 | 1.4 | | | | | 2.7 | 4.3 | 12.3 | 10.9 | 17.6 | 11.5 | 13.2 | 8.4 | 8.8 | 4.4 | 2.9 | 1.2 | 0.5 | | | |
| | | | | | 15.5 | 16.0 | 16.5 | 17.0 | 17.5 | 18.0 | 18.5 | 19.0 | 19.5 | 20.0 | 20.5 | 21.0 | 21.5 | 22.0 | 22.5 | 23.0 | 23.5 | 24.0 | 24.5 | |
| SCJU | F | 1358 | 18.4 | 1.4 | 0.5 | 4.6 | 7.4 | 12.8 | 14.5 | 15.9 | 11.8 | 12.3 | 6.4 | 5.8 | 2.1 | 2.8 | 0.8 | 1.0 | | | | | | |
| | M | 1897 | 19.6 | 1.5 | | 0.7 | 1.4 | 2.9 | 5.7 | 10.1 | 12.2 | 16.7 | 12.2 | 12.7 | 6.9 | 6.6 | 4.8 | 3.3 | 1.2 | 1.1 | | 0.6 | | |
| SOSP | U | 3425 | 20.0 | 1.6 | | | 0.8 | 2.8 | 4.3 | 7.2 | 8.9 | 13.8 | 11.8 | 12.9 | 9.2 | 8.9 | 6.5 | 5.8 | 2.5 | 2.0 | 0.6 | 0.9 | | |
| | F | 97 | 20.5 | 1.7 | | | | | | 6.2 | 7.2 | 15.5 | 17.5 | 15.5 | 7.2 | 6.2 | 4.1 | 5.2 | 6.2 | 2.1 | | 3.1 | 2.1 | |
| | M | 86 | 21.2 | 0.9 | | | | | | | | 2.3 | 7.0 | 8.1 | 18.6 | 27.9 | 11.6 | 15.1 | 4.7 | 3.5 | 1.2 | | | |
| HOFI | F | 38 | 21.5 | 0.9 | | | | | | | | 2.6 | | 10.3 | 12.8 | 25.6 | 10.3 | 23.1 | 5.1 | 10.3 | | | | |
| | M | 335 | 21.7 | 1.1 | | | | | | | | 0.9 | 2.4 | 8.3 | 9.2 | 20.8 | 18.1 | 14.8 | 12.8 | 6.8 | 2.7 | 1.8 | 0.6 | |
| | | | | | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | |
| PUFI | F | 57 | 23.3 | 1.8 | | 7.0 | 14.0 | 29.8 | 21.0 | 14.0 | 5.3 | 3.5 | 3.5 | 1.8 | | | | | | | | | | |
| | M | 77 | 24.1 | 1.5 | | | 7.7 | 16.7 | 28.2 | 19.2 | 15.4 | 7.7 | 7.8 | 1.3 | | | | | | | | | | |
| WTSP | U | 6216 | 25.4 | 2.2 | | 0.6 | 2.5 | 7.2 | 14.6 | 18.5 | 20.2 | 15.1 | 10.0 | 5.9 | 3.1 | 1.2 | 0.5 | | | | | | | |
| | F | 8 | 22.5 | 2.0 | 12.5 | | 12.5 | 25.0 | 25.0 | | | | | | | | | | | | | | | |
| | M | 7 | 27.3 | 2.9 | | | | | | 14.3 | 42.9 | | | | | 28.6 | | 14.3 | | | | | | |
| WCSP | U | 629 | 27.9 | 2.8 | | | 1.1 | 2.8 | 8.8 | 10.2 | 16.9 | 15.0 | 11.7 | 8.4 | 9.0 | 7.6 | 2.8 | 1.9 | 1.1 | 1.0 | | | | |
| HOSP | F | 15 | 28.5 | 1.7 | | | | | | | | 26.7 | | 26.7 | 20.0 | 13.3 | 13.3 | | | | | | | |
| | M | 21 | 29.2 | 1.4 | | | | | | | | | 19.1 | 14.3 | 28.6 | 23.8 | 9.5 | 4.8 | | | | | | |
| | | | | | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | |
| FOSP | U | 649 | 36.8 | 2.8 | | | 0.8 | 1.7 | 3.1 | 9.5 | 11.2 | 11.5 | 14.7 | 14.7 | 12.0 | 5.7 | 6.0 | 4.0 | 2.3 | 0.8 | 0.9 | | | |

Blackbirds:

| Species | Sex | N | Mean | SD | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | |
|---------|-----|-----|-------|-----|-----|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|--|
| BAOR | F | 262 | 31.8 | 1.9 | | 0.5 | 4.2 | 10.3 | 16.0 | 28.2 | 18.7 | 8.8 | 6.9 | 3.4 | 1.2 | | | | | | | | | |
| | M | 254 | 33.5 | 2.1 | | | 1.6 | 3.2 | 5.1 | 11.8 | 17.7 | 21.3 | 14.2 | 12.2 | 6.7 | 3.5 | 1.6 | | | | | | | |
| BHCO | F | 28 | 38.7 | 2.4 | | | | | | | 3.6 | | | 10.7 | 7.1 | 25.0 | | 17.9 | 21.4 | 7.1 | | 7.1 | | |
| | | | | | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | |
| RWBL | F | 537 | 42.1 | 2.5 | 0.9 | 0.9 | 4.3 | 8.2 | 15.0 | 19.6 | 18.1 | 12.2 | 7.2 | 5.6 | 3.0 | 1.1 | 1.5 | 0.6 | | 0.6 | | | | |
| BHCO | M | 22 | 49.1 | 3.1 | | | | | | 4.6 | | | 9.1 | 9.1 | | 4.6 | 9.1 | 9.1 | 27.3 | 18.2 | 4.6 | | 4.6 | |
| | | | | | 46 | 48 | 50 | 52 | 54 | 56 | 58 | 60 | 62 | 64 | 66 | 68 | 70 | 72 | 74 | 76 | 78 | 80 | 82 | |
| RUBL | F | 10 | 59.3 | 5.1 | | 10.0 | | 10.0 | | 20.0 | 20.0 | 10.0 | 10.0 | 10.0 | 10.0 | | | | | | | | | |
| | M | 13 | 65.3 | 5.9 | | | | 7.7 | | | 7.7 | 7.7 | 15.4 | 15.4 | 23.1 | | 7.7 | 7.7 | 7.7 | | | | | |
| RWBL | M | 901 | 66.2 | 3.9 | | | | | 1.2 | 2.7 | 8.0 | 15.9 | 22.6 | 16.8 | 13.6 | 11.1 | 5.1 | 1.8 | 0.6 | | | | | |
| | | | | | 70 | 75 | 80 | 85 | 90 | 95 | 100 | 105 | 110 | 115 | 120 | 125 | 130 | 135 | 140 | 145 | 150 | 155 | 160 | |
| COGR | F | 141 | 99.1 | 7.9 | | | 0.7 | 7.7 | 21.7 | 29.4 | 21.7 | 9.1 | 3.5 | 2.1 | 1.4 | 0.7 | 0.7 | | | | | | | |
| COGR | M | 343 | 124.5 | 9.1 | | | | 0.6 | 0.9 | 1.7 | 1.7 | 1.7 | 4.9 | 11.6 | 25.4 | 27.2 | 14.7 | 6.4 | 2.6 | | | | | |

Warblers:

| Species | Sex | N | Mean | SD | 5.5 | 6.0 | 6.5 | 7.0 | 7.5 | 8.0 | 8.5 | 9.0 | 9.5 | 10.0 | 10.5 | 11.0 | 11.5 | 12.0 | 12.5 | 13.0 | 13.5 | 14.0 | 14.5 | |
|---------|-----|------|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| WIWA | F | 188 | 7.4 | 0.5 | | 1.6 | 15.3 | 41.3 | 27.0 | 10.6 | 3.2 | 1.0 | | | | | | | | | | | | |
| | M | 534 | 7.8 | 0.6 | | | 3.9 | 21.3 | 37.3 | 25.4 | 8.6 | 2.6 | 0.6 | | | | | | | | | | | |
| NOPA | F | 40 | 7.7 | 0.5 | | 2.4 | | 41.5 | 31.7 | 17.1 | 4.9 | 2.4 | | | | | | | | | | | | |
| | M | 37 | 7.9 | 0.6 | | | 5.4 | 13.5 | 27.0 | 35.1 | 13.5 | 5.4 | | | | | | | | | | | | |
| AMRE | F | 639 | 7.7 | 0.5 | | | 2.2 | 29.4 | 41.3 | 20.8 | 4.5 | 1.3 | | | | | | | | | | | | |
| | M | 1018 | 7.9 | 0.5 | | | 1.2 | 15.3 | 41.9 | 30.5 | 8.7 | 1.9 | | | | | | | | | | | | |
| MAWA | F | 1075 | 8.2 | 0.5 | | | | 4.7 | 21.9 | 41.8 | 20.3 | 9.5 | 1.3 | | | | | | | | | | | |
| | M | 1614 | 8.5 | 0.6 | | | | 1.1 | 13.6 | 35.4 | 29.4 | 15.4 | 3.5 | 1.2 | | | | | | | | | | |
| NAWA | F | 409 | 8.3 | 0.6 | | | 0.5 | 7.3 | 18.8 | 37.8 | 18.5 | 13.7 | 1.7 | 1.5 | | | | | | | | | | |
| | M | 526 | 8.5 | 0.7 | | | | 4.9 | 9.1 | 36.9 | 21.1 | 16.9 | 7.8 | 2.1 | 1.1 | | | | | | | | | |
| BTNW | F | 73 | 8.6 | 0.6 | | | | | 8.2 | 37.0 | 23.3 | 24.7 | 5.5 | 1.4 | | | | | | | | | | |
| | M | 123 | 8.9 | 0.5 | | | | | 1.6 | 17.1 | 30.1 | 41.5 | 7.3 | 1.6 | 0.8 | | | | | | | | | |
| OCWA | F | 37 | 9.0 | 0.6 | | | | | 2.7 | 18.9 | 16.2 | 32.4 | 24.3 | 2.7 | 2.7 | | | | | | | | | |
| | M | 48 | 9.1 | 0.6 | | | | 2.0 | 2.0 | 12.2 | 28.6 | 22.4 | 26.5 | 6.1 | | | | | | | | | | |
| CSWA | F | 90 | 9.3 | 0.6 | | | | | | 8.3 | 15.5 | 29.9 | 26.8 | 12.4 | 5.2 | 1.0 | 1.0 | | | | | | | |
| | M | 199 | 9.2 | 0.6 | | | | | | 1.5 | 10.0 | 23.0 | 30.0 | 23.0 | 9.0 | 2.5 | 0.5 | | | | 0.5 | | | |
| YEWA | F | 348 | 9.2 | 0.6 | | | | | | 7.5 | 26.6 | 35.2 | 17.5 | 10.0 | 1.2 | 1.2 | | | 0.6 | | | | | |
| | M | 555 | 9.5 | 0.6 | | | | | | 1.8 | 10.6 | 34.1 | 28.1 | 19.3 | 4.3 | 1.3 | | | | | | | | |
| BLBW | F | 16 | 9.3 | 0.6 | | | | | | 12.5 | 18.8 | 31.3 | 25.0 | 12.5 | | | | | | | | | | |
| | M | 19 | 9.7 | 0.5 | | | | | | | 5.3 | 26.3 | 42.1 | 15.8 | 10.5 | | | | | | | | | |
| BTBW | F | 268 | 9.5 | 0.6 | | | | | | 3.0 | 13.1 | 33.6 | 28.7 | 14.6 | 3.7 | 2.6 | 0.8 | | | | | | | |
| | M | 228 | 10.0 | 0.7 | | | | | | | 3.1 | 17.9 | 29.3 | 30.6 | 9.6 | 5.7 | 2.6 | | | | | | | |
| WPWA | U | 184 | 9.9 | 0.8 | | | | | 0.5 | 1.1 | 7.6 | 18.5 | 24.5 | 21.2 | 17.9 | 5.4 | 1.1 | 2.2 | | | | | | |
| | M | 14 | 10.2 | 0.7 | | | | | | | | 14.3 | 35.7 | 21.4 | 14.3 | 7.1 | 7.1 | | | | | | | |
| YPWA | U | 50 | 10.2 | 0.8 | | | | | | 1.4 | | 23.3 | 6.9 | 39.7 | 8.2 | 16.4 | 2.7 | 1.4 | | | | | | |
| | M | 20 | 9.9 | 0.6 | | | | | | | | 30.0 | | 60.0 | 5.0 | | 5.0 | | | | | | | |
| CAWA | F | 197 | 9.9 | 0.6 | | | | | | | 3.6 | 25.9 | 26.4 | 27.4 | 13.2 | 3.6 | | | | | | | | |
| | M | 193 | 10.3 | 0.6 | | | | | | | 0.5 | 7.8 | 19.7 | 35.8 | 21.2 | 11.4 | 2.1 | 1.6 | | | | | | |
| TEWA | F | 637 | 9.9 | 1.0 | | | | | 0.5 | 3.1 | 12.2 | 21.0 | 19.9 | 16.3 | 10.7 | 7.2 | 5.2 | 2.4 | 1.1 | | | | | |
| | M | 763 | 10.4 | 1.1 | | | | | | 1.1 | 3.8 | 12.3 | 20.5 | 16.8 | 14.5 | 13.9 | 7.3 | 5.2 | 2.0 | 1.7 | 0.7 | | | |
| COYE | F | 266 | 9.9 | 0.9 | | | | | | 1.1 | 6.4 | 21.4 | 28.2 | 21.1 | 11.7 | 4.1 | 1.9 | 2.6 | 0.8 | 0.8 | | | | |
| | M | 859 | 10.4 | 0.8 | | | | | | | | 4.3 | 18.8 | 33.3 | 20.6 | 13.8 | 4.3 | 2.1 | 1.2 | 0.6 | | | | |
| BAWW | F | 242 | 10.1 | 0.7 | | | | | | | 1.2 | 17.3 | 20.2 | 34.2 | 14.0 | 10.3 | 2.1 | | | | | | | |
| | M | 162 | 10.0 | 0.6 | | | | | | | 2.5 | 16.6 | 28.2 | 30.7 | 13.5 | 6.8 | 1.2 | | 0.6 | | | | | |
| CMWA | F | 96 | 10.2 | 0.8 | | | | | 1.0 | 1.0 | 13.4 | 34.0 | 20.6 | 15.5 | 4.1 | 7.2 | 2.1 | 1.0 | 1.0 | | | | | |
| | M | 80 | 10.5 | 0.7 | | | | | | | | 2.5 | 22.2 | 25.9 | 25.9 | 13.6 | 4.9 | 1.2 | 1.2 | 1.2 | | | | 1.2 |
| Species | Sex | N | Mean | SD | 9.5 | 10.0 | 10.5 | 11.0 | 11.5 | 12.0 | 12.5 | 13.0 | 13.5 | 14.0 | 14.5 | 15.0 | 15.5 | 16.0 | 16.5 | 17.0 | 17.5 | 18.0 | 18.5 | |
| MYWA | F | 3082 | 11.8 | 0.9 | | | 3.4 | 13.0 | 24.5 | 23.0 | 16.2 | 8.8 | 5.5 | 2.4 | 1.6 | 0.6 | | | | | | | | |
| | M | 3135 | 12.2 | 0.8 | | | 0.6 | 2.3 | 13.7 | 25.1 | 27.2 | 15.4 | 7.8 | 3.7 | 2.7 | 0.8 | 0.5 | | | | | | | |
| MOWA | F | 49 | 11.9 | 0.7 | | | 2.0 | 10.0 | 16.0 | 24.0 | 30.0 | 12.0 | 2.0 | 2.0 | 2.0 | | | | | | | | | |
| | M | 65 | 12.3 | 1.0 | | | 1.5 | 4.6 | 15.4 | 13.8 | 26.2 | 16.9 | 9.2 | 3.1 | 7.7 | | 1.5 | | | | | | | |
| BBWA | F | 41 | 11.9 | 0.7 | | | 2.4 | 4.9 | 19.5 | 14.6 | 34.1 | 17.1 | 4.9 | 2.4 | | | | | | | | | | |
| | M | 56 | 12.6 | 1.1 | | | | 3.6 | 16.1 | 8.9 | 26.8 | 10.7 | 16.1 | 5.4 | 3.6 | 7.1 | 1.8 | | | | | | | |
| BLPW | F | 121 | 12.7 | 1.6 | 0.8 | 2.5 | 4.9 | 18.2 | 11.6 | 12.4 | 10.7 | 7.4 | 4.9 | 8.3 | 6.6 | 5.8 | 3.3 | 0.8 | 0.8 | 0.8 | | | | |
| | M | 202 | 13.9 | 1.7 | | 0.5 | 1.5 | 3.0 | 4.0 | 8.9 | 11.9 | 15.8 | 12.4 | 9.9 | 6.4 | 8.9 | 6.9 | 4.0 | 0.5 | 2.0 | 1.5 | 1.0 | 0.5 | |
| Species | Sex | N | Mean | SD | 13.5 | 14.0 | 14.5 | 15.0 | 15.5 | 16.0 | 16.5 | 17.0 | 17.5 | 18.0 | 18.5 | 19.0 | 19.5 | 20.0 | 20.5 | 21.0 | 21.5 | 22.0 | 22.5 | |
| NOWA | U | 906 | 17.4 | 1.6 | | | 0.9 | 3.0 | 6.6 | 9.1 | 9.8 | 14.7 | 13.7 | 10.3 | 9.4 | 7.1 | 5.7 | 3.2 | 2.3 | 1.2 | 1.1 | 0.9 | | |
| OVEN | U | 786 | 18.8 | 1.2 | | | | | | 0.8 | 1.8 | 7.1 | 12.3 | 17.0 | 18.3 | 16.7 | 9.7 | 7.9 | 3.2 | 2.7 | 0.8 | 1.3 | | |
| | F | 16 | 18.8 | 1.1 | | | | | | | | 6.3 | 18.8 | 25.0 | 6.3 | 18.8 | 6.3 | 6.3 | 12.5 | | | | | |
| | M | 5 | 19.3 | 1.2 | | | | | | | | | | | 20.0 | 20.0 | 20.0 | 20.0 | | | 20.0 | | | |

Appendix I: MBO Volunteers

Volunteers are essential to the operation of programs at MBO. Between 2005 and 2019, 732 volunteers contributed on site, and numerous others have helped out behind the scenes instead. Volunteers who have participated during at least four years are listed in bold, and those who have served as a bander-in-charge are annotated with an asterisk.

| | | | | | |
|---------------------------|--------------------|--------------------------------|-----------------------------------|--------------------------|---------------------|
| Nick Acheson | 2007 | Suzanne Bérard | 2012 | Carl Bromwich | 2012-2015 |
| Jessica Adams | 2009 | Gabriel Bergeon | 2015 | Marcelo Brongo | 2009, 2013, 2018 |
| Anna de Aguayo | 2008-2010 | Alex Bernal | 2012 | Chantal Broueou | 2008 |
| Josiane Alarie | 2009 | Johannie Bernard | 2014, 2015 | Daniel Brown | 2005, 2006 |
| Angelika Aleksieva | 2013-2019 | Elisa Bernier | 2008 | Duncan Brown | 2008 |
| Nadège Allan | 2005, 2006 | Nicolas Bernier | 2010-2019 | Mélissa Brunet | 2005 |
| Chris Alsop | 2007 | Yvan Bernier | 2013, 2014 | Jason Bueckert | 2010 |
| Lise Amarasakera | 2006 | Melanie Bernstein | 2009 | Gilles Burelle | 2007-2011 |
| Alexandre Anctil | 2008 | Pascal Berthelot | 2015-2019 | Skye Burgan | 2011 |
| David Anderson | 2011 | Franz Matthias Bieber | 2010 | Lindsay Burkhart | 2011 |
| Sheldon Andrews | 2009, 2010 | David Bird | 2005-2009, 2011, 2013, 2015 | Christine Burt | 2009, 2010 |
| Evelyn Aponte | 2009 | | | Francis Cabana | 2010 |
| Veronica Aponte | 2008-2010, 2014 | Sue Bishop | 2010-2015 | Virginie Cabana-Vaudrin | 2008 |
| Lara Artinian | 2010 | Isabelle-Anne Bisson | 2009 | Leonardo Cabrera | 2007 |
| Antoine Asselin | 2015 | Susan Black | 2006 | Chrystine Cadieux | 2008 |
| Kenzie Azmi | 2011 | Geneviève Blanchet | 2011 | Iain Caldwell | 2014 |
| Jean Bacon | 2008-2010 | Marie-Ève Blanchet | 2010 | Barb Campbell | 2010 |
| Rob Baker | 2011 | Jose Bnchetrit | 2007 | Diane Campbell | 2010 |
| Laura Balanoff | 2006 | Emily Board | 2012 | Véronik Campbell | 2005-2007 |
| Eva Banlaki | 2011 | Nancy Boily | 2010 | Louise Campeau | 2012 |
| Pierre Bannon | 2005, 2006 | Marc Boisvert | 2012-2016 | Marie-Eve Campin | 2008 |
| Jessica Bao | 2018, 2019 | Elise Bolduc | 2005 | Marilyne Caponi | 2010 |
| Nathalie Barbeau | 2011 | Marianne Bolla | 2010 | Michèlle Carignan | 2008 |
| Lina Bardo | 2005-2006, 2009 | Zoe Bonerbo | 2015-2019 | Vincent Carignan | 2013 |
| | | Salomé Bonnefoi | 2013 | Alison Casazza | 2010 |
| Robert Barnhurst | 2009-2012, 2015 | Éric Boodman | 2010 | Natalia Castellanos | 2006-2008 |
| | | Cindy Bouchard | 2012-2016, 2019 | Marie-Andrée Castonguay | 2018, 2019 |
| Marie-Christine Barrette | 2005 | | | Sophie Cauchon | 2006-2010, 2015 |
| Christine Barrie | 2008-2019 | Kim Bouchard | 2013 | Adriana Celada | 2010 |
| Sylvie Bazinet | 2007 | Marc-Henri Bouchard | 2014-2019 | Dominic Chambers | 2006, 2008 |
| Richard Beauchamp | 2012-2015, 2017 | Marie-France Boudreault | 2013-2017 | Alistair Chan | 2011 |
| | | Émily Boulanger | 2012, 2013 | Megan Chan | 2010 |
| Jean-François Beauchemin | 2008, 2009 | Robert Boule | 2012 | Victoria Chang | 2007, 2008 |
| Normand Beaudet | 2012 | Bianca Bourdeau | 2005 | Céline Charette | 2010 |
| Jean Beaudreault | 2005-2009 | Manon Bourdon | 2014-2018 | Mathieu Charette | 2015 |
| Jeanne Beaudry-Pilotte | 2010 | Martin Bowman | 2005, 2006 | Steve Charlton | 2010 |
| Pierre Beaulé | 2009 | Alexander Boyer | 2015-2018 | Anne Chen | 2007, 2008 |
| Christine Beaumier | 2010 | Mark Brenchley | 2008 | Ariane Chénard | 2017-2019 |
| Michel Beaupré | 2009-2011, 2015 | Liz Brenhouse | 2017 | Sitelle Cheskey | 2011 |
| | | Sarah Briand | 2009 | Shannon Christianson | 2011 |
| Frédéric Bédard | 2015 | Jennifer Bridgeman | 2006 | Marc-Philippe Christophe | 2010 |
| Louise Bédard | 2008 | Aaron Brisebois | 2018, 2019 | Gary Clemence | 2009, 2010 |
| Christine Bedra | 2006 | Dan Brisebois | 2012 | Charlotte Clement | 2019 |
| Annick Béland | 2019 | Emile Brisson | 2016-2019 | Marc-André Clément | 2010 |
| Katrina Bélanger-Smith | 2008 | Kaitlin Broadhurst | 2011 | Chantal Cloutier | 2009-2010, 2012 |
| Ève Bélisle | 2010 | Camille Brochu | 2017-2019 | | |
| Brian Bell | 2007, 2008 | Kristen Brochu | 2007 | Chris Cloutier | 2009-2012, 2019 |
| Yves Bellemare | 2010 | Geneviève Brodeur | 2015 | | |
| Dan Benoit | 2010 | Martha Bromby | 2015-2019 | | |
| Benoit Bérard | 2011 | Adam Bromwich | 2012 | | |

| | | | | | |
|------------------------------|------------------|------------------------|-----------------------|---------------------------|-----------------------|
| Claude Cloutier | 2010, 2014-2019 | Sarah Dixon | 2011, 2019 | Alexandre Fouillet | 2012 |
| Katherine Collin | 2019 | Christina Donehower | 2005, 2006 | Val Francella | 2006-2008 |
| Amélie Constantineau | 2007-2008, 2010 | Catherine Doucet | 2009 | Katie Fraser | 2010 |
| Ariel Cordova-Rojas | 2010 | Nicole Doucet | 2012 | Sarah Fraser | 2005, 2006 |
| Jane Cormack | 2010 | Lena Douris | 2005, 2006 | Gérard Fréchette | 2006-2007, 2009 |
| Yolande Cossette | 2012, 2013 | Abigail Dowden | 2010 | Sara Fréchette-Laflamme | 2008 |
| Serge Côté | 2013 | Connie Downes | 2010 | Barbara Frei | 2005-2019 |
| Stéphanie Côté | 2011 | Ashleigh Downing | 2015, 2017, 2018 | Kurt Frei | 2007 |
| Gabrielle Cottam | 2013, 2014 | Tyler Driber | 2005 | Maria Frei | 2006-2008 |
| Luc Coupal | 2015 | Amanda Droghini | 2012 | Mike Frei | 2005, 2007 |
| Joel Coutu | 2011 | Amélie Drolet | 2009-2011 | Andray Gagné | 2012 |
| Averill Craig | 2005, 2006 | Mélanie Drouin | 2007 | Louise Gagné | 2012, 2013 |
| Ian Craig | 2011 | Manon Dubé | 2006 | Jo-Annie Gagnon | 2010, 2012-2014 |
| Shawn Craik | 2005-2010 | Geneviève Dubois | 2013, 2014 | Marianne Gagnon | 2008, 2010, 2013 |
| Dawn Cruchet | 2012 | Josée Dubreuil | 2013 | Marie-France Gagnon | 2012 |
| Luke Currin | 2013-2019 | Lauriane Dubuc | 2014 | Marcel Gahbauer | 2005-2019 |
| Mark Currin | 2013, 2014 | Dominique Dufault | 2010, 2015 | Shannon Gailbraith | 2015-2019 |
| Jennifer Cyr-Devine | 2005 | Karine Duffy | 2010 | Steffi Galt | 2011 |
| Geneviève D'Avignon | 2008 | Gilles Dufour | 2015, 2019 | Tiffany Gamelin | 2007, 2008 |
| Marine Dageville | 2012 | Marianne Duhamel | 2018, 2019 | Alyssa Gangai | 2009 |
| Tiffany Damaglin | 2008 | Krystal Swift Dumesnil | 2007, 2008 | Ruoxi Gao | 2010 |
| Christina Damant | 2013 | Steve Dumont | 2010-2019 | Helen Garland | 2005, 2006 |
| Jacinthe Daprato | 2006 | Philippe Dunn | 2010, 2011 | Frédéric Gaudreault | 2016 |
| David Davey | 2008-2019 | Richard Dupuis | 2010 | Réjean Gaudreault | 2005 |
| Geneviève D'Avignon | 2008 | Benoît Duthu | 2009, 2010 | Olivier Gautheron | 2010 |
| Ana de Aguayo | 2008-2010 | Pierre Duval | 2008 | Marie-Hélène Gauthier | 2008 |
| Rui de Jesus | 2011-2013 | Réjean Duval | 2007, 2010-2013 | Marie-Pierre Gauthier | 2009 |
| Jean De Marre | 2009 | Simon Duval | 2007-2019 | Nina Gauthier | 2009 |
| Diane Deakin | 2010 | Kate Earl | 2006, 2008 | Kirsten Gavin | 2013 |
| Jessica Deakin | 2008 | Robert Edwards | 2007, 2008 | Anne-Marie von Geenhoven | 2011 |
| Steven Dedesko | 2006 | Kyle Elliott | 2015-2019 | Chloe Gendre | 2009 |
| Alejandro del Peral | 2005, 2006 | Tammy Elliott | 2011, 2012 | Nathalie Gendron | 2012-2017 |
| Leah Delègue | 2018 | Matthew Emrich | 2009 | Marie-Line Gentes | 2009, 2010 |
| Diane Demers | 2005-2007 | Ann Enlin | 2019 | Chris Gibb | 2005 |
| Jean Demers | 2005-2019 | Ilse Esparza | 2019 | Gregor Gilbert | 2006 |
| Lyne Demers | 2018, 2019 | Jenia Faibusovitch | 2009, 2010 | Tiffany Gilchrist | 2008-2010, 2012, 2015 |
| Leah den Besten | 2010-2015 | Luc Farly | 2008 | Josée Girard | 2006 |
| Samuel Denault | 2008, 2009 | Kate Farrell | 2007 | Jude Girard | 2010 |
| Katelyn Depot | 2015-2019 | Dominique Fauteux | 2007 | Vincent Giroux | 2016 |
| Alyssa DeRubeis | 2019 | Adam Feller | 2013 | Thomas Glover | 2011 |
| Andrée-Anne Deschamps | 2008, 2010-2013 | Kim Fernie | 2006 | Sean Godwin | 2011, 2012 |
| Victoria Desmarais-Low | 2008, 2010, 2011 | Kristian Fidrych | 2011 | Robin Goldstein | 2005 |
| Gail Desnoyers | 2012 | Isaac Finkelstein | 2010 | Ian Goodfellow | 2011 |
| Stéfany Desroches | 2015-2019 | Max Finkelstein | 2010 | Sabrina Gosselin | 2007 |
| Mégane Déziel | 2014, 2015 | Jessica Fiset | 2012 | Alain Goulet | 2010 |
| Cheryl Diamond | 2006 | David Fishman | 2006-2009, 2012 | Raphael Goulet | 2006 |
| Ross Diamond | 2007 | Linda Fishman | 2007, 2009 | Francois-Xavier Grandmont | 2016 |
| Diana Dima | 2007 | Michael Fleming | 2008-2009, 2012, 2013 | Thierry Grandmont | 2011, 2014-2016, 2018 |
| Marianna Dimauro | 2011, 2014, 2015 | Nicola Fleming | 2008-2013 | Christine Gray | 2006, 2007 |
| Joy Ding | 2009 | Maryse Forest-Tremblay | 2011 | Emily Gray | 2006-2009 |
| Catherine Dion | 2009, 2016 | Maura Forrest | 2008 | Michel Greaves | 2015-2019 |
| Emilie Dion | 2006, 2007 | Liette Fortier | 2011-2015, 2017-2019 | Mélissa Greene | 2017 |

| | | | | | |
|---------------------------|------------------------------------|--------------------------------|-------------------------|--------------------------|--------------------------|
| Herb Greenslade | 2008 | Jukka Jantonen | 2009 | Evelyne Lapointe | 2016-2018 |
| Jacinthe Gregoire | 2005, 2006 | Stacey Jarema | 2008 | Colette Laprade | 2005 |
| Jean Gregson | 2009-2010, 2015-2019 | Catherine Jarjour | 2016-2019 | Meghan Larivée | 2005 |
| Richard Gregson | 2005, 2009- 2010, 2015- 2019 | Yeonseon Jeon | 2018, 2019 | Gabrielle Laurent | 2009 |
| Pedro Grillo | 2014 | Malcolm Johnson | 2008-2019 | Ghislaine Laurin | 2013 |
| Monique Groulx | 2012, 2013 | Norsola Johnson | 2012 | Marie-Pier Lavallée | 2017 |
| Wayne Grubert | 2016-2019 | Lindsey Jones | 2011 | Andrée Laviolette | 2005, 2007, 2009-2014 |
| Gay Gruner | 2005-2019 | Isabel Julian | 2005-2006, 2009 | Lance Laviolette | 2005-2015, 2019 |
| Jennifer Gruner | 2009 | Teresa Julian | 2005 | Meghan Laviolette | 2005, 2007, 2009-2013 |
| Peter Gruner | 2005-2010 | Marie-France Julien | 2010, 2011 | Agathe Lebeau | 2014 |
| Patrick-Jean Guay | 2006 | James Junda | 2008-2010, 2012-2014 | Marcel Lebeau | 2014-2019 |
| Samantha Guérard | 2011 | Greg Kaiman | 2011 | Louise Lebel | 2011, 2012 |
| Mathilde Guglielmi | 2014, 2017- 2019 | Pia Kakoranta | 2010 | Seabrooke Leckie | 2006 |
| Nicole Guido | 2014, 2015 | Marie-Melissa Kalamaras | 2007-2011 | Steve Leckman | 2006 |
| Mélanie Guigueno | 2015-2019 | Pia Kaukoranta | 2010 | Catherine Leclerc | 2011, 2012 |
| Christina Guillemette | 2008 | Lima Kayello | 2011, 2012 | Caroline Lecoeur | 2006 |
| Joelle Guillet | 2007 | Lisa Keelty | 2011-2017 | Céline Lecompte | 2008, 2010 |
| Richard Guillet | 2017 | Sharon Kelly | 2009 | Catherine Lee-Zuck | 2018 |
| Alison Hackney | 2011-2019 | Tricia Kerr | 2005 | Melisa Lefebvre | 2009 |
| Myriam Haineault | 2011, 2012 | Kristen Keyes | 2008-2011 | Marylise Lefevre | 2005, 2009 |
| Peter Hall | 2007 | Tom Kingsbury | 2015, 2016 | Marie-Lise Legaise | 2008 |
| Julie Hamel | 2013 | Gillian Kinsman | 2006-2009 | Camille Legall-Payne | 2010 |
| Diane Hamill | 2015 | Shelly Kirk | 2012 | Catherine Legault | 2014, 2015 |
| Bana Hamze | 2005-2009 | Diana Kirkwood | 2010-2012 | Véronique Lemay | 2015 |
| Frédéric Hareau | 2010-2019 | Lorenzo Kleine | 2015, 2016 | Irène Lépine | 2006 |
| Nathaniel Harper | 2012 | Demetrios Kobiliris | 2007, 2008 | Helen Leroux | 2007-2008, 2010 |
| Mercy Harris | 2017-2019 | Alessia Kockel | 2007, 2008 | Martin Lessard | 2012 |
| Jeff Harrison | 2007-2011, 2013 | Helen Kohler | 2014-2017 | Steph Letendre | 2007 |
| Jake Harvey | 2019 | Genki Kondo | 2008 | Casey Leung | 2016, 2017 |
| Kanako Hasegawa | 2006 | Johanna Koppes | 2010 | Stéphanie Levesque | 2008 |
| Joanne Hayes | 2016-2018 | Tony James Kouach | 2011 | Judy Levitan | 2009 |
| Valerie Hayot-Sasson | 2010 | Jessica Krohner | 2010 | Alex Liautaud | 2007 |
| Jessica Head | 2014, 2015 | Sophie Krolkowski | 2011 | Juliana Lisi | 2005, 2006 |
| Isaac Hébert | 2007 | Julia Kucharski | 2005 | Maya Longpré-Coteau | 2013, 2019 |
| Lacey Hébert | 2007 | Erik Kudelka | 2011 | Emma Loosigian | 2008 |
| Janina Heim | 2008 | Vivek Kumar | 2010 | Andréanne Lortie | 2005 |
| Neil Henden | 2016 | Jeremy Labrecque | 2006 | Tatiana Loucachevsky | 2010 |
| Amy Henderson | 2006, 2007 | Joane Lafontaine | 2012 | Christie Lovatt | 2008, 2011, 2013 |
| Meggy Hervieux | 2006, 2008 | Louis-Philip Lafrance | 2006 | Valentin Lucet | 2014 |
| Annie Hibbert | 2005 | Marjolaine Lagacé | 2008, 2009 | Victoria Lukasik | 2005 |
| Audrey Hihasiwi | 2009 | Benoit Laliberté | 2011, 2012 | Geneviève Lussier | 2007 |
| Martina Hoft | 2013 | Kristen Lalla | 2016-2019 | Marie-Pier Lussier | 2011 |
| Nicolas Houde | 2010 | Marie-Pierre Lambert | 2006, 2007 | Kristen Lynn | 2010 |
| Vicky Houde | 2008 | Claude Lamontagne | 2013, 2015 | Helen Macdonald | 2011 |
| Lesley-Anne Howes | 2008 | Line Lamontagne | 2013, 2014 | Barbara MacDuff | 2005-2019 |
| Juliane Hudson | 2005 | Yong Lang | 2010, 2011 | Don MacDuff | 2005-2019 |
| Marie-Anne Hudson | 2005-2010, 2012, 2013 | Catherine Langevin | 2012 | Alyssa Macleod | 2007 |
| Leslie Hunt | 2013 | Meg Langley | 2009 | Jennifer MacWilliam | 2006, 2007 |
| Daniel Jackson | 2009 | Marie-Pierre Langlois | 2019 | Asya Malinova | 2012, 2014, 2015 |
| Keelan Jacobs | 2005, 2006 | Patrick Laniel | 2012, 2016- 2019 | Charlotte Maloney | 2011 |
| Marie-Ève Jacques | 2005 | Dominic Lanthier | 2008 | Barry Mantal | 2008 |
| | | Joëlle Lapalme | 2007-2009 | | |
| | | Marie-Pier Laplante | 2012 | | |
| | | Noémie Laplante | 2005, 2011 | | |

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|---------------------------|-------------------------|------------------------|---------------------|----------------------------|--------------------------|
| Helen Marchand | 2009 | Nashat Mustafa | 2009 | Lynda Porter | 2011 |
| Christine Marcoux | 2013 | Chloé Nadeau-Perrier | 2008, 2009 | Geneviève Potvin | 2010, 2012, 2016-2019 |
| Francine Marcoux | 2005-2019 | Karen Nassi | 2012 | Sophie Price | 2010 |
| Dan Mardena | 2009 | Armin Nazemi | 2011 | Kristy Putnam | 2005 |
| Melanie Marier | 2009 | Tash Nicholson | 2012 | Fred Racine | 2009 |
| Meghna Marjadi | 2009 | Marie Nicole | 2008 | Filip Rakic | 2018 |
| Rudi Markgraf | 2005 | Emma Nip | 2015 | Victor Benjamin Ramos | 2009 |
| Eve Marshall | 2005, 2007, 2009 | Ian Niu | 2006 | Greg Rand | 2006-2011, 2014, 2015 |
| Sarah Marteinson | 2006-2009 | Marissa Nolan | 2009, 2010 | Crissy Ranellucci | 2005-2008 |
| Daniel Martin | 2011, 2012 | Ken Nomura | 2008 | Khaled Rashid | 2011 |
| Mélissa Martinez | 2017 | Bonnie Norris | 2013 | Bronwyn Rayfield | 2010 |
| Poonam Maskeri | 2006, 2007 | Mark O'Connor | 2006, 2007 | Guillaume Raymond | 2015 |
| Laurie Maurais | 2006 | Joey O'Connor | 2011 | Natacha Raymond-Bleau | 2005 |
| Michael Mayerhofer | 2005-2009 | Kiera O'Hagan | 2017 | Michelle Reeves | 2011 |
| Grace Hlywa Maytan | 2008 | David Oldacre | 2013 | Charles Regnier | 2011 |
| Sophie Mazowita | 2007, 2008 | Robert Oligny | 2005, 2006 | Éric Rémillard | 2015 |
| Melanie McCormack | 2008 | Kenn Olivier | 2011 | Limoilou-Amélie Renaud | 2005, 2006 |
| Meaghan McDermott | 2009 | Jennifer Orr | 2005 | Sabrina Richard-Lalonde | 2006-2008 |
| Dan McDonough | 2009 | Daniel Ouellette | 2006 | Ian Ritchie | 2005-2009 |
| Betsy McFarlane | 2005-2019 | Daniel Oyama | 2006, 2007 | Katleen Robert | 2006-2008 |
| Madeleine McGreer | 2015 | Raymonde Palardy | 2014 | Mark-André Robert | 2007 |
| Mabel McIntosh | 2009-2012 | Mariner Palmer | 2010, 2012- 2014 | Mary Robichaud | 2011, 2012 |
| Shawn McNamee | 2009 | George Panciuk | 2012 | Kate Robinson | 2006 |
| Alexander McNeil | 2006 | Aubrey Paolino | 2012 | Julien Robitaille | 2010 |
| Sandy McNeil | 2006 | Frederic Paquet | 2005 | Sabrina Rochefort | 2011, 2012 |
| Alain Mercier | 2017 | Johanne Paquette | 2010 | Jean Rogerz | 2013 |
| Phillip Mercier | 2015-2019 | Annie-Claude Paradis | 2006, 2007 | Emma Rollins | 2018 |
| Marjorie Mercure | 2009 | Guillaume Passavy | 2005 | Amanda Rollinson | 2011 |
| Raymond Michaud | 2014 | Kasper Pater | 2010 | Mark Romer | 2010 |
| Christina Miller | 2008-2010 | Andrew Patterson | 2012 | Cindy Romero | 2010 |
| Lynn Miller | 2005, 2006 | Charla Patterson | 2012 | Nicole Rose | 2005 |
| France Millette | 2010 | Jeremy Pauzé | 2009 | Lisa Rosenberger | 2011-2014 |
| Heather Milligan | 2007 | Charlotte Payette | 2013 | Brittney Roughan | 2007, 2008 |
| Marina Milligan | 2007, 2009 | Yves Payette | 2012, 2013 | Amelie Rousseau | 2006 |
| Richard Milligan | 2009 | Jennifer Pearson | 2007 | Josée Rousseau | 2005 |
| Anthi Mimidakis | 2005, 2006 | Joe Peck | 2008 | Sonia Rousseau | 2010 |
| Ed Minotti | 2009 | Emily Pedersen | 2011 | François Rousseau | 2011 |
| Sandra Minotti | 2006, 2009 | André Pelletier | 2006-2010 | Elisa Roux | 2012 |
| Julia Mlynarek | 2005, 2006 | Scott Pemberton | 2011, 2012 | Marie-Claude Roy | 2006 |
| Mahmoud Moghrabi | 2009, 2010 | Casey Pendergast | 2011 | Valérie Roy | 2019 |
| Laura Molina | 2015 | Julie Pépin | 2005-2007 | Emilie Roy-Dufresne | 2006-2009 |
| Pierre Molina | 2011 | Amélie Perez | 2010 | Catherine Russell | 2010-2019 |
| Kevin Mongey | 2011 | Linda Pérez | 2016 | Joanne Ryan | 2013 |
| Allison Moore | 2009 | Marie Perkins | 2013 | Michelle Saint-Martin | 2005 |
| Ana Morales | 2012-2015, 2017-2019 | Alysse Perreault | 2011 | Sarah Saldanha | 2011 |
| Harriel Morgan | 2012 | Geneviève Perreault | 2010 | Christina Saliba | 2007 |
| Connie Morgenstern | 2016, 2017 | Jérôme Pétigny | 2007, 2008 | France Salvaille | 2009 |
| Dara Moshones | 2008 | Lucile Pic | 2010 | Marie-Odile Samson | 2010 |
| Anne Mouillier | 2017 | Leigh Piercey-Brunet | 2007 | Léo Sarrazin | 2013 |
| Chris Murphy | 2005-2013 | Benoît Piquette | 2010-2019 | Kathleen Sary | 2008 |
| Claire Murphy | 2010 | Francine Piquette | 2010, 2012, 2015 | Audrey Saumure Di Fruscia | 2008 |
| Dan Murphy | 2010 | Andrew Plimer | 2006, 2007 | Loïc Sauvé | 2015-2016, 2018 |
| Gillian Murphy | 2006 | Kevin Poirier | 2011 | Melissa Scerbo | 2010 |
| Ted Murphy-Kelly | 2009 | Majorie Poirier | 2005, 2006 | Helena Scheffer | 2006, 2007 |
| Jim Murray | 2008, 2009 | Yves Poirier | 2012 | | |

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|--------------------------|---------------------|-----------------------------|--------------------------|-----------------------|------------|
| Paule Schetagne | 2015, 2016 | Mireille Terrault | 2015 | Sandra Warren | 2006, 2007 |
| Jenna Schlener | 2019 | Nathalie Tessier | 2013 | Shona Watt | 2007 |
| Marylise Schmidt | 2008 | Sophie Tessier | 2014 | Geoffrey Webster | 2012 |
| Brian Schmucker | 2007 | Rachel Theoret-Gosselin | 2007 | John Webster | 2006 |
| Daniel Schmucker | 2007-2010 | Alain Theriault | 2005 | Sylvia Wees | 2010 |
| Ted Scodras | 2009 | Natalie Thimot | 2015 | Fredella Weil | 2008 |
| Luke Scott | 2006 | Raphaëlle Thomas | 2009, 2010 | Jesse White | 2015-2018 |
| Richard Seale | 2011 | Victor Thomasson | 2008, 2012 | Brian Wilson | 2011 |
| Charles Séguin | 2010 | Dara Thompson | 2010 | Mona Wizenberg | 2005 |
| Shawna Sévigny | 2013-2014, 2019 | Alexis Thorbecke | 2009, 2010 | Alan Wongkee | 2014 |
| Ahmad Shah | 2011-2015 | Elise Titman | 2011-2019 | Linda Wongkee | 2014 |
| Paul Shay | 2015 | Rodger Titman | 2005-2019 | Davis Wood | 2009 |
| Marilou Skelling | 2011-2014 | Gijs van Tol | 2005, 2012 | Sarah Woods | 2007 |
| Steven Skipper | 2005 | Asra Toobaie | 2009 | James Young | 2006 |
| Roman Skorko | 2010 | Laura Torres | 2015 | Ryan Young | 2009, 2012 |
| Jillian Slater | 2013-2016 | Carine Touma | 2008-2009, 2012, 2013 | Brigitte Zacharczenko | 2008 |
| Carollynne Smith | 2014 | Alex Tran | 2011 | Geneviève Zaloom | 2011 |
| Charlene Smith | 2018 | Rae Tranchard | 2007, 2008 | Tim Zarins | 2011 |
| Jennifer Smith | 2008 | Bruno Tremblay | 2012 | Tiera Zukerman | 2011 |
| David Soares | 2005 | Christiane Tremblay | 2014-2019 | | |
| Anna Solecki | 2007 | Frédérique Tremblay | 2018, 2019 | | |
| Jane Sorensen | 2010, 2012 | Anne Tremblay-Gratton | 2019 | | |
| Lily Soucy | 2009 | Fernanda Triconi | 2013 | | |
| Clémence Soulard | 2005-2019 | Jessica Turgeon | 2012-2019 | | |
| Bonnie Soutar | 2010-2012 | John Turpin | 2012 | | |
| Gordon Southward | 2011 | Denis Vachon | 2007 | | |
| Audrey Speck | 2010 | Élodie Vajda | 2010 | | |
| Cat Spina | 2008-2009, 2011 | Joost Valkenburg | 2012 | | |
| Vince Spinelli | 2005, 2010 | Mieke van der Heyde | 2010 | | |
| Eric Ste Marie | 2017 | Francis Van Oordt | 2018, 2019 | | |
| Stephanie Steeves | 2006, 2007 | Jay VanderGaast | 2012-2014 | | |
| Réal Ste-Marie | 2007 | Virginie Vaudine | 2008 | | |
| Katie St-Jean | 2010, 2011 | Monique Venne | 2011-2013 | | |
| Alex Stone | 2009-2012 | Rachel Verkade | 2005-2007 | | |
| Laurie St-Onge | 2008, 2016, 2017 | Kaja Verret-Holding | 2009 | | |
| Patricia Stotland | 2010-2019 | Natalie Vieira-Lomasney | 2019 | | |
| Katie Sullivan | 2006 | François Villeneuve | 2015-2019 | | |
| Alexandra Summer | 2011 | Marshall Vokey | 2016 | | |
| Alice Sun | 2018 | Matthew Von Bornhoft | 2009-2012 | | |
| Stephanie Surveyer | 2005 | Michel Vorasane | 2014 | | |
| Emma Sutherland | 2018 | Phong Vuong | 2010 | | |
| Krystal Swift | 2007, 2008 | Audrey Wachter | 2005, 2006 | | |
| Laura Tabbakh | 2016-2019 | Guillaume Wachter | 2006 | | |
| Arnaud Tarroux | 2005 | Michael Waddes | 2013 | | |
| Chick Taylor | 2012 | Corrine Waheed | 2013 | | |
| Chris Taylor | 2012 | Roland Wahlgren | 2009 | | |
| Pierrot Tellier-Machabée | 2010, 2011 | Tegan Wahlgren | 2009 | | |
| Kim Tendland-Frenette | 2005 | Maria Waldron | 2008 | | |
| | | Yifu Wang | 2012-2014 | | |
| | | Jessica Ward | 2011 | | |

Appendix J: List of species observed at MBO

Listed below in taxonomic sequence (following AOS 2020) are the 222 bird species observed at MBO over the 15 years between November 2004 and November 2019. Taking into account data from all seasons, each species is classified as one of:

Increasing: Numbers banded and/or observed generally higher than average in recent years (55 species)

Stable: Numbers banded and/or observed overall varying relatively little across the years (43 species)

Declining: Numbers banded and/or observed generally lower than average in recent years (34 species)

Fluctuating: Numbers banded and/or observed varying substantially among years, but without a clear pattern (19 species)

Insufficient data: Not enough individuals banded and/or observed to evaluate a pattern over time (71 species)

| CODE | English name | French name | Scientific name | Trend |
|------|------------------------------|-------------------------|----------------------------------|-------------------|
| SNGO | Snow Goose | Oie des neiges | <i>Anser caerulescens</i> | Declining |
| ROGO | Ross's Goose | Oie de Ross | <i>Anser rossii</i> | Insufficient data |
| GWFG | Greater White-fronted Goose | Oie rieuse | <i>Anser albifrons</i> | Insufficient data |
| ATBR | (Atlantic) Brant | Bernache cravant | <i>Branta bernicla</i> | Insufficient data |
| CACG | Cackling Goose | Bernache de Hutchins | <i>Branta hutchinsii</i> | Insufficient data |
| CANG | Canada Goose | Bernache du Canada | <i>Branta canadensis</i> | Declining |
| TUSW | Tundra Swan | Cygne siffleur | <i>Cygnus columbianus</i> | Insufficient data |
| WODU | Wood Duck | Canard branchu | <i>Aix sponsa</i> | Declining |
| BWTE | Blue-winged Teal | Sarcelle à ailes bleues | <i>Spatula discors</i> | Declining |
| NSHO | Northern Shoveler | Canard souchet | <i>Spatula clypeata</i> | Insufficient data |
| NOPI | Northern Pintail | Canard pilet | <i>Anas acuta</i> | Declining |
| GADW | Gadwall | Canard chipeau | <i>Mareca strepera</i> | Increasing |
| AMWI | American Wigeon | Canard d'Amérique | <i>Mareca americana</i> | Stable |
| MALL | Mallard | Canard colvert | <i>Anas platyrhynchos</i> | Declining |
| ABDU | American Black Duck | Canard noir | <i>Anas rubripes</i> | Declining |
| AGWT | (American) Green-winged Teal | Sarcelle d'hiver | <i>Anas crecca carolinensis</i> | Increasing |
| REDH | Redhead | Fuligule à tête rouge | <i>Aythya americana</i> | Insufficient data |
| RNDU | Ring-necked Duck | Fuligule à collier | <i>Aythya collaris</i> | Insufficient data |
| GRSC | Greater Scaup | Fuligule milouinan | <i>Aythya marila</i> | Insufficient data |
| LESC | Lesser Scaup | Petit Fuligule | <i>Aythya affinis</i> | Insufficient data |
| WWSC | White-winged Scoter | Macreuse brune | <i>Melanitta deglandi</i> | Insufficient data |
| BLSC | Black Scoter | Macreuse à bec jaune | <i>Melanitta americana</i> | Insufficient data |
| COGO | Common Goldeneye | Garrot à oeil d'or | <i>Bucephala clangula</i> | Insufficient data |
| HOME | Hooded Merganser | Harle couronné | <i>Lophodytes cucullatus</i> | Increasing |
| COME | Common Merganser | Grand Harle | <i>Mergus merganser</i> | Stable |
| RBME | Red-breasted Merganser | Harle huppé | <i>Mergus serrator</i> | Insufficient data |
| RUGR | Ruffed Grouse | Gélinotte huppée | <i>Bonasa umbellus</i> | Insufficient data |
| WITU | Wild Turkey | Dindon sauvage | <i>Meleagris gallopavo</i> | Insufficient data |
| PBGR | Pied-billed Grebe | Grèbe à bec bigarré | <i>Podilymbus podiceps</i> | Declining |
| ROPI | Rock Pigeon | Pigeon biset | <i>Columba livia</i> | Stable |
| MODO | Mourning Dove | Tourterelle triste | <i>Zenaida macroura</i> | Declining |
| YBCU | Yellow-billed Cuckoo | Coulicou à bec jaune | <i>Coccyzus americanus</i> | Insufficient data |
| BBCU | Black-billed Cuckoo | Coulicou à bec noir | <i>Coccyzus erythrophthalmus</i> | Increasing |
| CONI | Common Nighthawk | Engoulevent d'Amérique | <i>Chordeiles minor</i> | Insufficient data |
| EWPW | Eastern Whip-poor-will | Engoulevent bois-pourri | <i>Antrostomus vociferus</i> | Insufficient data |
| CHSW | Chimney Swift | Martinet ramoneur | <i>Chaetura pelagica</i> | Declining |
| RTHU | Ruby-throated Hummingbird | Colibri à gorge rubis | <i>Archilochus colubris</i> | Stable |
| VIRA | Virginia Rail | Râle de Virginie | <i>Rallus limicola</i> | Stable |
| SORA | Sora | Marouette de Caroline | <i>Porzana carolina</i> | Increasing |
| COGA | Common Gallinule | Gallinule d'Amérique | <i>Gallinula galeata</i> | Insufficient data |

| CODE | English name | French name | Scientific name | Trend |
|-------|---------------------------|---------------------------|---------------------------------|-------------------|
| SACR | Sandhill Crane | Grue du Canada | <i>Antigone canadensis</i> | Insufficient data |
| BBPL | Black-bellied Plover | Pluvier argenté | <i>Pluvialis squatarola</i> | Insufficient data |
| KILL | Killdeer | Pluvier kildir | <i>Charadrius vociferus</i> | Stable |
| SEPL | Semipalmated Plover | Pluvier semipalmé | <i>Charadrius semipalmatus</i> | Insufficient data |
| DUNL | Dunlin | Bécasseau variable | <i>Calidris alpina</i> | Insufficient data |
| LESA | Least Sandpiper | Bécasseau minuscule | <i>Calidris minutilla</i> | Insufficient data |
| AMWO | American Woodcock | Bécasse d'Amérique | <i>Scolopax minor</i> | Increasing |
| WISN | Wilson's Snipe | Bécassine de Wilson | <i>Gallinago delicata</i> | Insufficient data |
| SPSA | Spotted Sandpiper | Chevalier grivelé | <i>Actitis macularius</i> | Stable |
| SOSA | Solitary Sandpiper | Chevalier solitaire | <i>Tringa solitaria</i> | Stable |
| LEYE | Lesser Yellowlegs | Petit Chevalier | <i>Tringa flavipes</i> | Insufficient data |
| GRYE | Greater Yellowlegs | Grand Chevalier | <i>Tringa melanoleuca</i> | Stable |
| RBGU | Ring-billed Gull | Goéland à bec cerclé | <i>Larus delawarensis</i> | Declining |
| HERG | Herring Gull | Goéland argenté | <i>Larus argentatus</i> | Stable |
| ICGU | Iceland Gull | Goéland arctique | <i>Larus glaucoides</i> | Insufficient data |
| GBBG | Great Black-backed Gull | Goéland marin | <i>Larus marinus</i> | Stable |
| CATE | Caspian Tern | Sterne caspienne | <i>Hydroprogne caspia</i> | Insufficient data |
| BLTE | Black Tern | Guifette noire | <i>Chlidonias niger</i> | Insufficient data |
| COTE | Common Tern | Sterne pierregarin | <i>Sterna hirundo</i> | Increasing |
| COLO | Common Loon | Plongeon huard | <i>Gavia immer</i> | Increasing |
| NOGA | Northern Gannet | Fou de Bassan | <i>Morus bassanus</i> | Insufficient data |
| DCCO | Double-crested Cormorant | Cormoran à aigrettes | <i>Phalacrocorax auritus</i> | Increasing |
| AMBI | American Bittern | Butor d'Amérique | <i>Botaurus lentiginosus</i> | Stable |
| LEBI | Least Bittern | Petit Blongios | <i>Ixobrychus exilis</i> | Insufficient data |
| GBHE | Great Blue Heron | Grand Héron | <i>Ardea herodias</i> | Declining |
| GREG | Great Egret | Grande Aigrette | <i>Ardea alba</i> | Increasing |
| GRHE | Green Heron | Héron vert | <i>Butorides virescens</i> | Declining |
| BCNH | Black-crowned Night-Heron | Bihoreau gris | <i>Nycticorax nycticorax</i> | Insufficient data |
| TUVU | Turkey Vulture | Urubu à tête rouge | <i>Cathartes aura</i> | Increasing |
| OSPR | Osprey | Balbusard pêcheur | <i>Pandion haliaetus</i> | Stable |
| GOEA | Golden Eagle | Aigle royal | <i>Aquila chrysaetos</i> | Insufficient data |
| NOHA | Northern Harrier | Busard des marais | <i>Circus hudsonius</i> | Increasing |
| SSHA | Sharp-shinned Hawk | Épervier brun | <i>Accipiter striatus</i> | Stable |
| COHA | Cooper's Hawk | Épervier de Cooper | <i>Accipiter cooperii</i> | Increasing |
| NOGO | Northern Goshawk | Autour des palombes | <i>Accipiter gentilis</i> | Fluctuating |
| BAEA | Bald Eagle | Pygargue à tête blanche | <i>Haliaeetus leucocephalus</i> | Increasing |
| RSHA | Red-shouldered Hawk | Buse à épaulettes | <i>Buteo lineatus</i> | Declining |
| BWHA | Broad-winged Hawk | Petite Buse | <i>Buteo platypterus</i> | Increasing |
| RTHA: | Red-tailed Hawk | Buse à queue rousse | <i>Buteo jamaicensis</i> | Increasing |
| RLHA | Rough-legged Hawk | Buse pattue | <i>Buteo lagopus</i> | Stable |
| EASO | Eastern Screech-Owl | Petit-duc maculé | <i>Megascops asio</i> | Stable |
| GHOW | Great Horned Owl | Grand-duc d'Amérique | <i>Bubo virginianus</i> | Increasing |
| BDOW | Barred Owl | Chouette rayée | <i>Strix varia</i> | Insufficient data |
| GGOW | Great Gray Owl | Chouette lapone | <i>Strix nebulosa</i> | Insufficient data |
| LEOW | Long-eared Owl | Hibou moyen-duc | <i>Asio otus</i> | Insufficient data |
| BOOW | Boreal Owl | Nyctale de Tengmalm | <i>Aegolius funereus</i> | Insufficient data |
| NSWO | Northern Saw-whet Owl | Petite Nyctale | <i>Aegolius acadicus</i> | Stable |
| BEKI | Belted Kingfisher | Martin-pêcheur d'Amérique | <i>Megaceryle alcyon</i> | Stable |
| RBWO | Red-bellied Woodpecker | Pic à ventre roux | <i>Melanerpes carolinus</i> | Increasing |

| CODE | English name | French name | Scientific name | Trend |
|------|-----------------------------------|------------------------------|-----------------------------------|-------------------|
| BBWO | Black-backed Woodpecker | Pic à dos noir | <i>Picoides arcticus</i> | Insufficient data |
| YBSA | Yellow-bellied Sapsucker | Pic maculé | <i>Sphyrapicus varius</i> | Stable |
| DOWO | Downy Woodpecker | Pic mineur | <i>Dryobates pubescens</i> | Stable |
| HAWO | Hairy Woodpecker | Pic chevelu | <i>Dryobates villosus</i> | Stable |
| YSFL | Northern (Yellow-shafted) Flicker | Pic flamboyant | <i>Colaptes auratus auratus</i> | Stable |
| PIWO | Pileated Woodpecker | Grand Pic | <i>Dryocopus pileatus</i> | Increasing |
| AMKE | American Kestrel | Crécerelle d'Amérique | <i>Falco sparverius</i> | Stable |
| MERL | Merlin | Faucon émerillon | <i>Falco columbarius</i> | Increasing |
| PEFA | Peregrine Falcon | Faucon pèlerin | <i>Falco peregrinus</i> | Stable |
| GCFL | Great Crested Flycatcher | Tyran huppé | <i>Myiarchus crinitus</i> | Increasing |
| EAKI | Eastern Kingbird | Tyran tritri | <i>Tyrannus tyrannus</i> | Declining |
| OSFL | Olive-sided Flycatcher | Moucherolle à côtés olive | <i>Contopus cooperi</i> | Stable |
| EAWP | Eastern Wood-Pewee | Pioui de l'Est | <i>Contopus virens</i> | Increasing |
| YBFL | Yellow-bellied Flycatcher | Moucherolle à ventre jaune | <i>Empidonax flaviventris</i> | Increasing |
| WIFL | Willow Flycatcher | Moucherolle des saules | <i>Empidonax traillii</i> | Insufficient data |
| ALFL | Alder Flycatcher | Moucherolle des aulnes | <i>Empidonax alnorum</i> | Stable |
| LEFL | Least Flycatcher | Moucherolle tchébec | <i>Empidonax minimus</i> | Increasing |
| EAPH | Eastern Phoebe | Moucherolle phébi | <i>Sayornis phoebe</i> | Stable |
| NSHR | Northern Shrike | Pie-grièche boréale | <i>Lanius borealis</i> | Stable |
| WEVI | White-eyed Vireo | Viréo aux yeux blancs | <i>Vireo griseus</i> | Insufficient data |
| YTVI | Yellow-throated Vireo | Viréo à gorge jaune | <i>Vireo flavifrons</i> | Insufficient data |
| BHVI | Blue-headed Vireo | Viréo à tête bleue | <i>Vireo solitarius</i> | Stable |
| PHVI | Philadelphia Vireo | Viréo de Philadelphie | <i>Vireo philadelphicus</i> | Stable |
| WAVI | Warbling Vireo | Viréo mélodieux | <i>Vireo gilvus</i> | Increasing |
| REVI | Red-eyed Vireo | Viréo aux yeux rouges | <i>Vireo olivaceus</i> | Increasing |
| BLJA | Blue Jay | Geai bleu | <i>Cyanocitta cristata</i> | Stable |
| AMCR | American Crow | Corneille d'Amérique | <i>Corvus brachyrhynchos</i> | Declining |
| FICR | Fish Crow | Corneille de rivage | <i>Corvus ossifragus</i> | Insufficient data |
| CORA | Common Raven | Grand Corbeau | <i>Corvus corax</i> | Increasing |
| HOLA | Horned Lark | Alouette hausse-col | <i>Eremophila alpestris</i> | Insufficient data |
| BANS | Bank Swallow | Hirondelle de rivage | <i>Riparia riparia</i> | Stable |
| TRES | Tree Swallow | Hirondelle bicolor | <i>Tachycineta bicolor</i> | Fluctuating |
| NRWS | Northern Rough-winged Swallow | Hirondelle à ailes hérissées | <i>Stelgidopteryx serripennis</i> | Stable |
| PUMA | Purple Martin | Hirondelle noire | <i>Progne subis</i> | Stable |
| BARS | Barn Swallow | Hirondelle rustique | <i>Hirundo rustica</i> | Increasing |
| CLSW | Cliff Swallow | Hirondelle à front blanc | <i>Petrochelidon pyrrhonota</i> | Declining |
| BCCH | Black-capped Chickadee | Mésange à tête noire | <i>Poecile atricapillus</i> | Stable |
| BOCH | Boreal Chickadee | Mésange à tête brune | <i>Poecile hudsonicus</i> | Insufficient data |
| TUTI | Tufted Titmouse | Mésange bicolor | <i>Baeolophus bicolor</i> | Insufficient data |
| RBNU | Red-breasted Nuthatch | Sittelle à poitrine rousse | <i>Sitta canadensis</i> | Fluctuating |
| WBNU | White-breasted Nuthatch | Sittelle à poitrine blanche | <i>Sitta carolinensis</i> | Increasing |
| BRCR | Brown Creeper | Grimpereau brun | <i>Certhia americana</i> | Increasing |
| HOWR | House Wren | Troglodyte familier | <i>Troglodytes aedon</i> | Increasing |
| WIWR | Winter Wren | Troglodyte des forêts | <i>Troglodytes hiemalis</i> | Stable |
| SEWR | Sedge Wren | Troglodyte à bec court | <i>Cistothorus platensis</i> | Insufficient data |
| MAWR | Marsh Wren | Troglodyte des marais | <i>Cistothorus palustris</i> | Insufficient data |
| CARW | Carolina Wren | Troglodyte de Caroline | <i>Thryothorus ludovicianus</i> | Insufficient data |
| BGGN | Blue-gray Gnatcatcher | Gobemoucheron gris-bleu | <i>Poliophtila caerulea</i> | Insufficient data |
| GCKI | Golden-crowned Kinglet | Roitelet à couronne dorée | <i>Regulus satrapa</i> | Increasing |

| CODE | English name | French name | Scientific name | Trend |
|-------|---------------------------------|---------------------------|--|-------------------|
| RCKI | Ruby-crowned Kinglet | Roitelet à couronne rubis | <i>Regulus calendula</i> | Increasing |
| EABL | Eastern Bluebird | Merlebleu de l'Est | <i>Sialia sialis</i> | Fluctuating |
| TOSO | Townsend's Solitaire | Solitaire de Townsend | <i>Myadestes townsendi</i> | Insufficient data |
| VEER | Veery | Grive fauve | <i>Catharus fuscescens</i> | Increasing |
| GCTH | Gray-cheeked Thrush | Grive à joues grises | <i>Catharus minimus</i> | Increasing |
| BITH | Bicknell's Thrush | Grive de Bicknell | <i>Catharus bicknelli</i> | Insufficient data |
| SWTH | Swainson's Thrush | Grive à dos olive | <i>Catharus ustulatus</i> | Increasing |
| HETH | Hermit Thrush | Grive solitaire | <i>Catharus guttatus</i> | Increasing |
| WOTH | Wood Thrush | Grive des bois | <i>Hylocichla mustelina</i> | Increasing |
| AMRO | American Robin | Merle d'Amérique | <i>Turdus migratorius</i> | Fluctuating |
| GRCA | Gray Catbird | Moqueur chat | <i>Dumetella carolinensis</i> | Increasing |
| BRTH | Brown Thrasher | Moqueur roux | <i>Toxostoma rufum</i> | Increasing |
| NOMO | Northern Mockingbird | Moqueur polyglotte | <i>Mimus polyglottos</i> | Insufficient data |
| EUST: | European Starling | Étourneau sansonnet | <i>Sturnus vulgaris</i> | Fluctuating |
| BOWA | Bohemian Waxwing | Jaseur boréal | <i>Bombycilla garrulus</i> | Fluctuating |
| CEDW | Cedar Waxwing | Jaseur d'Amérique | <i>Bombycilla cedrorum</i> | Fluctuating |
| HOSP | House Sparrow | Moineau domestique | <i>Passer domesticus</i> | Declining |
| AMPI | American Pipit | Pipit d'Amérique | <i>Anthus rubescens</i> | Increasing |
| EVGR | Evening Grosbeak | Gros-bec errant | <i>Coccothraustes vespertinus</i> | Insufficient data |
| PIGR | Pine Grosbeak | Durbec des sapins | <i>Pinicola enucleator</i> | Insufficient data |
| HOFI | House Finch | Roselin familier | <i>Haemorhous mexicanus</i> | Fluctuating |
| PUFI | Purple Finch | Roselin pourpré | <i>Haemorhous purpureus</i> | Increasing |
| CORE | Common Redpoll | Sizerin flammé | <i>Acanthis flammea</i> | Fluctuating |
| HORE | Hoary Redpoll | Sizerin blanchâtre | <i>Acanthis hornemanni</i> | Insufficient data |
| RECR | Red Crossbill | Bec-croisé des sapins | <i>Loxia curvirostra</i> | Insufficient data |
| WWCR | White-winged Crossbill | Bec-croisé bifascié | <i>Loxia leucoptera</i> | Insufficient data |
| PISI | Pine Siskin | Tarin des pins | <i>Spinus pinus</i> | Fluctuating |
| AMGO | American Goldfinch | Chardonneret jaune | <i>Spinus tristis</i> | Fluctuating |
| SNBU | Snow Bunting | Plectrophenax des neiges | <i>Plectrophenax nivalis</i> | Insufficient data |
| CHSP | Chipping Sparrow | Bruant familier | <i>Spizella passerina</i> | Stable |
| CCSP | Clay-colored Sparrow | Bruant des plaines | <i>Spizella pallida</i> | Insufficient data |
| FISP | Field Sparrow | Bruant des champs | <i>Spizella pusilla</i> | Insufficient data |
| FOSP | Fox Sparrow | Bruant fauve | <i>Passerella iliaca</i> | Fluctuating |
| ATSP | American Tree Sparrow | Bruant hudsonien | <i>Spizelloides arborea</i> | Declining |
| SCJU | Dark-eyed (Slate-colored) Junco | Junco ardoisé | <i>Junco hyemalis</i> | Declining |
| EWCS | (Eastern) White-crowned Sparrow | Bruant à couronne blanche | <i>Zonotrichia leucophrys leucophrys</i> | Declining |
| WTSP | White-throated Sparrow | Bruant à gorge blanche | <i>Zonotrichia albicollis</i> | Increasing |
| VESP | Vesper Sparrow | Bruant vespéral | <i>Poocetes gramineus</i> | Insufficient data |
| SAVS | Savannah Sparrow | Bruant des prés | <i>Passerculus sandwichensis</i> | Declining |
| SOSP | Song Sparrow | Bruant chanteur | <i>Melospiza melodia</i> | Declining |
| LISP | Lincoln's Sparrow | Bruant de Lincoln | <i>Melospiza lincolnii</i> | Declining |
| SWSP | Swamp Sparrow | Bruant des marais | <i>Melospiza georgiana</i> | Declining |
| EATO | Eastern Towhee | Tohi à flancs roux | <i>Pipilo erythrophthalmus</i> | Insufficient data |
| BOBO | Bobolink | Goglu des prés | <i>Dolichonyx oryzivorus</i> | Declining |
| EAME | Eastern Meadowlark | Sturnelle des prés | <i>Sturnella magna</i> | Insufficient data |
| OROR | Orchard Oriole | Oriole des vergers | <i>Icterus spurius</i> | Insufficient data |
| BAOR | Baltimore Oriole | Oriole de Baltimore | <i>Icterus galbula</i> | Fluctuating |
| RWBL | Red-winged Blackbird | Carouge à épaulettes | <i>Agelaius phoeniceus</i> | Declining |
| BHCO | Brown-headed Cowbird | Vacher à tête brune | <i>Molothrus ater</i> | Declining |
| RUBL | Rusty Blackbird | Quiscale rouilleux | <i>Euphagus carolinus</i> | Increasing |

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|------|------------------------------|--|---|-------------------|
| COGR | Common Grackle | Quiscale bronzé | <i>Quiscalus quiscula</i> | Fluctuating |
| OVEN | Ovenbird | Paruline couronnée | <i>Seiurus aurocapilla</i> | Increasing |
| WEWA | Worm-eating Warbler | Paruline vermivore | <i>Helmitheros vermivorum</i> | Insufficient data |
| NOWA | Northern Waterthrush | Paruline des ruisseaux | <i>Parkesia noveboracensis</i> | Increasing |
| GWWA | Golden-winged Warbler | Paruline à ailes dorées | <i>Vermivora chrysoptera</i> | Insufficient data |
| BWWA | Blue-winged Warbler | Paruline à ailes bleues | <i>Vermivora cyanoptera</i> | Insufficient data |
| BAWW | Black-and-white Warbler | Paruline noir et blanc | <i>Mniotilta varia</i> | Fluctuating |
| TEWA | Tennessee Warbler | Paruline obscure | <i>Leiothlypis peregrina</i> | Increasing |
| OCWA | Orange-crowned Warbler | Paruline verdâtre | <i>Leiothlypis celata</i> | Stable |
| NAWA | Nashville Warbler | Paruline à joues grises | <i>Leiothlypis ruficapilla</i> | Declining |
| CONW | Connecticut Warbler | Paruline à gorge grise | <i>Oporornis agilis</i> | Insufficient data |
| MOWA | Mourning Warbler | Paruline triste | <i>Geothlypis philadelphia</i> | Stable |
| COYE | Common Yellowthroat | Paruline masquée | <i>Geothlypis trichas</i> | Increasing |
| HOWA | Hooded Warbler | Paruline à capuchon | <i>Setophaga citrina</i> | Insufficient data |
| AMRE | American Redstart | Paruline flamboyante | <i>Setophaga ruticilla</i> | Increasing |
| CMWA | Cape May Warbler | Paruline tigrée | <i>Setophaga tigrina</i> | Increasing |
| NOPA | Northern Parula | Paruline à collier | <i>Setophaga americana</i> | Stable |
| MAWA | Magnolia Warbler | Paruline à tête cendrée | <i>Setophaga magnolia</i> | Increasing |
| BBWA | Bay-breasted Warbler | Paruline à poitrine baie | <i>Setophaga castanea</i> | Increasing |
| BLBW | Blackburnian Warbler | Paruline à gorge orangée | <i>Setophaga fusca</i> | Stable |
| YEWA | Yellow Warbler | Paruline jaune | <i>Setophaga petechia</i> | Declining |
| CSWA | Chestnut-sided Warbler | Paruline à flancs marron | <i>Setophaga pensylvanica</i> | Increasing |
| BLPW | Blackpoll Warbler | Paruline rayée | <i>Setophaga striata</i> | Declining |
| BTBW | Black-throated Blue Warbler | Paruline bleue | <i>Setophaga caerulescens</i> | Stable |
| WPWA | Western Palm Warbler | Paruline à couronne rousse (forme de l'Ouest) | <i>Setophaga palmarum</i> <i>palmarum</i> | Stable |
| YPWA | Yellow Palm Warbler | Paruline à couronne rousse (forme de l'Est) | <i>Setophaga palmarum</i> <i>hypochrysea</i> | Stable |
| PIWA | Pine Warbler | Paruline des pins | <i>Setophaga pinus</i> | Insufficient data |
| MYWA | Yellow-rumped Warbler | Paruline à croupion jaune | <i>Setophaga coronata coronata</i> | Declining |
| BTNW | Black-throated Green Warbler | Paruline à gorge noire | <i>Setophaga virens</i> | Declining |
| CAWA | Canada Warbler | Paruline du Canada | <i>Cardellina canadensis</i> | Increasing |
| WIWA | Wilson's Warbler | Paruline à calotte noire | <i>Cardellina pusilla</i> | Fluctuating |
| SCTA | Scarlet Tanager | Piranga écarlate | <i>Piranga olivacea</i> | Fluctuating |
| NOCA | Northern Cardinal | Cardinal rouge | <i>Cardinalis cardinalis</i> | Increasing |
| RBGR | Rose-breasted Grosbeak | Cardinal à poitrine rose | <i>Pheucticus ludovicianus</i> | Fluctuating |
| INBU | Indigo Bunting | Passerin indigo | <i>Passerina cyanea</i> | Declining |