



McGill Bird Observatory Annual Program Report 2018

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Cover photo:

Both in spring and fall, Swainson's Thrush numbers were at unprecedented highs in 2018, perfect timing for our Motus research focusing on this species. The individual shown is one of 229 banded this year, and one of the 54 equipped with radio transmitters to study their behaviour while molting and track their movements after departing MBO (photo by Ana Morales).

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1. Executive Summary

McGill Bird Observatory (MBO) is the flagship project of the Migration Research Foundation (MRF), focused on monitoring bird populations throughout the year at McGill University's Stoneycroft Wildlife Area, in Ste-Anne-de-Bellevue, Quebec. The 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 / Réseau Canadien de Surveillance des Migrations (CMMN-RCSM). MBO also pursues a variety of other research projects and delivers educational programs, ranging from banding workshops and ongoing training of volunteers to public presentations and development of identification resources.

This report summarizes all MBO activities for the 2018 project cycle, from November 7, 2017 through November 6, 2018. It focuses primarily on the Spring and Fall Migration Monitoring Programs, but also provides summaries of the winter and summer programs, as well as an overview of other MBO efforts throughout the year. Overall, 5353 birds of 94 species were banded (tying the high species count set in 2016), and 168 species were observed, the most in a single year since 2012.

The winter program (November 7, 2017 – March 27, 2018) was constrained by unusually cold temperatures for the third time in the past five years. As such, there were only 8 days with banding effort; the 166 birds banded was the fewest since 2014, and the 10 species banded the fewest since 2009. Only 34 species were observed this winter, fewer than in any previous year. American Goldfinch was the most frequently banded bird again this winter, but Northern Cardinal was the only species banded in above average numbers.

The Spring Migration Monitoring Program (March 28 – June 5) was very productive for the fifth year in a row, with 1138 individuals banded of 67 species, both above average for the season. For just the second time, three species exceeded the threshold of 100 individuals banded in the same year (Tennessee Warbler, Cedar Waxwing, and Yellow-rumped Warbler). The total of 148 species observed this spring tied the record high set in 2006. Worm-eating Warbler became the 215th species observed and 122nd species banded at MBO.

The summer program (June 6 – July 31) was for a tenth year operated as part of the international MAPS (Monitoring Avian Productivity and Survivorship) network. The 174 birds banded was just below the record set in 2012, and involved 35 species, one more than last year's record high. Red-eyed Vireo (25) was the top species banded. Hermit Thrush was banded in summer for the first time, and early molt-migrant Swainson's Thrushes were banded for the third summer in a row. The 55 species observed was the fewest since 2012.

The Fall Migration Monitoring Program (August 1 – November 6) was for the fourth year in a row extended to 14 weeks by adding an extra week at the end. The 3542 individuals banded was the highest total since 2014, and the 83 species involved was the third-highest ever. White-throated Sparrow was the top species banded for the fourth time in the past five years. The total of 149 species observed matched the average since 2011. Semipalmated Sandpiper and Red Crossbill became the 216th and 217th species observed at MBO.

The Northern Saw-whet Owl Monitoring Program (September 26 – November 6) operated nightly (aside from weather cancellations) for a ninth consecutive year, with an above-average 222 individuals banded (including two Eastern Screech-Owls and a Long-eared Owl) plus one foreign-banded Northern Saw-whet Owl recaptured. The busiest night was October 4, earlier than usual, but another 43 were banded over three nights from October 12 to 14. Hatch-year birds accounted for 75% of birds banded, the highest proportion since 2014.

MBO also remained active in training and education in 2018. On site, dozens of students and other volunteers received hands-on instruction in bird banding techniques, and public outreach continued through the bilingual education program featuring the fall owl-banding program. This was the second year of our research program using the Motus Wildlife Tracking System. We studied moult migration of 54 Swainson's Thrushes and 27 Tennessee Warblers, learning among other things that they stop over at MBO much longer than previously documented through banding. MBO researchers also continued to augment and manage the photo library content in the *Piranga* module of Environment and Climate Change Canada's *NatureInstruct* program, which is now a fully bilingual resource for banders.

2. Introduction

McGill Bird Observatory (MBO) was founded in 2004 by graduate students in McGill University's Natural Resource Sciences department. It is operated by the Migration Research Foundation (MRF), and is a member of the Canadian Migration Monitoring Network / Réseau Canadien de Surveillance des Migrations (CMMN-RCSM). Located at 45.43°N, 73.94°W, near the western tip of the island of Montreal, MBO is the only active migration monitoring station in southwestern Quebec. The nearest sites with standardized migration research programs are Innis Point Bird Observatory in Ottawa (175 km to the west), Prince Edward Point Bird Observatory in Quinte (300 km to the southwest), and l'Observatoire d'Oiseaux de Tadoussac (450 km to the northeast). Operations at MBO are patterned after those at other Canadian bird observatories, with an emphasis on standardized migration monitoring protocols. In addition to collecting and analyzing valuable scientific data, MBO serves as a training facility for students and other individuals interested in developing practical skills in field ornithology.

This report summarizes all research activities at MBO during the 2018 project cycle, which began with the winter 2017-2018 season and concluded with the 2018 fall season. The Spring and Fall Migration Monitoring Programs are the most standardized and intensive surveys conducted at MBO, and are summarized in greatest detail in this report. The Migration Monitoring Programs follow a consistent protocol, most recently updated in 2014, but with only minimal changes since 2005 (Gahbauer et al. 2014). The Northern Saw-whet Owl fall monitoring project is summarized separately. Annual summaries of the winter and summer programs were published only on the MBO website from 2005 through 2010, but in recognition of the growing value of these programs, they have been incorporated in the annual reports since 2011.

Three highlights of 2018 at MBO were an apparent hybrid Mourning Warbler x Common Yellowthroat (below left; photo by Simon Duval), the site's first ever Worm-eating Warbler (below right; photo by Gay Gruner), and the second Carolina Wren ever banded at the station (right; photo by Simon Duval).



3. Winter population monitoring program

The winter season at MBO spans the 20-week period from November 7 through March 27. Although relatively few species overwinter regularly at MBO, several of them are uncommon to absent in other seasons, and therefore winter provides the best opportunity to monitor them. Additionally, observations in early and late winter provide an opportunity to document lingering late fall migrants or early spring arrivals. Except at the beginning and end of the season, winter visits rarely occur more than twice per week, and scheduling of activities is much more weather-dependent than at other times of year. This winter, banding effort again focused on a trio of nets adjacent to a set of feeders (usually stocked with black oil sunflower, millet, and nyjer seed). An audiolure was played, comprising primarily a mix of Bohemian Waxwing, House Finch, Pine Grosbeak, Common Redpoll, White-winged Crossbill, Pine Siskin and American Goldfinch calls, interspersed with a few second of Black-capped Chickadee and White-breasted Nuthatch mobbing calls. Banding was usually limited to three hours per day, although sometimes extended when weather was suitable. Timing was variable, but often from late morning to early afternoon, when temperatures were warmest.

3.1. Effort

Observations were recorded on 41 (29%) of the 141 days during the winter season, slightly above the long-term average of 39 days. There were between 6 and 9 visits per month, a more balanced level of coverage than in many winters. However, there were only 8 days with banding effort, the third-fewest across all winters; for only the fourth time there was no banding at all in March.

3.2. Site conditions

Table 3.1 summarizes the official weather records for winter 2017-2018 at the Montreal International Airport. In winter, the microclimate at MBO is often slightly colder, and as a result, snow accumulation deeper. Overall, it was the third-coldest winter in MBO's history, warmer than only 2014 and 2015. Of particular note, both November and December were colder than in any previous years, more than 3°C below average. January remained a bit colder than average, but then February temperatures were just barely below last winter's record highs. March returned to below average. The 244 cm of snow that fall this winter was the second-most ever, behind only the incredible total of 362 cm in 2008. The January total of 86 cm was a record high by 14 cm, and nearly double the long-term average of 44 cm. Snowfall was also slightly above average in February and March, offsetting the slightly below average totals in November and December.

Table 3.1: Weather conditions during the 2017-2018 winter population monitoring program, by month.

	Nov 7-30	Dec 1-31	Jan 1-31	Feb 1-28	Mar 1-27	Season
Mean daily high (°C)	3.6	-5.6	-5.3	0.1	1.5	-1.5
Mean daily low (°C)	-4.8	-12.1	-14.6	-10.0	-5.0	-9.6
Mean daily temp (°C)	-0.6	-8.9	-10.0	-5.0	-1.7	-5.6
Highest temp (°C)	9	10	10	8	8	10
Lowest temp (°C)	-11	-27	-26	-20	-16	-27
# days with rainfall	8	3	7	9	3	30
Total rain (mm)	31	13	44	29	3	119
# days with snowfall	5	15	16	12	13	61
Total snow (cm)	6	61	86	53	37	244
Mean snow depth (cm)	0	7	13	15	5	10
Max. snow depth (cm)	2	19	22	30	17	30

3.3. Results

The 166 birds banded this winter (Table 3.2) was the fewest since 162 in 2014, and less than half of the winter average of 366. This was largely a function of the unusually cold weather in November, which limited banding effort that month to the lowest level since 2007. Overall, the banding effort this winter was well below the long-term average of 185.9 net hours, reflecting the challenging conditions for much of the season. However, the rate of 233 birds banded per 100 net hours was somewhat above the long-term average of 197. Only 10

species were banded, well below the winter average of 16, and second-lowest ever after 6 in 2009. Meanwhile, the 34 species observed was a record low, far short of the long-term winter average of 47. Monthly totals were all below average, reflecting the unusually harsh conditions throughout the season.

Table 3.2: Summary results of the 2017-2018 winter population monitoring program, by month.

	Nov 7-30	Dec 1-31	Jan 1-31	Feb 1-28	Mar 1-27	Season
# individuals (species) banded	112 (8)	24 (8)	17 (6)	13 (4)	n/a	166 (10)
# individuals (species) return	12 (5)	2 (1)	3 (3)	9 (3)	n/a	26 (7)
# individuals (species) repeat	48 (7)	26 (5)	5 (4)	8 (3)	n/a	87 (7)
# species observed	28	19	17	14	23	34
# net hours	35.3	17.3	6.8	12.0	n/a	71.3
# birds banded / 100 net hours	317.7	139.1	251.9	108.3	n/a	233.0
# days operating	8	6	9	9	9	41
# days banding	4	2	1	1	n/a	8

3.3.1. Birds banded

Once again, no 'new' species were banded this winter, leaving the cumulative total for the season at 35 species. For the second year in a row, no new record high banding totals were established for any species. The highest number of birds banded was 44 on November 13, while diversity of birds banded peaked at 8 species on December 3.

For the third year in a row and eighth time overall, American Goldfinch was banded in greater numbers than any other species in winter (Table 3.3), although this year's total was only 56% of the long-term average of 116. Dark-eyed Junco ranked second; together with American Goldfinch they accounted for over two-thirds of all birds banded this winter. The only species this winter that exceeded its long-term average for the season was Northern Cardinal, which has increased considerably since MBO's early years. With only 10 species banded this winter, Common Grackle ended up on the season's top ten list for the first time ever, and Northern Shrike for just the second time.

Table 3.3: Top 10 species banded at MBO during the 2017-2018 winter population monitoring program, with comparison to the numbers banded in previous winters (rank in other years in parentheses). Dashes represent species not banded during a particular winter season.

	2017-18	2016-17	2015-16	2014-15	2013-14	2012-13	2011-12	2010-11	2009-10	2008-09	2006-07	2005-06	2004-05
1. American Goldfinch	65	136(1)	434(1)	65(5)	70(1)	228(2)	87(2)	93(2)	80(1)	2(4)	21(1)	111(1)	113(1)
2. Dark-eyed Junco	49	101(2)	55(3)	97(3)	28(3)	42(4)	90(1)	150(1)	50(3)	--	20(3)	54(2)	20(4)
3. Black-capped Chickadee	19	26(4)	26(5)	19(8)	6(5)	28(5)	12(6)	33(5)	54(2)	3(2)	17(4)	51(3)	26(3)
4. Northern Cardinal	13	12(6)	18(7)	19(8)	9(4)	9(8)	11(7)	5(9)	4(11)	1(6)	2(8)	4(10)	7(6)
5. American Tree Sparrow	9	12(6)	65(2)	33(6)	4(6)	24(6)	56(4)	25(6)	38(4)	2(4)	7(5)	11(5)	9(5)
6. White-throated Sparrow	5	16(5)	3(13)	25(7)	3(7)	8(9)	1(15)	12(7)	6(9)	--	--	2(11)	--
7. Blue Jay	2	1(11)	2(15)	2(16)	1(11)	--	7(8)	1(11)	1(13)	--	1(9)	1(13)	6(8)
7. Mourning Dove	2	3(8)	6(10)	--	1(11)	1(15)	5(10)	2(10)	17(6)	--	6(6)	11(5)	2(10)
9. Common Grackle	1	--	--	--	--	1(15)	2(11)	--	--	--	--	--	--
9. Northern Shrike	1	--	2(15)	1(21)	2(9)	--	--	--	1(13)	--	--	1(13)	1(11)

3.3.2. Birds recaptured

The 87 repeats (birds last captured within the previous 90 days) this winter was around 60% of the long-term average, and the lowest since 2014; unsurprising given the extent to which weather limited banding effort. Just over 60% of individuals occurred as repeats only once, whereas eight Black-capped Chickadees and one Downy

Woodpecker were captured at least three times – two of the chickadees managed to be caught on at least half of this winter’s bandings sessions! Overall, Black-capped Chickadees accounted for 64% of repeats this winter, well above the long-term average for the season of 56%. American Goldfinch (9%) and Downy Woodpecker (7%); the number of Dark-eyed Junco repeats was only one-quarter of the long-term average.

The 26 returns (birds not captured in at least 90 days) this winter (Table 3.4) were slightly below average; the count was likely influenced by the lack of banding effort in March, which on average accounts for more returns than any other month in winter. As in all previous winters, Black-capped Chickadees had more returns than any other species, this year comprising 54% of the total, compared to 48% across all years. All but two of the 14 chickadee returns had last been recorded within the previous year. For the second winter in a row, no species set new records for number of returns this winter.

The oldest return this winter were a Downy Woodpecker and a Dark-eyed Junco banded as second-year individuals in February 2012, making them over 6 years old at time of recapture in November 2017. Only one individual, a male American Goldfinch, was recaptured for the first time in over two years. Winter site fidelity was highlighted by one Dark-eyed Junco and two American Tree Sparrows that returned after having been banded at MBO in previous winters.

Table 3.4: List of returns captured during the 2017-2018 winter population monitoring program, sorted by time elapsed.

Band number	Species	Age/sex at return	Age/sex at banding	Banding date	Previous capture	2017-18 return	Time elapsed		
2740-76513	AMGO	ASY-M	HY-M	10 Nov 2015	10 Nov 2015	28 Jan	2 years	2 months	18 days
2740-76902	ATSP	AHY-U	HY-U	8 Dec 2015	8 Dec 2015	15 Nov	1 year	11 months	7 days
2541-73902	DOWO	ASY-F	SY-F	23 Feb 2012	26 Dec 2015	13 Nov	1 year	10 months	18 days
2730-49995	BCCH	AHY-U	AHY-U	25 Nov 2015	10 Mar 2016	3 Dec	1 year	8 months	23 days
2650-41087	SCJU	AHY-M	SY-U	23 Feb 2012	1 Nov 2016	13 Nov	1 year		12 days
2650-45728	BCCH	AHY-U	HY-U	3 Dec 2013	28 Nov 2016	3 Dec	1 year		5 days
2711-23357	WBNU	AHY-M	ASY-M	18 Apr 2016	10 Nov 2016	13 Nov	1 year		3 days
2650-45745	BCCH	AHY-U	HY-U	1 Aug 2014	14 Nov 2016	7 Nov		11 months	24 days
2650-45644	BCCH	AHY-U	HY-U	12 Jul 2015	24 Nov 2016	13 Nov		11 months	20 days
2691-45623	DOWO	ASY-M	HY-M	4 Jul 2015	28 Nov 2016	15 Nov		11 months	18 days
2650-42289	ATSP	AHY-U	HY-U	26 Nov 2015	6 Dec 2016	13 Nov		11 months	7 days
2650-45762	BCCH	AHY-U	HY-U	29 Aug 2014	29 Apr 2017	24 Nov		6 months	26 days
2650-45648	BCCH	AHY-U	HY-U	20 Jul 2015	22 Apr 2017	7 Nov		6 months	16 days
2720-00724	BCCH	AHY-U	HY-U	14 Aug 2016	17 May 2017	13 Nov		5 months	27 days
2730-49978	BCCH	AHY-U	HY-U	3 Oct 2015	13 May 2017	7 Nov		5 months	25 days
2641-17748	NOCA	AHY-F	HY-U	23 Jul 2017	20 Sep 2017	27 Feb		5 months	7 days
2810-34627	BCCH	SY-U	HY-U	4 Oct 2017	4 Oct 2017	27 Feb		4 months	23 days
2651-66977	NOCA	AHY-M	U-M	16 Oct 2017	16 Oct 2017	27 Feb		4 months	11 days
2810-34637	BCCH	SY-U	HY-U	23 Oct 2017	23 Oct 2017	27 Feb		4 months	4 days
2651-66983	NOCA	AHY-M	HY-M	25 Oct 2017	25 Oct 2017	27 Feb		4 months	2 days
2810-34625	BCCH	SY-U	HY-U	27 Sep 2017	27 Sep 2017	28 Jan		4 months	1 day
2730-49944	BCCH	ASY-U	HY-U	3 Aug 2015	1 Nov 2017	27 Feb		3 months	26 days
2740-77772	SCJU	SY-F	HY-F	13 Nov 2017	13 Nov 2017	27 Feb		3 months	14 days
2740-77713	SCJU	SY-M	HY-M	17 Oct 2017	17 Oct 2017	28 Jan		3 months	11 days
2810-34616	BCCH	SY-U	HY-U	21 Aug 2017	24 Nov 2017	27 Feb		3 months	3 days
2810-33800	BCCH	SY-U	HY-U	2 Aug 2017	24 Nov 2017	27 Feb		3 months	3 days

This winter we received no reports of birds banded at MBO being detected elsewhere.

3.3.3. Daily estimated totals (DET)

The number of species observed daily was highest (19) on November 27, and bottomed out at three species on January 25. For the third winter in a row, no species were observed during the season for the first time, leaving the cumulative list for the season at 97 species. For the first time ever, there were no record high mean daily counts for any species. On the contrary, the mean daily count was below the long-term average for all but six species (Red-bellied Woodpecker, Northern Flicker, Merlin, Blue Jay, Common Raven, and Northern Cardinal), and the first three of those are irregularly occurring in winter (i.e., the average is driven down by zeroes in most years). Four species were missed entirely this winter despite being observed in at least 10 previous years: Sharp-shinned Hawk, Brown Creeper, Bohemian Waxwing, and House Finch.



MBO was still completely snow-covered on the last day of winter this year (left), reflecting the unusually cold weather in March, and a sign of things to come in the early part of spring. As usual, several White-throated Sparrows overwintered at MBO despite the cold and snow; this was one of the five that were banded (right).

(Photos by Simon Duval)

4. 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 through June 5. Since 2007, the protocol has been to focus banding on a 45-day window from April 18 through June 1, recognizing that during the first three weeks of the season it is often too cold to permit a consistent effort, and that by the last four days of the season, migrants are becoming scarce relative to local breeders; these periods are instead covered through census and supplementary observations.

4.1. Effort

Census was conducted on all days this spring. Banding took place on 42 (93%) of the 45 scheduled days; banding was cancelled on the other three days (April 18, 26, 30) due to rain. On an additional 10 days, rain and/or strong winds resulted in reduced net hours (less than 75 out of a normal 80), leaving 32 days (71%) of full banding effort according to the protocol, slightly above the spring average. Overall, the 2886 net hours this spring was the lowest total since 2012, though nearly matching the average of 2905 from 2006 through 2017.

All captures this spring were through the standard set of 16 mist nets used for migration monitoring, arranged as in previous years (net locations A1, A2, B2, N1, N3, B3, C1, C2, D1, D2, D3, D4, E1, E2, H1, and H2; see Gahbauer et al. 2016 for a map). All nets were used throughout the season except H1, which could not be installed until May 19, when an elevated support dyke for the lower end of the net lane was completed. All nets were new, 12 m long with 30 mm mesh, from Avinet.

4.2. Site conditions

Weather can have a significant influence on migration, especially in spring; conditions throughout the season are summarized in Table 4.1. For the second year in a row, spring was unusually cool; the mean daily high was barely above last year's record low of 14.9°C, and the mean daily low of 4.8°C was just above the low of 4.6°C in 2008. The mean daily high was below average throughout the first half of this spring, by as much as 5.5°C in week 2; the mean daily low that week was the coldest ever in spring. Conversely, temperatures were above average throughout the second half of the season, with the mean daily high roughly 2°C warmer than usual each week. There were two sharp warm fronts this spring, one in week 6, and another in week 9. Small amounts of snow fell in each of the first four weeks of spring, more than usual, but did not interfere with banding. There was some rainfall on exactly half of the days this spring, but the total of 192 mm was slightly below average of 215 mm for the season. The only unusually wet week was week 5, with more than double the average of 24 mm of rain; conversely weeks 4 and 7 had less rain than in any previous year.

Table 4.1: Weather conditions during the 2018 SMMP, by week.

	1	2	3	4	5	6	7	8	9	10	Season
Mean daily high (°C)	7.6	2.8	5.6	12.5	13.0	19.5	20.7	20.9	23.2	24.3	15.0
Mean daily low (°C)	-0.6	-5.9	-1.3	0.5	6.6	8.1	6.7	7.1	13.2	13.3	4.8
Mean daily temp (°C)	3.5	-1.6	2.2	6.5	9.8	13.9	13.7	14.0	18.2	18.8	9.9
Highest temp (°C)	10	7	10	22	17	26	27	25	26	30	30
Lowest temp (°C)	-3	-10	-6	-1	5	6	3	4	11	8	-10
# days with rainfall	6	1	5	2	5	3	2	3	4	4	35
Total rain (mm)	17	20	26	1	51	19	2	18	11	29	192
# days with snowfall	1	2	2	1	0	0	0	0	0	0	6
Total snow (cm)	2	5	1	1	0	0	0	0	0	0	9

4.3. Results and discussion

4.3.1. Birds banded

Table 4.2 summarizes the spring 2018 banding results by week. The 1138 birds banded this spring was very similar to the range over the previous three years (1093-1122), second only to the record high of 1356 in 2014, and well above the long-term average of 920. The 67 species banded was also above average. The busiest day of the season (72 birds) was May 22 (Figure 4.1), later than average, but on this date for the fourth time since

2011. The 160 birds banded in week 6 was a record high for that period, likely driven by the arrival of a warm front following extended below-normal temperatures, and offsetting the lowest combined week 4/5 total since 2007. The count of birds banded exceeded 40 on 13 days, ranging from May 6 to 27. The mean count of birds banded per day this spring was 25.3 (or 27.1 during the 42 days with nets open).

Table 4.2: Summary results of the 2018 SMMP, by week.

	S1	S2	S3	S4	S5	S6
# individuals (species) banded	n/a	n/a	n/a	57 (15)	46 (11)	160 (28)
# individuals (species) return	n/a	n/a	n/a	15 (6)	12 (8)	11 (9)
# individuals (species) repeat	n/a	n/a	n/a	21 (4)	14 (6)	22 (6)
# species observed	31	32	37	66	67	99
# net hours	n/a	n/a	n/a	450.0	250.8	495.0
# birds banded / 100 net hours	n/a	n/a	n/a	12.7	18.3	32.3
# days operating	7	7	7	7	7	7
# days banding	n/a	n/a	n/a	6	5	7
# days with full net coverage	n/a	n/a	n/a	6	2	5

	S7	S8	S9	S10	Average	Season
# individuals (species) banded	300 (43)	332 (38)	203 (33)	40 (15)	163 (26)	1138 (67)
# individuals (species) return	31 (13)	27 (12)	25 (12)	3 (3)	18 (9)	124 (27)
# individuals (species) repeat	54 (19)	96 (26)	74 (23)	19 (9)	43 (13)	300 (39)
# species observed	110	103	104	75	72	148
# net hours	496.8	489.0	488.0	216.0	412.2	2885.5
# birds banded / 100 net hours	60.4	67.9	41.6	18.5	36.0	39.4
# days operating	7	7	7	7	7.0	70
# days banding	7	7	7	3	6.0	42
# days with full net coverage	6	6	5	2	4.6	32

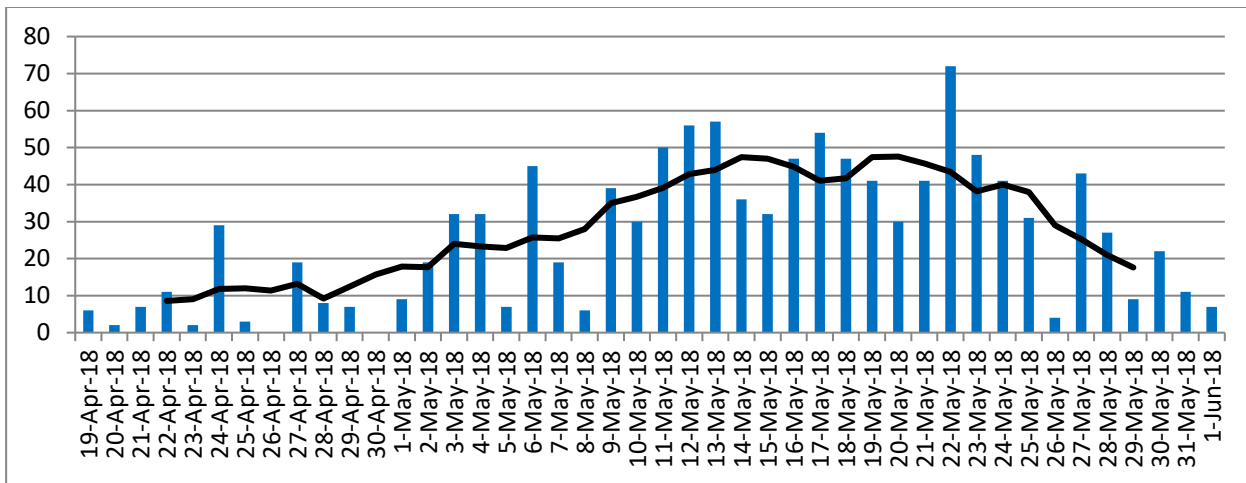


Figure 4.1: Daily and running 7-day mean number of individuals banded per day throughout spring 2018.

Species richness among banded birds peaked just before mid-May this year (Figure 4.2), slightly earlier than usual. The greatest variety banded in a single day was 21 species on May 17, similar to the average spring maximum of 22. The mean number of species banded per day was 10.3, slightly above average.

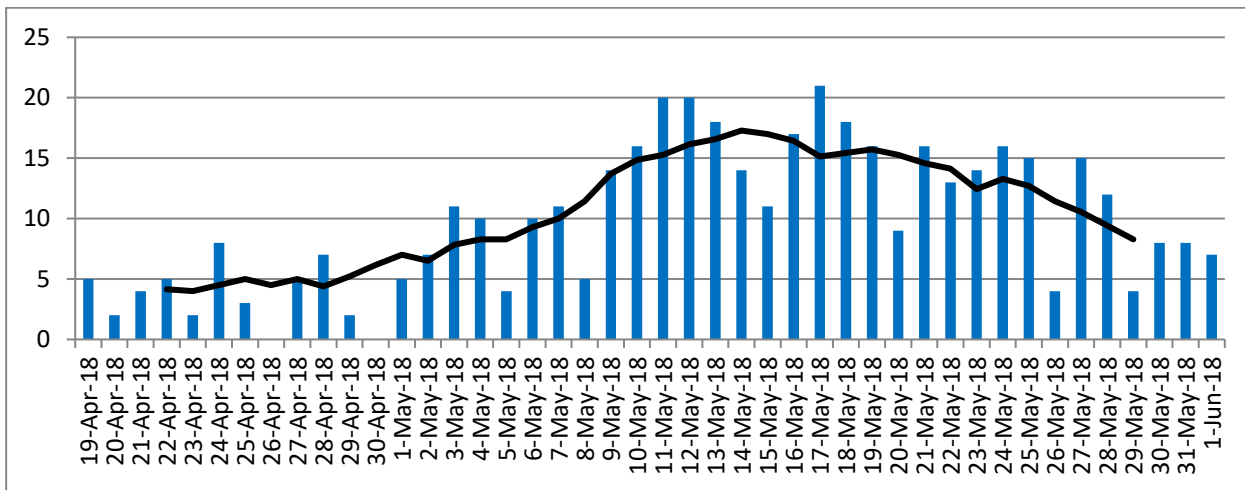


Figure 4.2: Daily and running 7-day mean number of species banded per day throughout spring 2018.

Worm-eating Warbler and Scarlet Tanager were new to the spring banding list, expanding it to 103 species. Record highs were recorded for another nine species: Yellow-rumped Warbler (108, vs. 102 in 2011), Magnolia Warbler (88, vs. 87 in 2015), Nashville Warbler (19, vs. 17 in 2015), Swainson’s Thrush (19, vs. 4 in 2014), Black-and-white Warbler (7, vs. 6 in 2008), Black-throated Blue Warbler (6, vs. 4 in 2015), Wood Thrush (5, vs. 2 in 2014, 2015, 2017), Cape May Warbler (4, vs. 3 in 2012 and 2015), and Western Palm Warbler (4, vs. 2 in 2012).

An unusually high 15 species were banded just once this spring: American Woodcock, Solitary Sandpiper, Yellow-bellied Sapsucker, Yellow-shafted Flicker, Yellow-bellied Flycatcher, Northern Shrike, Gray-cheeked Thrush, Pine Siskin, Lincoln’s Sparrow, Brown-headed Cowbird, Worm-eating Warbler, Orange-crowned Warbler, Blackpoll Warbler, Black-throated Green Warbler, and Scarlet Tanager.

At the other extreme, Table 4.3 lists the 10 most frequently banded species, which account for 65.9% of all birds banded during SMMP 2018. Two of these (Ruby-crowned Kinglet and Red-winged Blackbird) have been in the top 10 for spring annually since 2005; American Goldfinch, White-throated Sparrow, Yellow Warbler, and Yellow-rumped Warbler were also in the top 10 for at least the twelfth time. After 14 years of the SMMP, the top three species for cumulative totals are now Red-winged Blackbird (1195), Tennessee Warbler (1037), and Ruby-crowned Kinglet (915).

Table 4.3: Top 10 species banded at MBO during the 2018 SMMP, with comparison to the numbers banded in 2005-2017 (rank in other years in parentheses).

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
1. Tennessee Warbler	141	211(1)	101(2)	111(1)	142(2)	49(3)	94(2)	71(2)	7(22)	82(1)	6(27)	16(11)	2(40)	4(28)
2. Cedar Waxwing	122	38(6)	26(14)	61(5)	232(1)	7(29)	77(3)	50(5)	72(2)	14(17)	29(8)	17(9)	17(13)	59(3)
3. Yellow-rumped Warbler	108	19(13)	45(6)	69(3)	56(7)	23(10)	46(7)	102(1)	30(5)	37(8)	47(4)	32(5)	22(8)	25(7)
4. Magnolia Warbler	88	57(4)	42(7)	87(2)	82(3)	66(2)	39(8)	27(13)	11(19)	41(6)	18(14)	17(9)	22(8)	5(21)
5. Red-winged Blackbird	69	36(8)	55(5)	57(6)	63(5)	83(1)	116(1)	70(3)	85(1)	50(3)	114(1)	155(1)	169(1)	73(2)
6. Ruby-crowned Kinglet	65	147(2)	97(3)	68(4)	71(4)	39(8)	54(5)	43(7)	36(4)	73(2)	92(2)	52(2)	58(3)	20(9)
7. American Goldfinch	43	46(5)	64(4)	40(10)	60(6)	9(24)	51(6)	17(16)	45(3)	47(4)	41(5)	51(3)	32(6)	111(1)
8. Yellow Warbler	40	37(7)	36(9)	34(13)	36(12)	43(4)	37(9)	30(9)	26(7)	43(5)	36(6)	29(6)	21(10)	47(4)
9. Common Grackle	39	12(21)	26(14)	17(18)	29(16)	10(23)	26(11)	11(22)	15(15)	22(14)	11(20)	18(7)	59(2)	20(9)
10. White-throated Sparrow	35	110(3)	138(1)	39(11)	40(10)	40(7)	57(4)	51(4)	22(8)	34(9)	79(3)	13(16)	42(5)	29(6)

Tennessee Warbler was the top species banded in spring for the third time in the past four years, followed by Cedar Waxwing and Yellow-rumped Warbler, which were in the top three for the fifth and third times

respectively. With Magnolia Warbler in fourth place, this was only the third time (also 2013 and 2015) that three warbler species were among the top four for the season. Red-winged Blackbird rounded out the top five, but was one of three species in the top 10 (along with American Goldfinch and White-throated Sparrows) with below average numbers. Common Grackle was in the spring top ten for the first time since 2007.

4.3.2. Birds recaptured

There were 300 repeats this spring, slightly more than the previous record of 298 set in 2012. The 187 individuals involved also exceeded the previous high (181 in 2014). Of these, 126 (67%) were recaptured just once, whereas 28 individuals were recorded as repeats at least three times each this spring, most notably a Black-capped Chickadee on ten occasions. The 39 species with repeats tied last year’s record high, and included the first spring repeats ever for Wood Thrush and Black-throated Blue Warbler.

Several of the species with high numbers of repeats were local breeders, most notably Black-capped Chickadee, House Wren, Song Sparrow, Baltimore Oriole, Common Yellowthroat, and Yellow Warbler. Some entirely or mostly transient species also ranked high on the list, especially Northern Waterthrush, Magnolia Warbler, Yellow-rumped Warbler, and Wilson’s Warbler, the latter two of which had more repeats than in any previous spring. For only the second time, Red-winged Blackbird missed the top ten, with only 9 repeats; last year’s top species, Ruby-crowned Kinglet, had only seven repeats this spring, half the season average.

Table 4.4: Top 10 species recaptured most often during the 2018 SMMP (species with local breeding populations marked with an asterisk).

	Species	# Repeats	# Individuals
1.	Black-capped Chickadee*	37	18
2.	Yellow Warbler*	32	14
3.	Song Sparrow*	31	12
4.	Northern Waterthrush	21	16
5.	Baltimore Oriole*	20	9
6.	Wilson's Warbler	14	10
6.	Yellow-rumped Warbler	14	12
8.	House Wren*	11	5
8.	Magnolia Warbler	11	10
8.	Common Yellowthroat*	11	8

This spring there were 124 returns (Table 4.5), just short of the record high of 127 in 2014. The 27 species involved was also a new record, one more than in 2015. The most remarkable return this spring was a male Common Yellowthroat banded as a hatch-year bird in August 2009, recaptured 12 days later, and then not encountered again until this May, nearly nine years later! Honourable mention goes to a male Common Grackle banded in May 2013 and recaptured this May for the first time in over five years. In total there were 25 returns that were last recorded at MBO one year ago or longer, close to average. Brown Thrasher was recorded as a return in spring for the first time ever. Four other species had a record high number of returns this spring: Common Yellowthroat (13, vs. 12 in 2014), Blue Jay (8, vs. 5 in 2015), Rose-breasted Grosbeak (5, vs. 3 in 2007 and 2017), and Great Crested Flycatcher (3, vs. 2 in 2007 and a previous cumulative total of 3 between 2005 and 2017).

Table 4.5: List of returns captured during the 2018 SMMP, sorted by time elapsed.

Band number	Species	Age/sex in 2018	Age/sex at banding	Banding date	Previous capture	2018 return	Time elapsed		
2600-16708	COYE	ASY-M	HY-M	6 Aug 2009	18 Aug 2009	13 May	8 years	8 months	25 days
1713-34530	COGR	AHY-M	AHY-M	8 May 2013	8 May 2013	23 May	5 years		15 days
2561-09311	NOCA	AHY-M	HY-M	21 Nov 2013	22 May 2014	27 Apr	3 years	11 months	5 days
2521-74228	INBU	ASY-M	HY-U	29 Aug 2014	29 Aug 2014	24 May	3 years	8 months	25 days
1253-62933	PIWO	ATY-F	HY-F	5 Nov 2015	5 Nov 2015	29 May	2 years	6 months	24 days

Band number	Species	Age/sex in 2018	Age/sex at banding	Banding date	Previous capture	2018 return	Time elapsed		
2711-23352	WBNU	ASY-M	SY-M	8 Mar 2016	12 Mar 2016	2 May	2 years	1 month	20 days
1372-11211	BLJA	ASY-U	SY-U	27 Apr 2016	27 Apr 2016	9 May	2 years		12 days
2720-00966	AMGO	ASY-M	SY-M	19 May 2016	19 May 2016	31 May	2 years		12 days
2720-00957	AMGO	ASY-M	ASY-M	11 May 2016	11 May 2016	22 May	2 years		11 days
2720-00975	AMGO	ASY-M	SY-M	21 May 2016	21 May 2016	27 May	2 years		6 days
2720-01104	WAVI	ASY-M	SY-U	22 May 2016	22 May 2016	27 May	2 years		5 days
2641-09095	RWBL	ASY-F	SY-F	25 May 2015	14 May 2016	16 May	2 years		2 days
2641-17964	RWBL	ASY-F	ASY-F	14 May 2016	14 May 2016	9 May	1 year	11 months	25 days
2641-17969	BAOR	ASY-M	SY-M	14 May 2016	24 May 2016	19 May	1 year	11 months	25 days
2741-64547	SOSP	AHY-M	AHY-U	18 Apr 2016	27 May 2016	16 May	1 year	11 months	19 days
1342-36448	RWBL	ASY-M	ASY-M	23 Apr 2013	22 May 2016	27 Apr	1 year	11 months	5 days
2641-17722	GCFL	ASY-U	AHY-U	24 Jul 2016	24 Jul 2016	10 May	1 year	9 months	16 days
2650-45693	WAVI	ASY-U	HY-U	24 Jul 2016	27 Aug 2016	23 May	1 year	8 months	26 days
2741-64492	WBNU	ASY-M	U-M	13 Oct 2015	30 Sep 2016	28 Apr	1 year	6 months	29 days
1372-39120	AMRO	ASY-M	SY-M	20 Apr 2017	30 Apr 2017	27 May	1 year		27 days
2651-66674	NOCA	AHY-F	U-F	26 Oct 2016	8 May 2017	22 May	1 year		14 days
2730-49578	AMGO	ASY-F	SY-F	7 May 2015	13 May 2017	23 May	1 year		10 days
2421-70682	BAOR	ASY-M	ASY-M	18 May 2011	17 May 2017	23 May	1 year		6 days
2810-34316	AMGO	ASY-F	SY-F	25 May 2017	25 May 2017	27 May	1 year		2 days
2641-17963	RBGR	ASY-F	SY-F	13 May 2016	20 May 2017	21 May	1 year		1 day
2650-41324	HOWR	ASY-U	SY-U	15 May 2012	11 May 2017	10 May		11 months	29 days
2771-52229	SOSP	AHY-M	AHY-U	22 Apr 2017	9 May 2017	8 May		11 months	29 days
2561-09495	BAOR	ASY-F	AHY-F	2 Aug 2016	1 Jun 2017	30 May		11 months	29 days
2651-66758	RWBL	ASY-F	AHY-F	8 May 2017	8 May 2017	6 May		11 months	28 days
2650-44586	COYE	ASY-M	HY-U	7 Aug 2015	17 May 2017	15 May		11 months	28 days
2810-34330	AMGO	ASY-F	SY-F	1 Jun 2017	1 Jun 2017	28 May		11 months	27 days
2760-85158	AMRE	ASY-F	SY-F	24 May 2016	29 May 2017	25 May		11 months	26 days
1383-62336	BLJA	ASY-U	AHY-U	23 Sep 2011	9 May 2017	4 May		11 months	25 days
2790-29887	AMRE	ASY-F	SY-F	31 May 2017	31 May 2017	25 May		11 months	24 days
2650-44620	YEWA	ASY-F	AHY-F	13 Aug 2015	31 May 2017	24 May		11 months	23 days
2650-44545	COYE	ASY-M	HY-M	1 Aug 2015	24 May 2017	17 May		11 months	23 days
2561-09236	BAOR	ASY-M	HY-M	26 Aug 2013	25 May 2017	18 May		11 months	23 days
2810-34401	WAVI	ASY-U	SY-U	23 May 2017	23 May 2017	15 May		11 months	22 days
1372-39154	RWBL	ASY-M	SY-M	31 May 2017	31 May 2017	22 May		11 months	21 days
2720-01062	YEWA	ASY-F	SY-F	17 May 2016	23 May 2017	12 May		11 months	19 days
2651-66777	BAOR	ASY-F	SY-F	18 May 2017	28 May 2017	17 May		11 months	19 days
2810-34261	YEWA	ASY-M	SY-M	20 May 2017	26 May 2017	10 May		11 months	14 days
2651-66791	BAOR	ASY-M	ASY-M	20 May 2017	24 May 2017	7 May		11 months	13 days
2810-34419	HOWR	AHY-U	AHY-U	28 May 2017	28 May 2017	11 May		11 months	13 days
2730-49080	YEWA	ASY-F	AHY-F	22 May 2014	1 Jun 2017	14 May		11 months	13 days
1342-36463	RWBL	ASY-M	SY-M	2 May 2013	11 May 2017	23 Apr		11 months	12 days
2641-09076	RBGR	ASY-M	SY-M	18 May 2015	30 May 2017	12 May		11 months	12 days
1352-95287	RWBL	ASY-M	ASY-M	17 Mar 2016	20 May 2017	29 Apr		11 months	9 days
2650-45685	HOWR	AHY-M	AHY-M	17 Jul 2016	28 May 2017	5 May		11 months	7 days
1372-11265	RWBL	ASY-M	ASY-M	20 May 2016	7 Jun 2017	10 May		11 months	3 days
2641-17737	BAOR	ASY-M	SY-M	15 Jun 2017	15 Jun 2017	17 May		11 months	2 days
2631-76429	TRES	AHY-M	L-U	20 Jun 2017	20 Jun 2017	22 May		11 months	2 days
2741-62949	SOSP	AHY-U	AHY-U	19 Sep 2016	25 May 2017	22 Apr		10 months	28 days
2771-52231	SOSP	AHY-U	AHY-U	22 Apr 2017	28 May 2017	24 Apr		10 months	27 days
1383-62342	BLJA	ASY-U	HY-U	29 Sep 2011	25 May 2017	21 Apr		10 months	27 days
2810-34231	COYE	ASY-F	SY-F	19 May 2017	24 Jun 2017	17 May		10 months	23 days
2641-17743	GCFL	ASY-U	ASY-F	4 Jul 2017	4 Jul 2017	14 May		10 months	10 days

Band number	Species	Age/sex in 2018	Age/sex at banding	Banding date	Previous capture	2018 return	Time elapsed	
2011-90240	SWSP	ASY-U	SY-M	8 May 2013	24 Jun 2017	1 May	10 months	7 days
2691-45653	SOSP	AHY-U	AHY-M	6 Jun 2016	23 Jul 2017	28 May	10 months	5 days
2641-17751	GCFL	ASY-U	AHY-F	30 Jul 2017	30 Jul 2017	1 Jun	10 months	2 days
2521-74018	SWSP	ASY-M	HY-U	20 Jul 2015	24 Jun 2017	25 Apr	10 months	1 day
2771-52235	SOSP	AHY-M	AHY-M	12 May 2017	23 Jul 2017	22 May	9 months	29 days
2810-34455	COYE	SY-F	HY-U	3 Aug 2017	3 Aug 2017	29 May	9 months	26 days
2641-17716	RBGR	ASY-F	SY-F	3 Jul 2016	23 Jul 2017	17 May	9 months	24 days
2771-73203	VEER	SY-M	HY-U	30 Jul 2017	30 Jul 2017	22 May	9 months	22 days
2631-76377	SWSP	ASY-U	SY-U	17 May 2017	16 Jul 2017	8 May	9 months	22 days
2651-66776	RBGR	ASY-M	SY-M	18 May 2017	30 Jul 2017	21 May	9 months	21 days
2790-29511	AMRE	SY-F	HY-F	4 Aug 2017	4 Aug 2017	25 May	9 months	21 days
2771-52241	SOSP	AHY-F	HY-U	1 Aug 2017	1 Aug 2017	22 May	9 months	21 days
2810-34325	AMGO	ASY-M	SY-M	29 May 2017	1 Aug 2017	21 May	9 months	20 days
2810-34187	COYE	ASY-M	ASY-M	16 May 2017	30 Jul 2017	19 May	9 months	19 days
2651-66807	RBGR	ASY-M	ASY-M	29 May 2017	23 Jul 2017	10 May	9 months	17 days
2810-34474	COYE	SY-F	HY-U	7 Aug 2017	10 Aug 2017	27 May	9 months	17 days
2810-34459	COYE	ASY-M	AHY-M	3 Aug 2017	3 Aug 2017	19 May	9 months	16 days
2810-34447	YEWA	ASY-F	AHY-F	1 Aug 2017	1 Aug 2017	13 May	9 months	12 days
2810-34441	HOWR	AHY-M	AHY-U	1 Aug 2017	4 Aug 2017	12 May	9 months	8 days
2760-85226	AMRE	ASY-M	AHY-M	1 Aug 2016	20 Aug 2017	27 May	9 months	7 days
2740-77114	HOWR	ASY-U	HY-U	11 Aug 2016	6 Aug 2017	12 May	9 months	6 days
2810-34227	YEWA	ASY-M	SY-M	18 May 2017	6 Aug 2017	12 May	9 months	6 days
2810-34471	COYE	SY-M	HY-U	6 Aug 2017	6 Aug 2017	10 May	9 months	4 days
2561-32371	NOCA	AHY-F	HY-F	14 Oct 2014	2 Aug 2017	4 May	9 months	2 days
2790-84128	AMRE	ASY-M	AHY-M	19 Aug 2017	22 Aug 2017	24 May	9 months	2 days
2810-34490	YEWA	ASY-F	AHY-F	10 Aug 2017	10 Aug 2017	10 May	9 months	
2790-29539	AMRE	ASY-M	AHY-M	7 Aug 2017	29 Aug 2017	28 May	8 months	29 days
2810-34197	YEWA	ASY-M	SY-M	17 May 2017	11 Aug 2017	9 May	8 months	28 days
2790-84132	AMRE	SY-F	HY-U	20 Aug 2017	20 Aug 2017	18 May	8 months	28 days
2740-77419	COYE	SY-F	HY-U	30 Aug 2017	30 Aug 2017	27 May	8 months	27 days
2810-34281	YEWA	ASY-M	ASY-M	21 May 2017	14 Aug 2017	10 May	8 months	26 days
2771-52256	SOSP	AHY-U	HY-U	4 Aug 2017	4 Aug 2017	24 Apr	8 months	20 days
2771-52249	SOSP	AHY-U	HY-U	3 Aug 2017	3 Aug 2017	23 Apr	8 months	20 days
2651-66904	BAOR	ASY-M	AHY-M	26 Aug 2017	26 Aug 2017	14 May	8 months	18 days
1891-91604	BAOR	ASY-M	SY-M	27 Jun 2010	8 Sep 2017	25 May	8 months	17 days
2771-52274	SOSP	AHY-U	AHY-U	13 Aug 2017	13 Aug 2017	27 Apr	8 months	14 days
2740-77492	COYE	SY-M	HY-M	11 Sep 2017	11 Sep 2017	19 May	8 months	8 days
2650-44346	COYE	ASY-F	SY-F	19 May 2015	15 Sep 2017	21 May	8 months	6 days
2651-66803	GRCA	ASY-U	SY-U	24 May 2017	16 Sep 2017	18 May	8 months	2 days
2720-01132	COYE	ASY-F	SY-F	28 May 2016	27 Sep 2017	27 May	8 months	
1372-39122	BRTH	ASY-M	SY-U	28 Apr 2017	2 Sep 2017	28 Apr	7 months	26 days
2651-66792	GRCA	ASY-U	SY-U	20 May 2017	16 Sep 2017	10 May	7 months	24 days
2771-74203	SOSP	AHY-U	HY-U	2 Sep 2017	2 Sep 2017	23 Apr	7 months	21 days
1372-39183	BLJA	ASY-U	AHY-U	1 Sep 2017	1 Sep 2017	22 Apr	7 months	21 days
2501-44965	HAWO	SY-M	HY-M	13 Aug 2017	6 Oct 2017	15 May	7 months	9 days
1372-39191	BLJA	SY-U	HY-U	22 Sep 2017	14 Oct 2017	19 May	7 months	5 days
2741-64550	SOSP	AHY-M	AHY-U	23 Apr 2016	7 Oct 2017	6 May	6 months	29 days
1372-14927	AMRO	SY-M	HY-U	25 Oct 2017	25 Oct 2017	14 May	6 months	19 days
2501-44966	HAWO	SY-F	HY-F	26 Oct 2017	26 Oct 2017	11 May	6 months	15 days
2691-45662	DOWO	TY-M	HY-M	17 Jul 2016	13 Nov 2017	24 May	6 months	11 days
2730-49978	BCCH	ASY-F	HY-U	3 Oct 2015	7 Nov 2017	15 May	6 months	8 days
2810-34384	AMGO	SY-F	HY-F	13 Nov 2017	13 Nov 2017	19 May	6 months	6 days

Band number	Species	Age/sex in 2018	Age/sex at banding	Banding date	Previous capture	2018 return	Time elapsed	
2810-34640	BCCH	SY-U	HY-U	27 Oct 2017	27 Oct 2017	24 Apr	5 months	28 days
2720-00727	BCCH	ASY-M	HY-U	26 Aug 2016	15 Nov 2017	10 May	5 months	25 days
2810-34393	AMGO	SY-F	HY-U	13 Nov 2017	15 Nov 2017	6 May	5 months	21 days
2810-33783	BCCH	ASY-U	HY-U	14 Nov 2016	7 Nov 2017	20 Apr	5 months	13 days
2720-00722	BCCH	ASY-U	HY-U	14 Aug 2016	13 Nov 2017	25 Apr	5 months	12 days
1372-14901	BLJA	SY-U	HY-U	3 Oct 2017	13 Nov 2017	19 Apr	5 months	6 days
2740-77830	AMGO	SY-M	HY-M	1 Dec 2017	1 Dec 2017	6 May	5 months	5 days
1372-39197	BLJA	SY-U	HY-U	1 Oct 2017	15 Nov 2017	20 Apr	5 months	5 days
1372-14956	BLJA	SY-U	HY-U	3 Dec 2017	3 Dec 2017	27 Apr	4 months	24 days
2810-34607	BCCH	SY-U	HY-U	7 Aug 2017	1 Dec 2017	25 Apr	4 months	24 days
2810-34601	BCCH	SY-U	HY-U	2 Aug 2017	3 Dec 2017	25 Apr	4 months	22 days
2720-00724	BCCH	ASY-U	HY-U	14 Aug 2016	3 Dec 2017	24 Apr	4 months	21 days
2740-77911	SCJU	SY-F	HY-F	3 Dec 2017	3 Dec 2017	21 Apr	4 months	18 days
2810-34394	AMGO	SY-M	HY-M	13 Nov 2017	1 Dec 2017	19 Apr	4 months	18 days
2810-34648	BCCH	SY-M	SY-U	28 Jan 2018	28 Jan 2018	10 May	3 months	12 days

This spring we did not capture any birds banded elsewhere, nor were any birds banded at MBO reported from other locations.

4.3.3. Census

One or more experienced observers walked the standardized census route on all 70 days this spring. Over the course of the season, 125 species were observed on census, tying the record set in 2013. The number of species observed on census was below average for each of the first five weeks of spring, and above average for each of the last five weeks, aligning perfectly with the temperatures pattern this spring. The count included five species that were not otherwise detected: Blue-winged Teal, Northern Pintail, Philadelphia Vireo, Marsh Wren, and Carolina Wren.

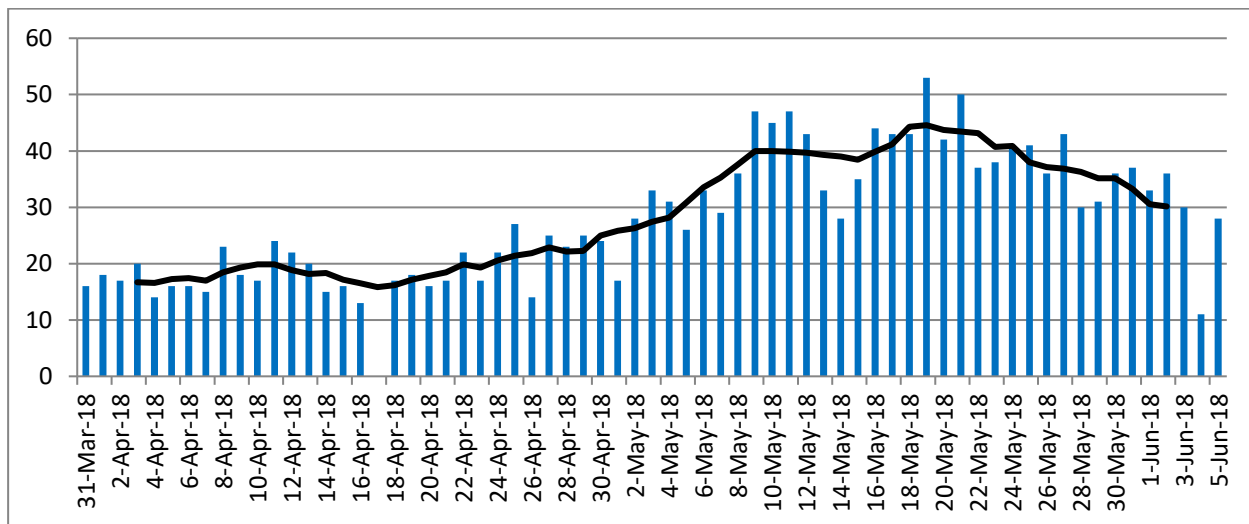


Figure 4.3: Daily species count and running 7-day mean number of species on census throughout spring 2018.

As shown in Figure 4.3, there was some daily variation in the number of species observed on census, but there was a steady increase from around mid-April to the second week of May, a plateau for the next week, a peak for a few days just past mid-month, and then a gradual decline to the end of the season. Of the days with census conducted, the lowest species count was 11 species on June 4, while the highest was 53 species on May 19. The seven-day running mean peaked at 45 species on May 19.

4.3.4. Daily estimated totals (DET)

The DET reflects not only banding and census data, but also all supplemental observations made by participants throughout each morning. It is particularly important for waterfowl and raptors, which are not targeted by the banding program, and are only marginally sampled by the census, since many are more active later in the morning. During SMMP 2018, 148 species were recorded, tying the record high from 2006. There were 18 species seen on just one date (Blue-winged Teal, American Wigeon, Northern Pintail, Ruffed Grouse, Sora, Sandhill Crane, Least Sandpiper, Peregrine Falcon, Yellow-bellied Flycatcher, Philadelphia Vireo, Marsh Wren, Gray-cheeked Thrush, Bohemian Waxwing, House Sparrow, Fox Sparrow, Worm-eating Warbler, Golden-winged Warbler, and Orange-crowned Warbler), highlighting the importance of daily coverage by experienced observers throughout the season. Worm-eating Warbler was observed on May 13, becoming the 215th species on the MBO checklist, and 196th species detected in spring.

The highest single day DET of 84 species on May 13 was one more than the previous record of 83 reached on two dates in May 2016, and was earlier than usual. The total species count for that week (week 7) was 110, matching the single-week record high reached in week 8 of both 2016 and 2017. The count of 99 species in week 6 was also exceptionally high, well above the previous average of 78 and high of 91 in 2015. The weekly species count remained above 100 from week 7 through week 9, marking the first year ever with more than two 100+ species weeks. The lowest count of 11 species was in heavy rain on June 4. The seven-day running average (Figure 4.4) shows a pattern largely similar to that generated by census (Figure 4.3), except peaking a bit more strongly just before mid-May and tapering off more thereafter. The average remained above 60 species for a record 17 consecutive days from May 7 to May 25, including a full week above 70 species from May 10 to 16.

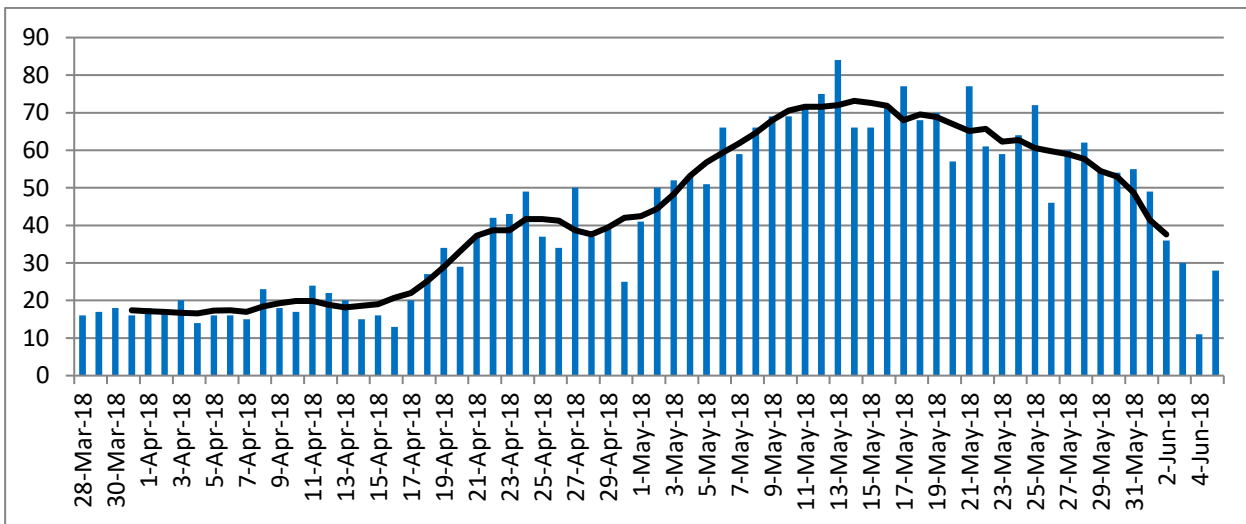


Figure 4.4: Daily species count and running 7-day mean number of species observed throughout spring 2018.

This year 18 species were observed during all 10 weeks of the spring season, all but two of which (marked with an asterisk) were also present weekly throughout spring 2016 and 2017: Canada Goose, Wood Duck*, Mallard, Ring-billed Gull, Downy Woodpecker, Pileated Woodpecker, Blue Jay, American Crow, Common Raven, Black-capped Chickadee, White-breasted Nuthatch, American Robin, Purple Finch*, American Goldfinch, Song Sparrow, Red-winged Blackbird, Common Grackle, and Northern Cardinal. Only Hairy Woodpecker was observed weekly in 2016 and 2017 but not in 2018.

4.3.5. Coverage of priority species

MBO has produced a list of 62 target species for priority monitoring (Gahbauer et al. 2014). The list is based on priority rankings proposed by Bird Studies Canada, with an emphasis on species poorly studied by the Breeding

Bird Survey due to their northern breeding distribution, and on neotropical migrants, recognized as being at elevated conservation risk due to threats to their wintering grounds. The MBO list has been modified to eliminate western species not expected to occur at the site.

All but one of the species on the MBO priority list were observed during the 2018 SMMP, and 73% were banded (Table 4.6). Nearly 86% of individuals banded were priority species, which is above average. Of the top 10 species banded at MBO during the 2018 SMMP, all except American Goldfinch are designated as priority species, and half (including three of the top four) are priority A or B (i.e., of particular importance for migration monitoring), indicating the program is effective at documenting these otherwise poorly monitored birds.

Table 4.6: Summary of priority species observed and banded during the 2018 SMMP. Detailed category definitions are provided in Gahbauer et al. (2014).

	Priority A	Priority B	Priority C	Priority D
Number of species in category	15	10	18	19
Number of species observed	15	10	18	18
Number of species banded	12	7	14	12
Number of individuals banded	314	235	142	286

4.3.6. Net productivity

The nets used for MBO’s migration monitoring programs are clustered into three main groups. The C and D nets (six in total) are along the east and north edges of Stoneycroft Pond, the A and E nets (four in total) sample the shrubby areas east of Stoneycroft Pond, while H and B/N nets (six in total) are along the back ponds. Under normal conditions, all nets were operated for five hours daily, although on windy days, some nets were selectively closed earlier than usual, as warranted by conditions. The only more substantial exception was H1, which was opened on May 19, after building up the dyke upon which it is located, to prevent flooding in future years. Table 4.7 summarizes the usage and productivity of all nets during the 2018 Spring Migration Monitoring Program.

Table 4.7: Net usage and capture rates during the 2018 SMMP.

Net	Hours open	New Captures	Returns + Repeats	Total Captures ¹	Birds / 100 net hours	
					New	Total
A1	189.5	53	26	79	28.0	41.7
A2	189.5	87	30	118	45.9	62.3
A - TOTAL	379.0	140	56	197	36.9	52.0
B2	185.0	60	10	70	32.4	37.8
N1	185.0	70	30	101	37.8	54.6
N3	185.0	75	25	100	40.5	54.1
B3	185.0	62	26	88	33.5	47.6
B/N - TOTAL	740.0	267	91	359	36.1	48.5
C1	189.5	101	40	141	53.3	74.4
C2	189.5	106	59	165	55.9	87.1
C – TOTAL	379.0	207	99	306	54.6	80.7
D1	189.5	72	25	97	38.0	51.2
D2	189.5	37	14	51	19.5	26.9
D3	189.5	51	16	67	26.9	35.4
D4	189.5	55	15	70	29.0	36.9
D - TOTAL	758.0	215	70	285	28.4	37.6
E1	189.5	57	21	78	30.1	41.2
E2	189.5	88	30	118	46.4	62.3
E – TOTAL	379.0	145	51	196	38.3	51.7

Net	Hours open	New Captures	Returns + Repeats	Total Captures ¹	Birds / 100 net hours	
					New	Total
H1	61.0	32	15	47	52.5	77.0
H2	189.5	132	42	174	69.7	91.8
H - TOTAL	250.5	164	57	221	65.5	88.2
GRAND TOTAL	2885.5	1138	424	1564	39.4	54.2

¹ – Total captures include new captures, returns, repeats, and foreign recaptures.

The overall capture rate for SMMP 2018 was 39.4 new birds per 100 net hours, the second-highest ever for spring, and well above the long-term average of 32.8. An additional 14.7 birds per 100 net hours were recaptured, more than in any previous year.

The relative effectiveness of nets varies from year to year, although typically the A and C nets along with E2 and H2 have been the most productive in spring. This year the four C and H nets were all far more productive than any others; A2, N3, and E2 were the only other nets that were slightly above average for the season. Overall, the D nets were the least productive, with only D1 approaching the overall site average this spring.

4.4. Summary and analysis

For the second year in a row, spring was unusually cold spring, with banding effort limited to fewer hours than usual, yet the number of birds banded was again above average, and very similar to the range of 1093-1122 over the previous three years. Over half of the birds were banded in just two weeks (from May 9 to 22), indicating that the typical peak of spring migration was particularly productive this year. The count of returns was also exceptionally high again, likely representing a good proportion of MBO's breeding bird population.

It was a particularly good spring for warblers, which accounted for three of the four most frequently banded species, and seven of the nine species that were banded in record numbers this year. For the second year in a row, each of the top three species exceeded 100 individuals banded.



It was a near-record spring for Cedar Waxwings (left; photo by Simon Duval), with 122 individuals banded. The juvenile Pine Siskin (right; photo by Gay Gruner) was banded on the remarkably early date of May 9.

5. Summer (MAPS) program

Summer at MBO spans an 8-week period between migration periods, from June 6 through July 31. From 2005 through 2008, observations during this period were on a casual basis, but since 2009 data have been collected in a more standardized manner through the Monitoring Avian Productivity and Survivorship (MAPS) program. Banding takes place at 9 nets, reserved only for MAPS, around the southern half of Stoneycroft Pond.

5.1. Effort

Seven MAPS visits were conducted between 6 June and 31 July; on each occasion there were six hours of banding. Incidental observations of all species were also recorded during each visit. Additionally, Tree Swallow nestlings were banded on four occasions (June 11, 20, 26, and July 7).

5.2. Site conditions

The summer of 2018 was exceptionally hot, with the mean daily high for the season tying the record set in in 2012, and the overall mean daily temperature just above the previous high of 21.8 °C in 2005. Weeks 4 and 5 were particularly extreme, the first time in MBO's 14-year history with weekly mean daily highs above 30°C. It was a relatively dry summer, with 20% less rain than average, nearly 40% of it in the final week of the season.

Table 5.1: Weather conditions during the 2018 MAPS program, by week.

	1 Jun 6-12	2 Jun 13-19	3 Jun 20-26	4 Jun 27- Jul 3	5 Jul 4-10	6 Jul 11-17	7 Jul 18-24	8 Jul 25-31	Season
Mean daily high (°C)	22.1	25.4	23.5	30.7	30.3	29.7	28.5	27.6	27.2
Mean daily low (°C)	11.1	14.8	12.5	20.1	18.6	18.0	18.0	19.2	16.5
Mean daily temp (°C)	16.6	19.1	18.0	25.4	24.4	23.9	23.3	23.4	21.9
Highest temp (°C)	28	29	26	35	34	34	31	29	35
Lowest temp (°C)	9	11	10	15	13	14	13	17	9
# days with rainfall	0	5	3	3	0	2	2	4	19
Total rain (mm)	0	35	10	8	0	32	6	59	151

5.3. Results

5.3.1. Birds banded

This summer 174 birds were banded (Table 5.2), second only to the record of 184 in 2012, and well above the average of 141 over the ten years of the MAPS program. Numbers were again heavily skewed to July this year, with that month accounting for 83% of birds banded. For the fifth consecutive year, the highest count of birds was banded on the second-last session of the season, this year being July 21. The 35 species banded this summer was one more than the previous record, set last year. Additionally, a record high 43 Tree Swallows were banded, all of which were nestlings as usual.

Table 5.2: Summary results of the 2018 MAPS Monitoring Program, by month.

	Jun	Jul	Season
# individuals (species) banded	29 (14)	145 (32)	174 (35)
# individuals (species) return	4 (3)	13 (11)	17 (12)
# individuals (species) repeat	15 (7)	20 (9)	35 (13)
# species observed	40	51	55
# net hours	162.0	216.0	378.0
# birds banded / 100 net hours	17.9	67.1	46.0
# days operating	3	4	7
# days banding	3	4	7

Until 2014, four species had been in the top ten in all five years of the MAPS program (Red-eyed Vireo, American Robin, Yellow Warbler, and Song Sparrow), but since then Yellow Warbler has ranked tenth or higher only in 2016 and 2017. Red-eyed Vireo was the top species this summer for the second time in three years, followed by a remarkably high count of Baltimore Orioles, which had last been in the top ten for summer in 2011. The increase in American Redstarts continued, with a record high for the third time in the past four years, enough to rank third for the second straight year. In the three-way tie for fourth place, Downy Woodpecker, Gray Catbird, and Common Yellowthroat were all in higher than average numbers, most notably so the yellowthroat. Song Sparrow remained in relatively low numbers this summer, compared to early years, tied in 2018 with an unusually high count of Rose-breasted Grosbeaks. American Robin narrowly maintained its unbroken streak of years in the top ten, tying for the final spot with Warbling Vireo, which had only been among the top ten twice before, in 2012 and 2013.

Other less numerous species with record high banding totals this summer were Purple Finch (6, vs. 2 in 2017) and Brown-headed Cowbird (2, vs. 1 in 2012 and 2013), while Hermit Thrush was banded in summer for the first time, increasing the cumulative total for the season to 54 species. On the other hand, three species were missed that had been banded in at least six of nine previous MAPS years: Yellow-shafted Flicker, Traill’s Flycatcher, and Least Flycatcher.

Table 5.3: Top 10 species banded at MBO during the 2018 MAPS program, with comparison to the numbers banded in 2005-2017 (rank in other years in parentheses). Dashes represent species not banded during a particular year.

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2007	2006	2005
1. Red-eyed Vireo	25	11(3)	18(1)	15(3)	8(4)	4(9)	6(7)	12(3)	9(5)	4(10)	--	--	--
2. Baltimore Oriole	17	4(12)	2(16)	1(22)	4(11)	3(12)	1(19)	9(5)	6(7)	7(6)	--	1(5)	--
3. American Redstart	15	11(3)	2(16)	8(6)	2(18)	4(9)	--	1(18)	1(18)	--	--	--	--
4. Gray Catbird	10	7(6)	11(3)	17(2)	18(2)	14(2)	3(11)	7(7)	3(13)	4(10)	--	--	2(5)
4. Downy Woodpecker	10	3(15)	4(12)	14(4)	4(11)	4(9)	2(12)	6(8)	6(7)	6(7)	--	--	--
4. Common Yellowthroat	10	2(20)	6(7)	7(9)	2(18)	1(22)	8(5)	3(9)	--	5(8)	--	--	--
7. Song Sparrow	8	8(5)	10(4)	9(5)	7(6)	29(1)	26(2)	18(1)	20(1)	10(3)	3(1)	10(1)	4(1)
7. Rose-breasted Grosbeak	8	1(23)	3(15)	8(6)	8(4)	1(22)	1(19)	--	5(10)	5(8)	--	3(3)	4(1)
9. Warbling Vireo	7	3(15)	2(16)	5(12)	3(15)	7(7)	8(5)	--	2(14)	--	--	--	--
9. American Robin	7	12(1)	10(4)	20(1)	20(1)	11(3)	18(3)	14(2)	13(3)	13(1)	--	--	--

5.3.2. Birds recaptured

There were 35 repeats of 13 species, both slightly above average during the ten years of the MAPS program; the 17 returns tied the high set in 2013 and the 12 species involved was two more than the old record from 2013 (Table 5.4). For the first time, Northern Cardinal accounted for more returns (3) than any other species; Red-eyed Vireo tied for second with two, and was among the top three species for the eighth time in ten years. Black-capped Chickadee and Common Yellowthroat also had two returns each; along with Red-eyed Vireo they comprise three of the four most numerous returns across all years. Third overall remains Song Sparrow, though for the third time in the past four years there were zero returns this summer.

The longest time elapsed prior to recapture this summer was by a male Downy Woodpecker, banded during the MAPS program in June 2015 and not recorded again until this July. In total there were 10 returns that were last recorded at MBO one year ago or longer. Three species were recorded as returns in summer for the first time ever: Yellow-bellied Sapsucker, House Wren, and Swainson’s Thrush, the latter returning as an apparent molt migrant nearly two years after being banded during fall migration as a hatch-year individual.

Table 5.4: List of returns captured during the 2018 MAPS program, sorted by time elapsed.

Band number	Species	Age/sex in 2018	Age/sex at banding	Banding date	Previous capture	2018 return	Time elapsed		
2691-45621	DOWO	ATY-M	SY-M	27 Jun 2015	27 Jun 2015	7 Jul	3 years		10 days
2521-94709	REVI	AHY-U	AHY-U	21 Aug 2015	21 Aug 2015	30 Jul	2 years	11 months	9 days
2730-49994	BCCH	ASY-U	HY-U	25 Nov 2015	23 Mar 2016	7 Jul	2 years	3 months	14 days
1352-85328	RWBL	ASY-M	ASY-M	26 Apr 2015	6 Jun 2016	25 Jun	2 years		19 days
2650-44461	AMGO	AHY-M	HY-M	3 Sep 2015	15 Aug 2016	30 Jul	1 year	11 months	15 days
2741-63084	SWTH	AHY-M	HY-U	6 Sep 2016	6 Sep 2016	21 Jul	1 year	10 months	15 days
2691-45659	YBSA	ASY-F	HY-F	3 Jul 2016	12 May 2017	7 Jul	1 year	1 month	25 days
2651-66719	NOCA	AHY-F	HY-U	24 Nov 2016	26 May 2017	16 Jun	1 year		21 days
2641-17741	NOCA	AHY-F	AHY-F	4 Jul 2017	4 Jul 2017	15 Jul	1 year		11 days
2810-33779	BCCH	ASY-U	HY-U	10 Nov 2016	23 Jul 2017	30 Jul	1 year		7 days
2521-74079	REVI	ASY-U	AHY-U	23 Jul 2017	23 Jul 2017	7 Jul		11 months	14 days
2771-73202	VEER	SY-U	HY-U	30 Jul 2017	6 Aug 2017	15 Jul		11 months	9 days
2650-45681	COYE	ASY-M	SY-M	17 Jul 2016	16 Jul 2017	9 Jun		10 months	24 days
2740-77437	COYE	SY-M	HY-U	2 Sep 2017	2 Sep 2017	7 Jul		10 months	5 days
2740-77496	HOWR	AHY-U	HY-U	12 Sep 2017	12 Sep 2017	15 Jul		10 months	3 days
2651-66896	GRCA	SY-F	HY-U	23 Aug 2017	12 Sep 2017	15 Jul		10 months	3 days
2421-93989	NOCA	AHY-M	HY-M	20 Sep 2012	3 Nov 2017	9 Jun		7 months	6 days

One bird banded at MBO was encountered elsewhere this summer, a Yellow Warbler from May 2016 found approximately 15 km northeast of MBO on July 2, 2018.

5.3.3. Daily estimated totals (DET)

The number of species observed daily ranged from a low of 26 on July 21 to a high of 38 on July 7. This was the lowest peak count since 2013, and overall the 55 species observed in summer was the fewest since 2012, and slightly below the average of 57 over the ten years of the MAPS program. Hermit Thrush was observed in summer for the first time ever, raising the cumulative total for the season to 111 species. Record high mean daily counts were established for five other species: Red-eyed Vireo (7.4, vs. 7.3 in 2016), Baltimore Oriole (5.0, vs. 4.1 in 2006), American Redstart (3.7, vs. 2.9 in 2017), Great Crested Flycatcher (3.0, vs. 2.7 in 2013), and White-breasted Nuthatch (2.0, vs. 1.6 in 2016). However, seven species were missed despite being observed in at least 10 of 13 previous summers: Canada Goose, Wood Duck, Mallard, Mourning Dove, Green Heron, Hairy Woodpecker, and European Starling.



Two warblers that have been increasing in numbers at MBO in summer and early fall over the past several years are Chestnut-sided Warbler (left) and American Redstart (right; photos by Simon Duval).

6. Fall Migration Monitoring Program (FMMP)

The Fall Migration Monitoring Program has been operated at MBO annually since 2004, with standardized operations since 2005. It previously covered 13 weeks from August 1 to October 30, but based on a pilot study in 2014, a 14th week was added starting in 2015, extending the season to November 6. Census, observations, and a five-hour banding period occur daily throughout FMMP (weather permitting).

6.1. Effort

Census was conducted on all 98 days of the season, and banding occurred on 89 days (91%), with an above-average 9 days entirely lost to unsuitable weather, mostly within the final three weeks of the season (September 11, 21; October 17, 18, 20, 24, 28, 29; November 2). However, there were 17 additional days with rain and/or strong winds resulting in reduced net hours (less than 75 out of a normal 80), leaving 72 days (73%) of full banding effort according to the site protocol. Overall, the total of 6509 net hours this fall was the lowest since the season was expanded to 14 weeks, and the 6258 hours over the first 13 weeks of the season was the lowest since 2010. All captures this fall were through the standard set of 16 mist nets used for migration monitoring, as described in Section 4.1. All nets were from Avinet, 12 m long with 30 mm mesh, and were used, from spring 2018.

6.2. Site conditions

Overall, fall 2018 was the coolest since 2009, with the mean daily temperature over one degree Celsius below average for the season. Temperatures were consistently above average over the first five weeks of fall, and at record high levels in week 7. However, temperatures were below average throughout the second half of the season, initially 1.5-2°C cooler than usual, and deviating by as much as 5°C by week 13. Rainfall was below average, the least since 2014, but this year the combination of cold and high winds caused banding to be cancelled on 7 days late in the season.

Table 6.1: Weather conditions during the 2018 FMMP, by week.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Season
Mean daily high (°C)	28.8	28.2	26.4	27.4	26.9	21.9	27.4	17.8	16.4	15.3	12.5	9.4	5.3	6.8	19.3
Mean daily low (°C)	21.3	18.7	17.0	17.1	17.6	11.7	15.8	9.2	9.2	6.5	5.6	0.7	-0.8	2.3	10.8
Mean daily temp (°C)	25.0	23.5	21.7	22.3	22.2	16.8	21.6	13.5	12.8	10.9	9.1	5.1	2.3	4.6	15.1
Highest temp (°C)	32	30	28	31	32	32	30	23	23	27	22	16	7	12	32
Lowest temp (°C)	20	16	14	12	11	6	12	4	8	3	4	-2	-5	-1	-5
# days with rainfall	4	3	2	4	4	3	0	2	6	3	3	4	4	6	48
Total rain (mm)	17	17	4	26	17	27	0	39	17	19	19	2	14	48	266

6.3. Results

6.3.1. Birds banded

Table 6.2 summarizes the fall 2018 banding results throughout the season. The 3542 birds banded was the highest total since 2014 (and above the average of 3289 if excluding the two years with exceptional numbers of Yellow-rumped Warblers). Weekly banding totals were at record high levels by wide margins in the first two weeks of August and remained above average for another three weeks, then were below average for the remainder of the season. The 83 species banded over the course of the season was the third-highest total, behind 86 in 2012 and 84 in 2015.

The busiest day of the season was October 3, with 131 birds banded (Figure 6.1), the seventh year in a row that the peak has occurred between September 29 and October 5; it was the second-highest single-day total since 2013. August 1 and September 30 were tied for the second-busiest days of the season with 98 individuals banded; the total exceeded 60 birds on 12 other dates ranging from August 3 to October 19. For the 2018 FMMP the mean count of birds banded per day was 36.1 (39.8 for the 89 days with banding effort).

Table 6.2: Summary results of the 2018 FMMP, by week.

	F1	F2	F3	F4	F5	F6	F7	F8
# individuals (species) banded	358 (40)	341 (45)	195 (36)	256 (38)	240 (42)	157 (33)	198 (40)	272 (45)
# individuals (species) return	8 (5)	5 (4)	12 (6)	9 (6)	8 (6)	3 (2)	5 (4)	3 (2)
# individuals (species) repeat	57 (21)	66 (24)	55 (20)	65 (26)	49 (23)	24 (14)	47 (18)	50 (14)
# species observed	76	82	80	95	84	86	84	82
# net hours	520.0	560.0	560.0	528.0	544.0	480.0	560.0	420.0
# birds banded / 100 net hours	68.9	60.9	34.8	48.5	44.1	32.7	35.4	64.8
# days operating	7	7	7	7	7	7	7	7
# days banding	7	7	7	7	7	6	7	6
# days with full net coverage	5	7	7	5	6	6	7	5
	F9	F10	F11	F12	F13	F14	Average	Season
# individuals (species) banded	460 (46)	361 (34)	244 (26)	198 (16)	151 (21)	111 (16)	253 (34)	3542 (83)
# individuals (species) return	1 (1)	6 (4)	3 (2)	6 (4)	6 (4)	1 (1)	5 (4)	76 (20)
# individuals (species) repeat	70 (15)	67 (15)	66 (13)	36 (10)	24 (8)	18 (5)	50 (16)	694 (50)
# species observed	88	84	62	69	58	59	78	149
# net hours	497.6	528.0	430.0	316.0	314.0	251.0	464.9	6508.6
# birds banded / 100 net hours	92.4	68.4	56.7	62.7	48.1	44.2	54.5	54.4
# days operating	7	7	7	7	7	7	7.0	98
# days banding	7	7	7	4	4	6	6.4	89
# days with full net coverage	5	6	3	4	4	2	5.1	72

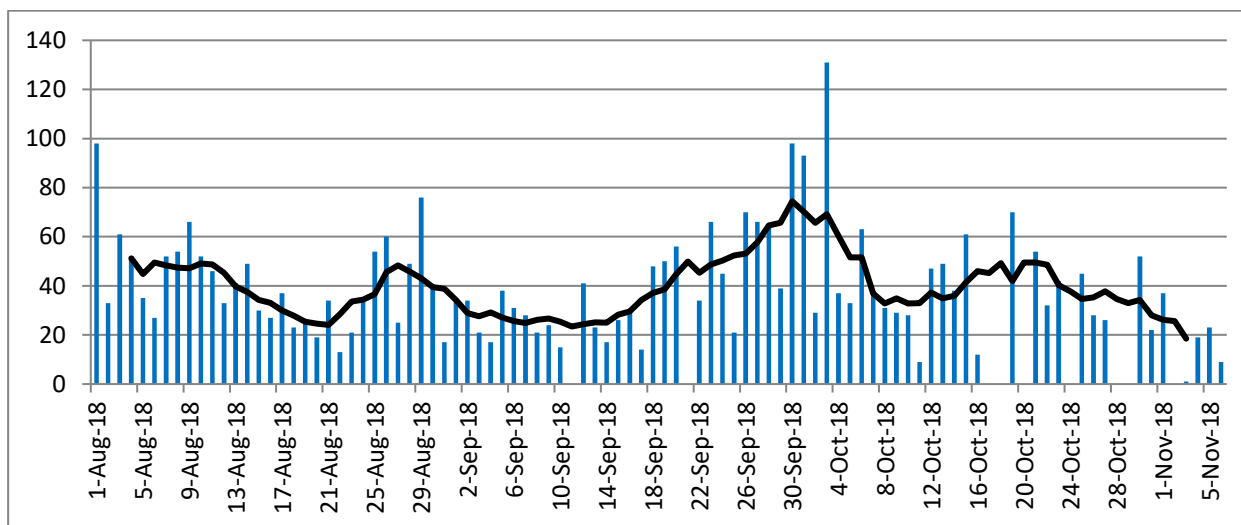


Figure 6.1: Daily and running 7-day mean number of individuals banded per day throughout fall 2018.

Species richness among banded birds spiked three times this fall, with the running 7-day mean peaking around 21.5 on August 11 and September 21, and also almost reaching 20 on August 27. After the last peak, numbers tapered off steadily to mid-October, after which they remained steady until the end of the month before dropping again over the final week of the season (Figure 6.2). The greatest variety banded in a single day was 26 on both August 1 and September 23, slightly below the long-term average. The mean number of species banded per day this fall was 14.7.

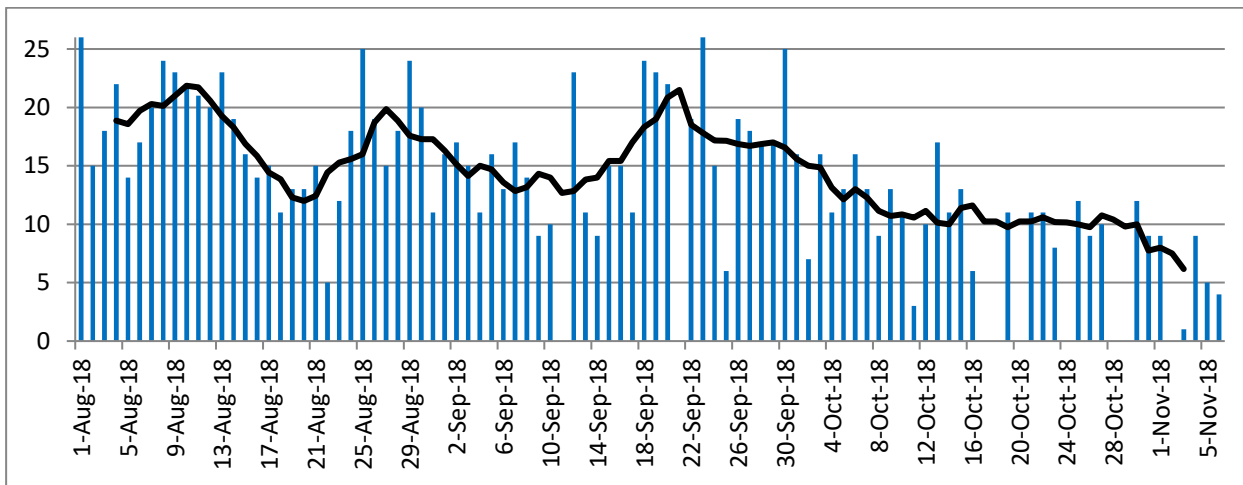


Figure 6.2: Daily and running 7-day mean number of species banded per day throughout fall 2018.

No species were banded for the first time this fall, leaving the cumulative season total at 106 species. However, record high banding totals were reached by an impressively many 14 species this fall: American Redstart (291, vs. 237 in 2017), Swainson’s Thrush (208, vs. 176 in 2012), Red-eyed Vireo (132, vs. 126 in 2014), American Goldfinch (99, vs. 94 in 2007), Rose-breasted Grosbeak (64, vs. 47 in 2016), Purple Finch (63, vs. 47 in 2016), Chestnut-sided Warbler (41, vs. 36 in 2011), Bay-breasted Warbler (13, vs. 10 in 2013), Great Crested Flycatcher (9, vs. 6 in 2005), Common Redpoll (9, vs. 3 in 2012), Scarlet Tanager (7, vs. 5 in 2006 and 2014), Eastern Wood-Pewee (5, vs. 4 in 2005), European Starling (4, vs. 1 in 2006, 2010, 2012, 2013, and 2015), and Eastern Kingbird (2, vs. 1 in 2005, 2006, 2008, and 2009). Conversely, Red-winged Blackbird was missed for the first time since 2005, while new record low banding totals were set or tied for five species banded in 2018: Dark-eyed Junco (32, vs. 33 in 2006), Yellow-rumped Warbler (32, vs. 57 in 2015), Wilson’s Warbler (13, vs. 14 in 2009 and 2015), Lincoln’s Sparrow (3, matching 2013), and Common Grackle (1, matching 2007).

Seven species were banded just once this fall: Northern Shrike, Carolina Wren, Bicknell’s Thrush, House Finch, Rusty Blackbird, Common Grackle, and Yellow Palm Warbler. At the other extreme, Table 6.3 lists the 10 most frequently banded species, which account for 59% of all birds banded during FMMP 2018. Four of these (Ruby-crowned Kinglet, Magnolia Warbler, Song Sparrow, and White-throated Sparrow) have been in the top 10 for fall annually since 2005. There were three warblers among the top ten species this fall, and overall the 22 warbler species banded accounted for 27% of birds banded. Conversely, there were only two sparrows among the top ten, most of the 9 sparrow species banded this fall were in below average numbers, and collectively they comprised only 19% of birds banded.

Table 6.3: Top 10 species banded at MBO during the 2018 FMMP, with comparison to the numbers banded in 2005-2017 (rank in other years in parentheses).

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
1. White-throated Sparrow	385	282(2)	566(1)	326(1)	484(1)	263(4)	506(1)	216(2)	351(5)	428(1)	317(4)	318(2)	187(5)	354(1)
2. Ruby-crowned Kinglet	309	301(1)	341(2)	257(3)	327(2)	347(1)	353(2)	180(4)	271(6)	257(4)	319(3)	376(1)	444(2)	245(2)
3. American Redstart	291	237(4)	176(4)	165(6)	138(8)	146(7)	139(9)	150(6)	149(10)	104(8)	99(9)	77(9)	48(13)	66(13)
4. American Robin	233	56(13)	108(11)	263(2)	144(7)	236(6)	130(10)	79(10)	394(4)	200(5)	346(2)	318(2)	302(3)	119(9)
5. Swainson’s Thrush	208	99(7)	170(5)	171(5)	46(21)	25(27)	176(7)	21(31)	27(34)	14(40)	15(40)	15(35)	7(46)	36(21)
6. Magnolia Warbler	181	248(3)	133(9)	173(4)	279(3)	284(2)	203(5)	252(1)	260(7)	103(9)	264(5)	74(10)	157(6)	192(5)
7. Song Sparrow	176	139(6)	136(8)	146(7)	136(9)	267(3)	217(4)	170(5)	219(8)	322(3)	199(7)	198(4)	302(3)	215(4)
8. Red-eyed Vireo	132	67(12)	109(10)	85(11)	126(10)	78(12)	75(14)	41(20)	96(13)	56(16)	70(12)	62(12)	42(18)	117(10)
9. American Goldfinch	99	38(18)	43(18)	93(9)	84(15)	70(13)	48(21)	17(38)	85(16)	35(24)	54(13)	94(7)	43(16)	82(11)
10. Tennessee Warbler	88	47(15)	29(26)	68(14)	168(5)	249(5)	75(14)	208(3)	114(11)	23(31)	86(11)	18(31)	57(11)	46(18)

For the fourth time in the past five years and seventh time overall, White-throated Sparrow was the most frequently banded species in fall. It was followed by Ruby-crowned Kinglet, which has been among the top three species every year since 2012. Close behind in third place was American Redstart, reaching a new record high for the fourth consecutive year, and again by a large margin (over 20% more than last year’s total). After those top three species, there as a substantial drop to fourth place, where American Robin returned to the top ten after two years of unusually low fall numbers. Swainson’s Thrush was in fifth place for the third time in the past four years; Magnolia Warbler and Song Sparrow were not far behind, but well ahead of Red-eyed Vireo despite that species reaching a record high this fall. The top ten was rounded out with a record high count of American Goldfinches, and the best showing by Tennessee Warbler since 2014.

6.3.2. Birds recaptured

There were 694 repeats this fall, just below the average of 712 across all previous years. However, 50 species were represented, well above the long-term average of 45, and second only to the record high of 52 in 2012. For the eighth time in 14 years, Black-capped Chickadee outnumbered all other species; it and four other species in the top ten this fall (Red-eyed Vireo, Gray Catbird, Song Sparrow, and American Redstart; Table 6.4) breed regularly at MBO, and most of the repeats were likely of local birds. A number of birds were recaptured on multiple occasions, most notably two Black-capped Chickadees that were recaptured ten times each. Only two other species had individuals recaptured at least five times this fall: Hermit Thrush and Swainson’s Thrush. For only the second time ever, there were no repeats of American Tree Sparrow, Dark-eyed Junco, or Yellow-rumped Warbler, reflecting the low numbers of all three of these species this fall.

Table 6.4: Top 10 species recaptured most often during the 2018 FMMP (species with local breeding populations marked with an asterisk).

	Species	# Repeats	# Individuals
1.	Black-capped Chickadee*	96	33
2.	White-throated Sparrow	63	46
3.	Gray Catbird*	55	37
4.	Swainson's Thrush	51	35
5.	Ruby-crowned Kinglet	40	33
6.	Song Sparrow*	39	28
7.	Hermit Thrush	29	21
8.	Magnolia Warbler	25	18
9.	American Redstart*	20	17
9.	Red-eyed Vireo*	20	18

Aside from birds likely to be local breeders, or their offspring, 17 individuals of 8 species stopped over for at least two weeks: Philadelphia Vireo (19 days), Swainson’s Thrush (17, 20, 21, 43, 47, and two individuals at 51 days), Hermit Thrush (16 days), Purple Finch (16 days), Tennessee Warbler (16, 26, 42 days), Nashville Warbler (21, 23 days), Cape May Warbler (15 days), Magnolia Warbler (42 days). Additional stopovers were recorded through our Motus research on Swainson’s Thrushes and Tennessee Warblers (see Section 8.3).

There were 76 returns during the 2018 FMMP, nearly 50% above average, though the 20 species involved was close to the long-term average of 18 (Table 6.5). Four species had more returns than in any previous year: Red-eyed Vireo (11, vs. 7 in 2014 and 2016), American Goldfinch (9, vs. 7 in 2016), Blue Jay (5, vs. 3 in 2009), and Rose-breasted Grosbeak (3, vs. 2. In 2015). Overall, 11 birds had not been encountered since two years or more, with the longest interval belonging to a Black-throated Blue Warbler banded as an after-hatch-year bird in August 2014 and not recaptured since. The oldest bird recaptured this fall was a Blue Jay banded as an after-hatch-year bird in September 2011, and now at least 8 years old.

Table 6.5: List of returns captured during the 2018 FMMP, sorted by time elapsed.

Band number	Species	Age/sex in 2018	Age/sex at banding	Banding date	Previous capture	2018 return	Time elapsed		
2730-49109	BTBW	AHY-M	ASY-M	9 Aug 2014	9 Aug 2014	12 Sep	4 years	1 month	3 days
2760-32616	AMRE	AHY-F	HY-F	8 Aug 2014	8 Aug 2014	28 Aug	4 years		20 days
2021-84157	REVI	AHY-U	AHY-U	1 Aug 2013	22 Aug 2014	25 Aug	4 years		3 days
2521-94907	PUFI	AHY-M	AHY-M	6 Oct 2015	6 Oct 2015	9 Oct	3 years		3 days
2740-76586	AMGO	AHY-M	HY-M	16 Nov 2015	16 Nov 2015	20 Aug	2 years	9 months	4 days
2720-00977	AMGO	AHY-F	SY-F	22 May 2016	25 May 2016	3 Sep	2 years	3 months	9 days
2730-49590	AMGO	AHY-M	ASY-M	18 May 2015	22 May 2016	24 Aug	2 years	3 months	2 days
2421-93996	NOCA	U-M	HY-M	26 Sep 2012	10 Aug 2016	9 Oct	2 years	1 month	29 days
2591-98599	REVI	AHY-U	AHY-F	14 Jul 2014	16 Aug 2016	18 Sep	2 years	1 month	2 days
2741-62898	VEER	AHY-U	AHY-F	15 Aug 2016	15 Aug 2016	25 Aug	2 years		10 days
2521-74058	REVI	AHY-U	ASY-U	24 Jul 2016	24 Jul 2016	2 Aug	2 years		9 days
2691-51949	SOSP	AHY-U	AHY-M	5 Aug 2014	18 Aug 2016	2 Aug	1 year	11 months	15 days
2651-66657	NOCA	AHY-F	AHY-F	11 Oct 2016	20 Oct 2016	4 Oct	1 year	11 months	14 days
2740-77069	AMGO	AHY-F	HY-F	10 Nov 2016	10 Nov 2016	30 Aug	1 year	9 months	20 days
2810-33795	BCCH	AHY-U	SY-F	18 May 2017	18 May 2017	20 Sep	1 year	4 months	2 days
2521-95297	REVI	AHY-U	AHY-U	16 Aug 2016	28 May 2017	21 Aug	1 year	2 months	24 days
2631-76417	REVI	AHY-U	SY-U	30 May 2017	30 May 2017	11 Aug	1 year	2 months	12 days
2810-33799	BCCH	AHY-U	HY-U	1 Aug 2017	1 Aug 2017	10 Oct	1 year	2 months	9 days
2810-34332	AMGO	AHY-F	HY-F	7 Aug 2017	7 Aug 2017	9 Sep	1 year	1 month	2 days
2741-62855	VEER	AHY-U	AHY-U	4 Aug 2016	23 Jul 2017	24 Aug	1 year	1 month	1 day
2810-34703	COYE	AHY-F	HY-U	14 Aug 2017	16 Aug 2017	15 Sep	1 year		30 days
2501-44954	HAWO	ASY-M	HY-U	3 Aug 2015	23 Sep 2017	22 Oct	1 year		29 days
2631-76497	REVI	AHY-U	AHY-F	8 Aug 2017	8 Aug 2017	2 Sep	1 year		25 days
2631-76480	REVI	AHY-U	AHY-U	4 Aug 2017	4 Aug 2017	24 Aug	1 year		20 days
2521-95265	REVI	AHY-U	AHY-U	8 Aug 2016	30 Jul 2017	17 Aug	1 year		18 days
2810-34522	AMGO	ASY-F	SY-F	23 Jul 2017	23 Jul 2017	5 Aug	1 year		13 days
2521-74073	REVI	AHY-U	ASY-U	4 Jul 2017	4 Aug 2017	17 Aug	1 year		13 days
2741-62943	SOSP	AHY-U	AHY-U	13 Sep 2016	6 Aug 2017	16 Aug	1 year		10 days
2650-45698	COYE	AHY-F	SY-F	7 Jun 2017	27 Aug 2017	4 Sep	1 year		8 days
2521-95298	REVI	AHY-U	AHY-U	16 Aug 2016	6 Aug 2017	12 Aug	1 year		6 days
2650-43009	BCCH	AHY-U	HY-U	1 Aug 2011	25 Oct 2017	23 Oct		11 months	28 days
2631-76408	REVI	AHY-U	SY-U	27 May 2017	10 Aug 2017	7 Aug		11 months	28 days
2771-52289	SOSP	AHY-F	AHY-F	22 Aug 2017	22 Aug 2017	18 Aug		11 months	27 days
2771-52251	SOSP	AHY-U	HY-U	4 Aug 2017	8 Aug 2017	1 Aug		11 months	24 days
2651-66903	RBGR	AHY-F	AHY-F	25 Aug 2017	25 Aug 2017	18 Aug		11 months	24 days
2790-84143	AMRE	AHY-M	HY-U	21 Aug 2017	21 Aug 2017	13 Aug		11 months	23 days
2771-73493	VEER	SY-F	HY-U	11 Aug 2017	11 Aug 2017	1 Aug		11 months	21 days
2740-77820	AMGO	AHY-F	HY-F	24 Nov 2017	24 Nov 2017	31 Oct		11 months	7 days
2810-34388	AMGO	AHY-M	HY-M	13 Nov 2017	24 Nov 2017	27 Oct		11 months	3 days
2740-77903	SCJU	AHY-M	HY-U	1 Dec 2017	1 Dec 2017	22 Oct		10 months	21 days
2810-34606	BCCH	AHY-U	HY-U	7 Aug 2017	7 Oct 2017	23 Aug		10 months	16 days
2771-52228	SOSP	AHY-F	AHY-U	19 Apr 2017	30 Sep 2017	9 Aug		10 months	10 days
2810-34622	BCCH	AHY-U	HY-U	6 Sep 2017	24 Nov 2017	3 Oct		10 months	9 days
2691-45623	DOWO	ASY-M	HY-M	4 Jul 2015	15 Nov 2017	9 Aug		8 months	25 days
2740-77919	SCJU	AHY-F	SY-F	27 Feb 2018	27 Feb 2018	12 Oct		7 months	15 days
1383-62342	BLJA	AHY-U	HY-U	29 Sep 2011	21 Apr 2018	30 Oct		6 months	9 days
1372-14901	BLJA	AHY-U	HY-U	3 Oct 2017	19 Apr 2018	27 Oct		6 months	8 days
2810-33800	BCCH	AHY-U	HY-U	2 Aug 2017	20 Apr 2018	23 Oct		6 months	3 days
1383-62336	BLJA	AHY-U	AHY-U	23 Sep 2011	4 May 2018	30 Oct		5 months	26 days
2810-34659	BCCH	AHY-F	SY-U	27 Feb 2018	27 Feb 2018	20 Aug		5 months	24 days

Band number	Species	Age/sex in 2018	Age/sex at banding	Banding date	Previous capture	2018 return	Time elapsed	
2741-64492	WBNU	AHY-M	U-M	13 Oct 2015	4 May 2018	22 Oct	5 months	18 days
2810-34637	BCCH	AHY-U	HY-U	23 Oct 2017	28 Apr 2018	15 Oct	5 months	17 days
2650-45745	BCCH	AHY-U	HY-U	1 Aug 2014	10 May 2018	25 Oct	5 months	15 days
1372-39183	BLJA	AHY-U	AHY-U	1 Sep 2017	22 Apr 2018	3 Oct	5 months	11 days
2501-44965	HAWO	SY-M	HY-M	13 Aug 2017	19 May 2018	22 Oct	5 months	3 days
2810-34601	BCCH	AHY-U	HY-U	2 Aug 2017	28 Apr 2018	20 Sep	4 months	23 days
2421-93989	NOCA	AHY-M	HY-M	20 Sep 2012	9 Jun 2018	26 Oct	4 months	17 days
1372-39191	BLJA	AHY-U	HY-U	22 Sep 2017	19 May 2018	3 Oct	4 months	14 days
2651-67022	GRCA	AHY-U	ASY-U	10 May 2018	10 May 2018	20 Sep	4 months	10 days
2810-34394	AMGO	AHY-M	HY-M	13 Nov 2017	9 May 2018	6 Sep	3 months	28 days
2741-62949	SOSP	AHY-U	AHY-U	19 Sep 2016	1 Jun 2018	27 Sep	3 months	26 days
2720-00727	BCCH	AHY-U	HY-U	26 Aug 2016	10 May 2018	5 Sep	3 months	26 days
2771-74293	SOSP	AHY-F	AHY-U	24 Apr 2018	24 Apr 2018	18 Aug	3 months	25 days
2471-41350	WTSP	AHY-U	SY-U	29 Apr 2018	29 Apr 2018	21 Aug	3 months	23 days
2810-34609	BCCH	AHY-U	HY-U	9 Aug 2017	27 May 2018	18 Sep	3 months	22 days
2730-49978	BCCH	AHY-U	HY-U	3 Oct 2015	15 May 2018	4 Sep	3 months	20 days
2820-67895	COYE	AHY-F	SY-F	30 May 2018	30 May 2018	14 Sep	3 months	15 days
2641-17969	BAOR	AHY-M	SY-M	14 May 2016	19 May 2018	1 Sep	3 months	13 days
2651-66776	RBGR	AHY-M	SY-M	18 May 2017	21 May 2018	1 Sep	3 months	11 days
2810-34621	BCCH	AHY-U	HY-U	4 Sep 2017	11 May 2018	20 Aug	3 months	9 days
2810-34664	BCCH	AHY-U	SY-F	16 May 2018	16 May 2018	24 Aug	3 months	8 days
2641-17963	RBGR	AHY-F	SY-F	13 May 2016	23 May 2018	29 Aug	3 months	6 days
2810-33783	BCCH	AHY-U	HY-U	14 Nov 2016	15 May 2018	18 Aug	3 months	3 days
2241-31102	SOSP	AHY-F	AHY-U	1 May 2018	1 May 2018	2 Aug	3 months	1 day
2810-34401	WAVI	AHY-U	SY-U	23 May 2017	27 May 2018	26 Aug	2 months	30 days
2561-32371	NOCA	AHY-F	HY-F	14 Oct 2014	4 May 2018	3 Aug	2 months	30 days

For the second year in a row, we captured a foreign-banded bird in fall. This time it was a Ruby-crowned Kinglet on October 13, 2018, less than five months after it was banded 450 km farther northeast in Quebec. We also learned that an American Goldfinch banded at MBO in November 2015 was found in Liverpool, New York (315 km to the southwest) on August 29, 2018.

6.3.3. Census

One or more experienced observers walked the standardized census route daily during FMMP. In total, 116 species were observed on census, marginally below average. Five species this fall were observed only on census: Northern Rough-winged Swallow, Bank Swallow, Boreal Chickadee, Bohemian Waxwing, and Bobolink.

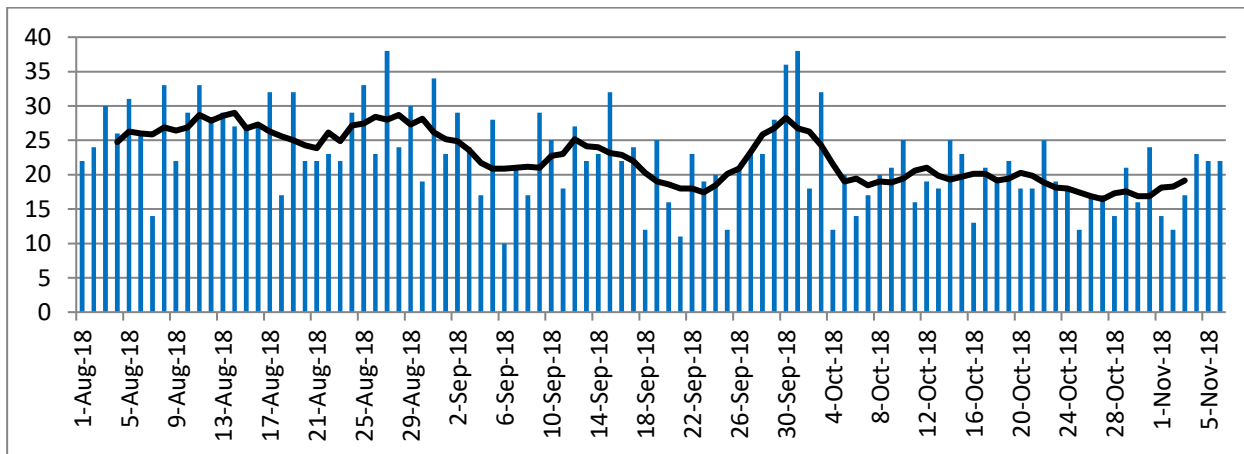


Figure 6.3: Daily species count and running 7-day mean of species recorded on census throughout fall 2018.

As shown in Figure 6.3, there was daily variation in the number of species observed during the census, from a low of 10 on September 6 to a high of 38 on August 27 and October 1. This reflects not only actual changes in the bird population from day to day, but also differences in weather and among observers. To account for this, a 7-day running mean was plotted. This fall it was highest in mid- and late August, but rebounded to another peak at the end of September before tapering off to near 20 species for most of October and early November.

6.3.4. Daily estimated totals (DET)

The DET, as described in Section 4.3.4, includes all observations made by participants at MBO. During the 2018 FMMP, 149 species were recorded, matching the average since 2011. However, three of these were only observed during week 14, so the 13-week total of 146 actually matched the long-term fall average.

This fall, 19 species and one form were seen on just one day: Gadwall, American Black Duck, Northern Pintail, Common Merganser, Ruffed Grouse, Semipalmated Sandpiper, Solitary Sandpiper, Rough-legged Hawk, Peregrine Falcon, Olive-sided Flycatcher, Northern Rough-winged Swallow, Bank Swallow, Boreal Chickadee, Bicknell’s Thrush, Bohemian Waxwing, Red Crossbill, Eastern Towhee, Savannah Sparrow, Bobolink, and Yellow Palm Warbler. Three of these (Gadwall, Semipalmated Sandpiper, and Red Crossbill) were recorded for the first time in fall, raising the fall total to 200 species; the sandpiper and crossbill were the first in any season, becoming the 216th and 217th species on the MBO list.

The highest single day DET, 70 species, was tied for the third-highest ever day in fall, despite being 15 species fewer than last year’s record count. This year’s peak was on August 23, the fourth time in the past five years that it has been between August 17 and 23. At the weekly scale, the highest number of species was 95, which was a record high for week 4 (August 21-28); record highs were also set or tied in weeks 10, 12, and 14. Only five weeks (3, 5, 7, 8, and 11) had species counts slightly (<3 species) below long-term averages. The lowest count of 12 species occurred on September 21.

The seven-day running mean shown in Figure 6.4 smooths out the day-to-day variation resulting from differences in weather and among observers. It peaked just above 60 species on August 26, and remained above 50 from August 10 through September 8, and again from September 28 to October 3, then declined fairly steadily throughout most of October, to below 35 for most of the final two weeks of fall.

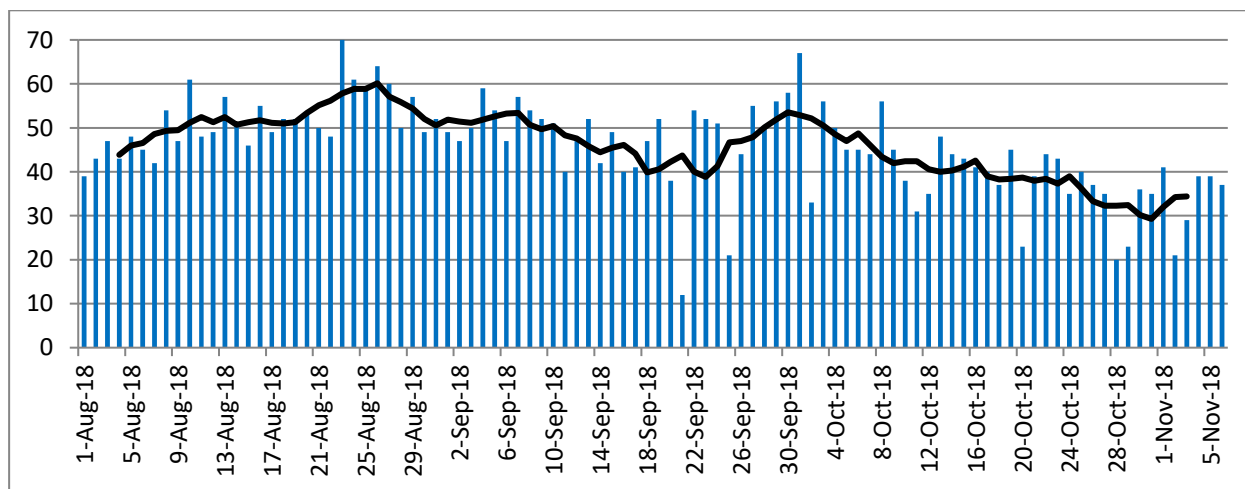


Figure 6.4: Daily species count and running 7-day mean of species observed throughout fall 2018.

This year 21 species were observed each week throughout fall (those not detected in all weeks in 2017 marked with an asterisk): Rock Pigeon*, Downy Woodpecker, Hairy Woodpecker, Yellow-shafted Flicker, Pileated Woodpecker, Blue Jay, American Crow, Common Raven, Black-capped Chickadee, Red-breasted Nuthatch*, White-breasted Nuthatch, Swainson’s Thrush*, American Robin, Purple Finch*, American Goldfinch, Song Sparrow, Swamp Sparrow, White-throated Sparrow, Red-winged Blackbird, Common Grackle, and Northern

Cardinal. Seven species observed weekly in fall 2017 were missed in at least one week this year: Canada Goose, Mourning Dove, Sharp-shinned Hawk, Red-tailed Hawk, Great Horned Owl, Cedar Waxwing, and House Finch.

6.3.5. Coverage of priority species

MBO has produced a list of 62 target species for priority monitoring, as described in Section 4.3.5. All but one species on the MBO priority list were observed during the 2018 FMMP, and 87% were banded, tying the record high from 2012 (Table 6.6). Only 83% of individuals banded were priority species, near the low end of the range of 82% to 91% in previous years. Of the top 10 species banded at MBO during the 2018 FMMP, all except American Goldfinch are designated as priority species, and half are classified as priority A or B, including the top two, indicating the program is effective at documenting these otherwise poorly monitored birds.

Table 6.6: Summary of priority species observed and banded during the 2018 FMMP. Detailed category definitions are provided in Gahbauer et al. (2014).

	Priority A	Priority B	Priority C	Priority D
Number of species in category	15	10	18	19
Number of species observed	14	10	18	19
Number of species banded	13	10	15	16
Number of individuals banded	631	835	696	767

6.3.6. Net productivity

The nets used for FMMP are the same as described for SMMP (see Section 4.3.6). Under normal weather and personnel conditions, all nets were operated for five hours daily. Table 6.7 summarizes the usage and productivity of all nets during the 2018 FMMP.

Table 6.7: Net usage and capture rates during the 2018 FMMP.

Net	Hours open	New captures	Returns + Repeats	Total Captures ¹	Birds / 100 net hours	
					New	Total
A1	408.9	147	36	183	36.0	44.8
A2	408.9	226	62	288	55.3	70.4
A - TOTAL	817.7	373	98	471	45.6	57.6
B2	401.4	109	27	136	27.2	33.9
N1	401.4	175	44	219	43.6	54.6
N3	402.4	186	55	241	46.2	59.9
B3	402.4	184	58	242	45.7	60.1
B/N - TOTAL	1607.4	654	184	838	40.7	52.1
C1	408.9	553	97	650	135.3	159.0
C2	408.9	305	62	367	74.6	89.8
C - TOTAL	817.7	858	159	1017	104.9	124.4
D1	407.6	143	34	178	35.1	43.7
D2	407.6	115	24	139	28.2	34.1
D3	407.6	132	34	166	32.4	40.7
D4	407.6	135	21	156	33.1	38.3
D - TOTAL	1630.4	525	113	639	32.2	39.2
E1	408.9	200	34	234	48.9	57.2
E2	408.9	272	66	338	66.5	82.7
E - TOTAL	817.7	472	100	572	57.7	70.0
H1	408.9	326	65	391	79.7	95.6
H2	408.9	334	51	385	81.7	94.2
H - TOTAL	817.7	660	116	776	80.7	94.9
GRAND TOTAL	6508.6	3542	770	4313	54.4	66.3

¹ – Total captures include new captures, returns, repeats, and foreign recaptures.

The overall capture rate of new birds for the 2018 FMMP was 54.4, lower than in the early years of MBO, but above the average since 2011. The additional 11.9 birds per net hour for recaptures was slightly below average.

Although efforts have been made annually to maintain habitat consistency, especially near the nets, it is impossible to keep conditions identical from year to year, especially given annual variability in growing conditions for species like goldenrod, and growth/senescence of shrubs. This year work near the nets focused on thinning the buckthorns and hawthorns. In March, Ducks Unlimited Canada replaced the two water control structures (one under C1 and one near B3). In doing that, they also raised the maximum level of both ponds by 30 cm. As a result, a portion of the census trail on far side of Stoneycroft Pond had to be relocated a few metres higher on the slope. At C1, some vegetation had to be removed for the installation of the new structure, and after construction close to 20 sumacs were transplanted into the cut area. Meanwhile, a dyke was built for H1 which should eliminate the spring flooding that limited the use of this net early in spring in most years. Over the course of the spring season, the dyke was shaped by hand by MBO volunteers, willows were planted towards the end on the sides and grass was seeded on top. In the summer, a wildflower garden for hummingbirds was planted near the old windmill in an area disturbed by the Ducks Unlimited work.

The relative effectiveness of nets varies from year to year, although overall E2 has been the most productive, followed by H1 and H2, with the A and C nets also above average. This year C1 was more than twice as productive than the site average, with H2, H1, and C2 the next most productive; the only others above average were A2 and E2. The productivity of C1 was remarkable given that it was the net lane most affected by the pond restoration work. As a group, the D nets were again the least productive, although in terms of individual nets, B2 was slightly worse than D2. The productivity of C1 this fall suggests that more aggressive vegetation management along the D nets to attempt to restore earlier site conditions would be productive there too.

6.4. Summary and analysis

Above-average temperatures in August largely were matched with exceptionally high numbers of birds banded, whereas the second half of fall was unusually cold and captures were on average well below normal. However, this may be simply coincidence, as in 2017 the final four weeks of fall were exceptionally warm but also had very low banding totals. Overall, 2018 was the busiest fall season since 2014, and the number of species banded and observed were also above average. Unlike in spring, the numbers were not particularly driven by warblers, which accounted for only three of the fourteen species that set record high banding counts this fall, but also two of the species with record lows. Instead, the list of birds that were banded in unusually high numbers in fall was quite diverse, as was the top ten list for the season, which comprised three warblers, two sparrows, two thrushes, a vireo, a kinglet, and a finch.



The 38 Cape May Warblers banded this fall was more than triple the long-term average for this species, while the 132 Red-eyed Vireos banded was a new record high for the season.

(Photos by Simon Duval)

7. Northern Saw-whet Owl Migration Monitoring Program

Nocturnal banding of Northern Saw-whet Owls has been undertaken at MBO during fall migration annually since 2004, except in 2006 and 2008. For the first four years, it was sporadic, primarily limited by availability of banders. Since 2010, effort has been largely standardized, with nightly coverage (weather permitting) over six weeks from September 26 to November 6 (numbered as weeks 9 to 14 to correspond with the FMMP), plus supplemental effort in some years until roughly mid-November on nights with suitable conditions. Owl banding since 2010 has primarily used a roughly elliptical array of seven nets surrounding a FoxPro broadcaster playing a standard Northern Saw-whet Owl audiolure from (Project OwlNet 2016). As in 2016 and 2017, an additional seven nets were operated at a second location this fall, targeting Long-eared Owls with a broadcast of a male hooting. The program operates a standard banding period of 4 hours, beginning 30 minutes after sunset, but when conditions are favourable, non-standard banding continues later into the night, up to within 3.5 hours of sunrise.

7.1. Effort

Banding was possible on a slightly below-average 33 (79%) of 42 nights during the standard season, with rain, snow, or strong winds preventing efforts on the remaining occasions. For the sixth year in a row, there was no banding outside of the standard season.

7.2. Site conditions

Temperatures were considerably below average throughout the owl banding season, rebounding to close to normal only in the final week; rainfall was below average except in the final week (Table 7.1).

Table 7.1: Weather conditions during the 2018 Northern Saw-whet Owl Monitoring Program, by week.

	9 Sep 26-Oct 2	10 Oct 3-9	11 Oct 10-16	12 Oct 17-23	13 Oct 24-30	14 Oct 31- Nov 6	Season
Mean daily high (°C)	16.4	15.3	12.5	9.4	5.3	6.8	11.0
Mean daily low (°C)	9.2	6.5	5.6	0.7	-0.8	2.3	3.9
Mean daily temp (°C)	12.8	10.9	9.1	5.1	2.3	4.6	7.5
Highest temp (°C)	23	27	22	16	7	12	27
Lowest temp (°C)	8	3	4	-2	-5	-1	-5
# days with rainfall	6	3	3	4	4	6	26
Total rain (mm)	17	19	19	2	14	48	119

7.3. Results

The 219 Northern Saw-whet Owls banded this fall was the third-highest season total ever; two Eastern Screech-Owls were banded, which is average (Table 7.2), and one Long-eared Owl was banded, the fourth in MBO's history. Eastern Screech-Owls, Barred, and Great Horned Owls were heard during the season.

Table 7.2: Summary results of the 2018 Northern Saw-whet Owl Monitoring Program, by week.

	9	10	11	12	13	14	Average	Season
# owls banded	26	58	54	35	33	16	37.0	222
# owls return	0	0	1	0	0	0	0.2	1
# owls repeat	4	2	5	7	10	4	5.3	32
# owls foreign	0	0	0	1	0	0	0.2	1
# net hours	528.5	551.8	709.4	536.1	694.8	375.6	566.0	3396.1
# owls banded / 100 net hours	4.9	10.5	7.6	6.5	4.8	4.3	6.4	6.5
# nights banding	7	5	6	5	6	4	5.5	33

7.3.1. Birds banded

The season started off well, with 26 owls banded in the first week, 82% above the average for the period in previous years. For the fourth time in the past eight years, week 10 had the highest number of owls banded,

though this year only slightly more than week 11; both were also far ahead of long-term averages for the period. Numbers dipped slightly below average in week 12, but rebounded to higher than usual for the final two weeks of the season. The busiest night of the season was October 4, with 19 owls banded; this was the earliest ever peak date. However, there was also quite a large three-night total of 43 owls from October 12 to 14, closer to the typical peak timing for migration. The 12 owls banded on November 4 marked the first time more than 10 owls were banded in a night later in the season than October 28. On just three of the 33 nights of banding effort, no owls were banded.

This year, hatch-year birds accounted for 75% of Northern Saw-whet Owls banded, the highest proportion since 2014. Second-year birds comprised 11% of the total, correspondingly the lowest since 2014. As always, females dominated, although this year they comprised only 62% of the birds banded, well below the average of 75% over the previous years of standardized banding. At 13%, males were more numerous than usual, and the 25% of intermediate (unknown sex) birds was near the record high of 27% observed in 2012.

7.3.2. Birds recaptured

For only the sixth time ever, there was a return this fall, a Northern Saw-whet Owl originally banded in September 2017 as a third-year female, and recaptured in October 2018. The 32 repeats marked a new record high for the second year in a row, and included four Northern Saw-whet Owls that were recaptured twice, and an Eastern Screech-Owl, only the fourth repeat ever for that species. Seven Northern Saw-whet Owls stopped over for at least 10 nights, with the longest durations recorded being 20 and 22 nights.

Only one foreign owl was recaptured at MBO this fall (Table 7.3), tying with 2016 for the fewest ever. For the second year in a row we also learned of one Northern Saw-whet Owl banded at MBO reported elsewhere during the season, at Innis Point Bird Observatory near Ottawa, Ontario (Table 7.4), an unusually low count.

Table 7.3: Foreign-banded Northern Saw-whet Owls captured at MBO during 2018, sorted by time elapsed.

Band number	Age/sex in 2018	Age/sex at banding	Banding date	2018 capture	Time Elapsed	Banding Location	Distance (km)
1014-82988	ASY-F	SY-F	21 Oct 2017	Oct 23	1 year 2 days	Ellenville NY	415

Table 7.4: MBO-banded Northern Saw-whet Owls captured elsewhere during 2018, sorted by time elapsed.

Band number	Age/sex in 2018	Age/sex at banding	Banding date	2018 capture	Time Elapsed	Banding Location	Distance (km)
1104-25927	ASY-F	AHY-F	9 Oct 2017	Oct 7	11 months 29 days	Ottawa ON	150

7.3.3. Net productivity

Again this fall the primary net array used for owl banding comprised five 60-mm nets (O1-O4, O6) exclusive to the owl program, and two 30-mm nets (E1-E2) that are shared with the Fall Migration Monitoring Program. O1-O4, and E1 are all within 10-15 m of an audiolure broadcasting a Northern Saw-whet Owl call, while E2 is nearly 30 m away. O4 is entirely within a conifer grove, while O1-O3, and E1 are along its periphery, and E2 is within an adjacent cluster of hawthorns; all of these have been in use since 2010. O6 is perpendicular to and on the far side of O4, within the conifer stand, and has been in use since 2013, replacing net O5 that was previously on the northern edge of the conifers. As in 2016 and 2017, seven additional nets (X1-X7) were installed at a satellite location to target Long-eared Owls. These were at the northeast end of the property, in the same area that was used for the Boreal Owl pilot project (nets T1-T4) in 2012 (see Gahbauer et al. 2016). Three nets (X1, X4, and X7) were placed along the census trail, interspersed with two pairs of perpendicular nets (X2/X3 and X5/X6). The three nets closest to the centre of the array (X2, X4, and X5) were 90-mm nets, while the others were 60-mm nets.

Table 7.5 shows that the O net group had the highest capture rates this fall, with O4 the single most productive net, as in almost all previous years. O1 also yielded typically high numbers, while O6 and E1 were also above

average. In the third year of trying, a Long-eared Owl was finally captured at the X nets, and small numbers of Northern Saw-whet Owls were also caught there, with X1 particularly productive like last year.

Table 7.5: Net usage and capture rates during the 2018 Northern Saw-whet Owl Monitoring Program.

Net	Hours open	New Captures	Returns + Repeats	Total Captures ¹	Birds / 100 net hours	
					New	Total
O1	250.2	45	1	46	18.0	18.4
O2	250.2	18	2	20	7.2	8.0
O3	250.2	18	2	20	7.2	8.0
O4	250.2	55	7	62	22.0	24.8
O6	250.2	26	4	30	10.4	12.0
O - TOTAL	1250.8	162	16	178	13.0	14.2
E1	250.2	24	2	26	9.6	10.4
E2	250.2	19	1	20	7.6	8.0
E - TOTAL	500.3	43	3	46	8.6	9.2
X1	235.0	5	4	9	2.1	3.8
X2	235.0	0	6	6	0.0	2.6
X3	235.0	2	0	2	0.9	0.9
X4	235.0	0	1	1	0.0	0.4
X5	235.0	5	3	9	2.1	3.8
X6	235.0	5	0	5	2.1	2.1
X7	235.0	0	0	0	0.0	0.0
X - TOTAL	1645.0	17	14	32	1.0	1.9
GRAND TOTAL	3396.1	222	33	256	6.5	7.5

¹ – Total captures include new captures, returns, repeats, and foreign recaptures.

7.4. Summary and analysis

It was another successful fall of owl banding, with the 219 Northern Saw-whet Owls banded a bit above the average of 197 (range 123-272) over the previous eight years of the program. Numbers were relatively high throughout most of the season, even though the peak of migration occurred earlier than usual. As in most years, hatch-year individuals dominated by a wide margin.

Over the three years that the satellite net array has been in use to target Long-eared Owls, 10-15% of Northern Saw-whet Owls have been captured there annually, including 12% this fall. It remains unclear whether Northern Saw-whet Owls are somewhat attracted by the Long-eared Owl lure, or the capture rates there represent their background level of movement through the area (although likely still influenced to some extent by the Northern Saw-whet Owl lure playing ~350 m to the south). Interestingly, the only foreign recapture this fall was in one of the X nets (X5). Omitting the X nets, the capture rate of 11.7 new owls per 100 net hours was the second-highest ever, aside from 2015.



*This Long-eared Owl was only the fourth one ever banded at MBO.
(Photo by Nicolas Bernier)*

8. Other MBO programs

Although the seasonal monitoring programs are the primary focus at MBO, they also provide opportunities to pursue a number of secondary objectives, including education and training, improvement identification techniques, and more detailed research on particular species or aspects of migration and stopover ecology.

8.1. Education and training

MBO provides ongoing training in avian research techniques to McGill University students and other interested individuals. This is implemented through seasonal internships and training of other volunteers throughout the spring and fall programs in all aspects of migration monitoring from field identification skills and data recording to practice in extraction and banding. To keep learning opportunities accessible, we generally limit the number of volunteers per day to one experienced extractor/bander-in-training, two extractors-in-training and up to three additional assistants, who could get one-on-one training from either the extractors or the bander-in-charge. Experienced extractors able to work independently are a limiting factor for banding operations, and thus helping volunteers improve their skills at extraction is a priority at MBO. Observers with good identification skills are also critical to effective migration monitoring, and again in 2018 we were fortunate to have many experienced observers contributing their sightings, as well as training newer volunteers.

There is also an ongoing effort to share results with the local, national, and international communities, to illustrate how migration monitoring data can contribute to understanding and conservation of boreal birds. This year we again welcomed several groups for tours of MBO, including members of the McGill Wildlife Group, as well as McGill classes. In addition, we maintain the fully bilingual MBO website at www.oommbo.org, and routinely share current news through MBO's popular Facebook page, at <https://www.facebook.com/oommbo/>.

This year also marked the fourth year of our education initiative centered around our owl banding program. With funding support again from Bird Protection Quebec, Shawna Sevigny and Sarah Dixon led five interpretive programs at the Morgan Arboretum in October 2018, three in English and two in French, with 82 people attending in total. Each presentation provided an overview of the owls of Quebec, the biology and behaviour of the Northern Saw-whet Owl, and highlights from MBO research, and on all nights also featured a demonstration of owl banding. The program continued to receive favourable reviews, and we plan to offer it again in 2019.

8.2. Photo documentation

MBO continues to photo document all rarities captured, as well as any individuals showing abnormalities, such as aberrant pigmentation or moult, deformities, or healed injuries. From 2005 through 2014, representative photos of regularly banded species were also posted (with associated descriptive text) in MBO's online Photo ID Library. In early 2015, this resource was migrated to the *Piranga* module of Environment Canada's NatureInstruct website (www.natureinstruct.org), which is designed to be a dynamic and interactive resource for identification of North American birds. The design of *Piranga* allows the material to be more easily viewed on mobile devices, and is set up to allow for easy comparison of photos of different ages, sexes, or even species. All content on *Piranga* is also fully bilingual. The first phase included 60 species accounts and over 1400 photos, with an emphasis on selection of images that are representative, or highlight particularly notable variations. Over the past three years, another 19 species and over 400 more photos have been added.

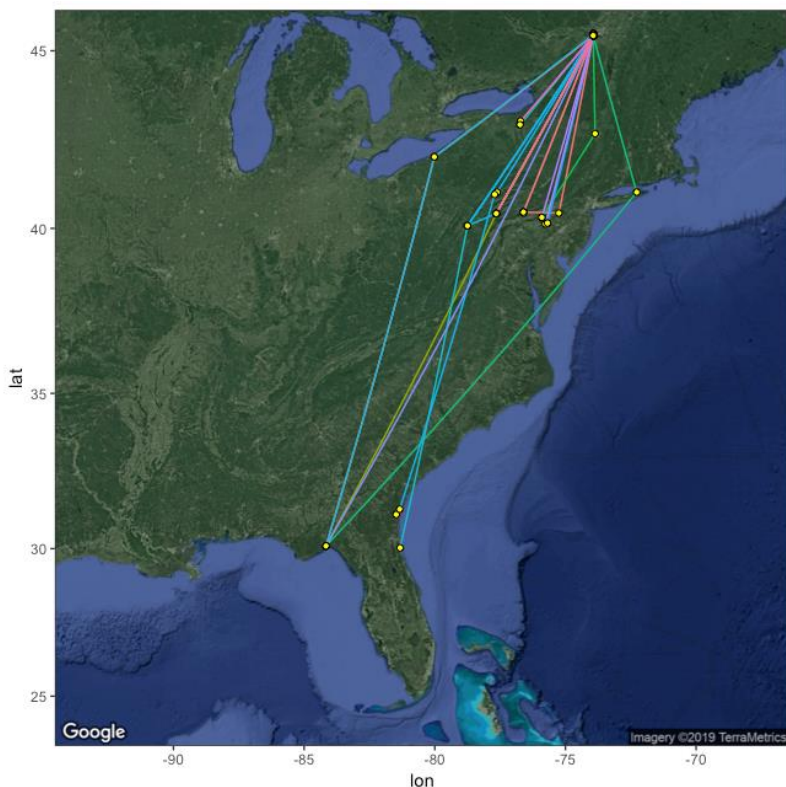
8.3. Research projects

The seasonal monitoring programs are the core of research at MBO, but other projects are always underway as well. In 2018, supplementary studies were focused on increasing MBO's participation in the Motus Wildlife Tracking System. This is a coordinated network of automated telemetry arrays led by Bird Studies Canada that over just a few years has already revolutionized the study of bird movements at a local, regional, and hemispheric scales. Automated telemetry systems allow for constant recording of tag signals from fixed positions on the landscape without the need for recapturing animals. They are increasingly being used in migration studies due to ongoing advances in miniaturization, allowing tags to even be placed on very small

organisms such as insects. Motus is unique in that it employs a single radio frequency across all receivers of the network, allowing tags to be detected at sites maintained by other projects. By the end of 2018, there were over 700 receiver stations distributed across 28 countries on 4 continents.

MBO's involvement with Motus started with installation of a receiver on the old windmill near the banding cabin in 2016. In 2017, four birds from other Motus projects were detected by the MBO receiver – a Semipalmated Sandpiper from James Bay, a Swainson's Thrush and a Gray-cheeked Thrush both from north of Quebec City, and a Northern Saw-whet Owl from Nova Scotia.

In 2017, McGill University M.Sc. student Ana Morales began a project under the joint supervision of Dr. Kyle Elliott and Dr. Barbara Frei, entitled *Migration and stopover ecology of moult migrant songbirds*. The main research objectives are to determine stopover length, habitat use and local-scale movements of moult-migrants and assess how physiological condition influences stopover duration, timing of departure, and frequency of local movements. In fall 2017, we deployed 23 1-gram radio transmitters on Swainson's Thrushes and two 0.4 g units on Tennessee Warblers, with one Swainson's Thrush detected as far away as Panama, just 16 days after departing MBO! In fall 2018, we tagged another 54 adult Swainson's Thrushes and 27 Tennessee Warblers. Among the thrushes, 38 individuals were moult-migrants and the other 16 were non-mouling birds. The average stopover length for moulting birds in 2018 was 50 days, with a maximum of 61 days, departing on October 17. Tennessee Warblers has shorter stopover periods, averaging 38 days for moult migrants.



Detections at Motus stations in the United States of moult migrant Swainson's Thrushes tagged at MBO during fall 2018

The data collected suggest that actual stopover duration of moult migrants at MBO is much longer than what we had previously estimated based on capture-recapture data (mean 30.5 days for Swainson's Thrushes and 26 days for Tennessee Warblers). We have also learned that moult migrant thrushes spend a majority of their time in thickly vegetated habitat, and move quite infrequently during the moulting period, which likely accounts for the scarcity of recaptures. Out of the 54 thrushes tagged in 2018, 28 (52%) of these birds were subsequently detected at other stations in the Motus network in Ontario, New York, Pennsylvania, Florida, coastal Georgia, and one in Colombia.

In summer and fall 2018, we installed two new Motus stations near MBO in order to improve the detection of our tagged birds over a larger area, especially moult migrant birds that may arrive at MBO and stay in the general area for a while, but beyond the range of our

original tower. One of the towers was located on Cap-St Jacques Nature Park and the other on Macdonald Campus. The Cap-St Jacques tower was taken down at the end of the season, while the campus tower remains active all year long. Both towers were able to detect most of our tagged birds when they were departing MBO, which greatly helped us to determine the exact departure dates of our birds.



Also in 2018, we started a new project to band Ruby-throated Hummingbirds. Although we have captured them in mist nets since MBO began operation, we have always quickly released them at the nets as we did not have the experience and authorization to band them. MBO's head bander-in-charge, Simon Duval, received training in hummingbird banding at a dedicated workshop in Arizona in August 2017 and received authorization in 2018 to band hummingbirds at MBO.

During fall 2018, we operated a feeder drop down trap near the H nets for 75.5 hours and caught 68 Ruby-throated Hummingbirds, of which 59 were hatch-year birds. There were 37 males, 30 females and 1 unknown. The bands used ranged from size C (5.4 mm circumference) to size F (6.0 mm). Only one of the hummingbirds banded at the feeder was later recaptured in a mist net a few hours after banding. However, another 51 individuals were captured incidentally in the nets, peaking with 12 in week 4 and 9 in week 5, with the last captures in week 7. There were also 18 captures in spring, starting week 7, and peaking in week 9.

A male Ruby-throated Hummingbird banded at MBO in fall 2019 (above left) and the hummingbird trap set up near the H nets (below) (Photos by Simon Duval)



9. Acknowledgments

The operation of MBO is possible only through the support of many dedicated people volunteering their time throughout the year. More than 4100 hours of service on site were contributed by over 75 participants in our migration monitoring, MAPS, and winter monitoring programs. While many volunteers fulfilled multiple roles, they are listed below only under the first heading that applies to them.

Executive Director: The licensed master permit holder, responsible for overseeing research activities.

Marcel Gahbauer

Director: Sub-permit holder and bander-in-charge (see below for details), responsible for developing policies, updating protocols, overseeing finances, and long-term planning

Barbara Frei

Coordinator: Sub-permit holder and bander-in-charge (see below for details), responsible for coordinating and managing volunteers, data entry and reporting, site maintenance, and implementation of research projects

Simon Duval

Database manager: Responsible for quality control, archiving, and management of data for the website, annual reports, and research projects

David Davey

Webmaster: Responsible for design and maintenance of the website

Richard Gregson

Banders-in-charge: Sub-permit holders, responsible for directing the activities of volunteers, ensuring adherence to protocols, prioritizing the safety of birds at all times, banding birds, and directly supervising other trainees who are banding birds.

Nicolas Bernier, Gay Gruner

Banders-in-training: Experienced volunteers trained specifically in extraction, capable of safely removing birds from nets with minimal or no supervision. These volunteers are also seasoned observers able to conduct the census and are being trained as banders.

Angelika Aleksieva, Christine Barrie, Ariane Chénard, Luke Currin, Mathilde Guglielmi, Alison Hackney, Kristen Lalla, Phillip Mercier, Anita Morales, Laura Tabbakh, Rodger Titman

Extractors: Experienced volunteers trained specifically in extraction, capable of safely removing birds from nets with minimal or no supervision.

Steve Dumont, Kyle Elliott, Melanie Guigueno, Christiane Tremblay

Census / observation leaders: Experienced birders able to recognize the majority of local species by sight and sound, responsible for conducting the daily census and playing a leadership role in observing birds throughout the morning, and assisting less experienced volunteers with identification.

Jean Demers, Wayne Grubert, Frédéric Hareau, Patrick Laniel, Barbara and Don MacDuff, Betsy McFarlane, Catherine Russell, Clémence Soulard, Elise Titman, Jesse White

Assistants: Volunteers and visitors of all levels, responsible for recording data, transporting birds, providing direct assistance to extractors and banders as requested, learning to become extractors, banders, or censusers, and helping with any other observation/monitoring/maintenance tasks that arise.

Jessica Bao, Pascal Berthelot, Zoe Bonerbo, Marc-Henri Bouchard, Manon Bourdon, Alexander Boyer, Aaron Brisebois, Émile Brisson, Camille Brochu, Martha Bromby, Marcelo Brongo, Marie-Andrée Castonguay, Claude Cloutier, Leah Delègue, Katelyn Depot, Stéfany Desroches, Ashleigh Downing, Marianne Duhamel, Martine

Dumont, Liette Fortier, Shannon Galbraith, Michel Greaves, Jean Gregson, Mercy Harris, Joanne Hayes, Catherine Jarjour, Yeonseon Jeon, Evelyne Lapointe, Marcel Lebeau, Catherine Lee-Zuck, Normand Legault, Francine Marcoux, Benoît Piquette, Geneviève Potvin, Filip Rakic, Katherine Sanzari, Loïc Sauvé, Charlene Smith, Patricia Stotland, Alice Sun, Emma Sutherland, Laura Torres, Frédérique Tremblay, Francis Van Oordt, François Villeneuve

Maintenance: Last but certainly not least – responsible for maintaining the facilities and trails in good and safe working condition

Malcolm Johnson

Special thanks also to:

Simon Duval, Barbara Frei and Alison Hackney for important leadership on our fundraising efforts.

The leadership team (directors, coordinator, banders-in-charge), who collectively contributed many additional hours off-site to coordinate volunteers, manage data, generate website updates, and advance MBO's research programs

All of our dedicated volunteers who put in extra time fundraising, planning, and assisting with site maintenance

In addition, we extend our sincere thanks to all who donated materials or funds to MBO in 2018, especially:

Bird Protection Quebec, for financial support of the Fall Migration Monitoring Program, the hummingbird banding project and the Motus research project, as well as ongoing publicity and continuing to encourage members to become MBO volunteers



The John Hackney Foundation for the Noosphere, for funding in support of migration monitoring

Environment and Climate Change Canada for financial support of migration monitoring programs

This year's three Great Canadian Birdathon Teams, and one independent participant (Marcel Gahbauer) who collectively raised nearly \$6500 in support of MBO's operations in 2018:

MBO Green Team (on foot in and around MBO): Simon Duval, Barbara MacDuff, Francine Marcoux, Anita Morales

Red-eyed Wearios (in southern Quebec and eastern Ontario): Sue Bishop, Averill Craig, Gay Gruner, Betsy McFarlane, and Ahmad Shah

The Bike Shrikes (West Island of Montreal): Michel Beaupré, Alison Hackney, Catherine Russell

All the many individual donors who adopted owls or gave generously in support of other MBO programs

10. References

- AOS (American Ornithological Society). 2018. AOS Checklist of North and Middle American Birds. Available at <http://checklist.aou.org/taxa>
- Gahbauer, M.A., M-A. Hudson, and S. Duval. 2014. McGill Bird Observatory Field Protocol for Migration Monitoring Program (Revised). Migration Research Foundation, Ste-Anne-de-Bellevue QC, 23 pp. Available at http://www.migrationresearch.org/mbo/documents/MBO_Protocol_2014.pdf
- 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. Available at <http://www.oommbo.org/wp-content/uploads/mbo-2005-2014.pdf>
- Gahbauer, M.A., S. Duval, and D. Davey. 2017. McGill Bird Observatory Annual Program Report 2015. Migration Research Foundation, Ste-Anne-de-Bellevue QC, 87 pp. Available at <http://www.oommbo.org/wp-content/uploads/MBO-report-2015.pdf>
- Gahbauer, M.A., S. Duval, and D. Davey. 2018a. McGill Bird Observatory Annual Program Report 2016. Migration Research Foundation, Ste-Anne-de-Bellevue QC, 84 pp. Available at <http://www.oommbo.org/wp-content/uploads/MBO-report-2016.pdf>
- Gahbauer, M.A., S. Duval, and D. Davey. 2018b. McGill Bird Observatory Annual Program Report 2017. Migration Research Foundation, Ste-Anne-de-Bellevue QC, 85 pp. Available at <http://www.oommbo.org/wp-content/uploads/MBO-report-2017.pdf>
- Project OwlNet. 2016. Netting migrant owls – the basics. Available at http://www.projectowl.net.org/?page_id=103
- Pyle, P. 1997. Identification Guide to North American Birds, Part 1. Slate Creek Press, Bolinas, California.
- Taylor P., T. Crewe, S. Mackenzie, D. Lepage, Y. Aubry, Z. Crysler, G. Finney, C. Francis, C. Guglielmo, D. Hamilton, R. Holberton, P. Loring, G. Mitchell, D.R. Norris, J. Paquet, R. Ronconi, J. Smetzer, P. Smith, L. Welch, and B. Woodworth. 2017. The Motus Wildlife Tracking System: a collaborative research network to enhance the understanding of wildlife movement. *Avian Conservation and Ecology*. 12.



*One of the record high seven Scarlet Tanagers banded at MBO this fall.
(Photo by Simon Duval)*

11. Appendix A. Seasonal occurrence of species

The charts below summarize the occurrence of each of the 167 species (including 106 passerines) observed during the 2018 Spring and/or Fall Migration Monitoring Programs, which had daily coverage for 10 and 14 weeks, respectively. Where applicable, these are supplemented by observations from winter 2017-18, and summer 2018. This year only one additional species, Tufted Titmouse, was observed outside of the migration monitoring programs, in winter; a brief text-only summary is provided for it. Species are listed according to taxonomic revisions by the American Ornithological Society as of 2018 (AOS 2018). The # processed includes individuals banded, returns, and repeats, in that order (or banded only, if no returns or repeats occurred). Summary notes accompany each species account, describing patterns of occurrence throughout the period covered in this report (November 7, 2017 to November 6, 2018), and often comparing them to data presented in the MBO Ten-year Report: 2005-2014 (Gahbauer et al. 2016) and the 2015-2017 Annual Reports (Gahbauer et al. 2017, Gahbauer et al. 2018a, Gahbauer et al. 2018b).

SNGO: Snow Goose / Oie des neiges (*Anser caerulescens*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY	8.57	0.43		43.43							5.24				
# DAYS OBSERVED	1	1		4							6				
FIRST OBSERVED: March 31			LAST OBSERVED: April 24			PEAK DATE: April 21			PEAK NUMBER OF INDIVIDUALS: 300						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY										0.57	2.86	4.43			0.56
# DAYS OBSERVED										1	1	2			4
FIRST OBSERVED: October 8				LAST OBSERVED: October 21				PEAK DATE: October 19				PEAK NUMBER OF INDIVIDUALS: 30			

Spring numbers were low this year, around 20% of the long-term average for the season, although more than double last year's record low. The peak in week 4 was typical, but for the first time since 2014, none were observed beyond April. Fall observations were all within a span of less than two weeks in mid-October, similar to most years. The mean daily count was below average, although fairly typical of the three years with unusually high counts are excluded.

CANG: Canada Goose / Bernache du Canada (*Branta canadensis*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY	182.29	158.29	79.86	203.43	62.43	260.00	24.43	6.71	8.86	11.43	99.77				
# DAYS OBSERVED	7	7	7	7	7	7	7	7	7	6	69				
FIRST OBSERVED: March 28			LAST OBSERVED: June 4			PEAK DATE: May 6			PEAK NUMBER OF INDIVIDUALS: 800						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	0.86		7.00	21.86	93.14	36.14	14.00	200.57	291.43	490.71	275.00	247.00	465.71	378.00	180.10
# DAYS OBSERVED	2		4	7	7	7	7	7	7	7	7	7	7	7	83
FIRST OBSERVED: August 3				LAST OBSERVED: November 6				PEAK DATE: October 8				PEAK NUMBER OF INDIVIDUALS: 1160			

For the fifth year in a row, Canada Goose was the most abundant bird at MBO in winter, although the mean daily count of 48.4 was less than half of the long-term average for the season, and the lowest since 2012-13. The mean daily count of Canada Goose this spring was the fourth lowest in MBO's 14-year history, but still was more than quadruple the total of the next most abundant species (Red-winged Blackbird). There were three distinct waves of migration, in weeks 1-2, 4, and 6, which is the pattern observed in most years. This was only the second time that Canada Goose was observed on 69 of 70 days during the spring season, being missed just once during the final week. For only the fourth time in 14 years, and the first time since 2010, no Canada Geese were observed in summer. Canada Goose again outnumbered all other species in fall, with a mean daily total slightly below the long-term average, but very close to the average from 2012 to 2017. As in every previous year except 2011, numbers spiked sharply in week 8, and remained elevated through the end of the season.

WODU: Wood Duck / Canard branchu (*Aix sponsa*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY	1.43	4.14	17.71	15.57	7.14	5.86	4.86	3.00	2.57	1.57	6.39				
# DAYS OBSERVED	3	5	7	7	7	7	7	7	7	5	62				
FIRST OBSERVED: March 30			LAST OBSERVED: June 3			PEAK DATE: Apr 14, Apr 18, Apr 20			PEAK NUMBER OF INDIVIDUALS: 24						
	AUGUST				SEPTEMBER				OCTOBER				NOVEMBER		
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	0.29				1.29		0.14	0.29		1.57	0.43	0.71			0.34
# DAYS OBSERVED	1				3		1	2		5	1	3			16
FIRST OBSERVED: August 3				LAST OBSERVED: October 22				PEAK DATE: September 4				PEAK NUMBER OF INDIVIDUALS: 6			

Wood Duck numbers rebounded this spring to the highest daily mean since 2012, thanks in large part to a single-week record high count in week 3, followed by nearly as many in week 4, which has typically been the season peak for this species. Sightings continued throughout the season, but by mid-May were back to below average counts, and for the first time since 2012 there were no sightings in summer. This scarcity carried over to fall, with the mean daily count of 0.34 only slightly above the record low of 0.29 set in 2008.

BWTE: Blue-winged Teal / Sarcelle à ailes bleues (*Spatula discors*)

MARCH	APRIL					MAY					JUNE	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL	
# BIRDS / DAY			0.29								0.03	
# DAYS OBSERVED			1								1	
FIRST OBSERVED: April 12			LAST OBSERVED: April 12			PEAK DATE: April 12			PEAK NUMBER OF INDIVIDUALS: 2			

Two Blue-winged Teal observed on April 12 marked the first spring record of this species at MBO since May 2013. In total, Blue-winged Teal has now been observed in 6 of 14 spring seasons. This year's sightings were unusually early, with only one previous record coming earlier in the season (April 5, 2006).

GADW: Gadwall / Canard chipeau (*Mareca strepera*)

	AUGUST				SEPTEMBER				OCTOBER				NOVEMBER		
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY						0.86									0.06
# DAYS OBSERVED						1									1
FIRST OBSERVED: September 7				LAST OBSERVED: September 7				PEAK DATE: September 7				PEAK NUMBER OF INDIVIDUALS: 6			

A small flock of Gadwall on September 7 was the first sighting of this species at MBO since May 2016, and the first fall record ever.

AMWI: American Wigeon / Canard d'Amérique (*Mareca americana*)

MARCH	APRIL					MAY					JUNE	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL	
# BIRDS / DAY					0.71						0.07	
# DAYS OBSERVED					1						1	
FIRST OBSERVED: April 27			LAST OBSERVED: April 27			PEAK DATE: April 27			PEAK NUMBER OF INDIVIDUALS: 5			

The only American Wigeon sightings of 2018 were a flock of 5 individuals on April 27. This was the eighth time in 14 years that American Wigeon has been observed at MBO in spring, and the seventh time that observations were limited to a single day.

MALL: Mallard / Canard colvert (*Anas platyrhynchos*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY	0.14	1.29	4.00	4.43	4.14	3.86	2.86	3.86	4.29	1.00	2.99				
# DAYS OBSERVED	1	2	7	7	7	7	7	7	7	4	56				
FIRST OBSERVED: April 3			LAST OBSERVED: June 4			PEAK DATE: May 29			PEAK NUMBER OF INDIVIDUALS: 9						
	AUGUST				SEPTEMBER				OCTOBER				NOVEMBER		
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	0.43			0.71	0.71	1.29		0.71	0.43	1.71		0.57	1.14	9.29	1.21
# DAYS OBSERVED	2			1	3	1		2	2	6		2	2	7	28
FIRST OBSERVED: August 2				LAST OBSERVED: November 6				PEAK DATE: November 4				PEAK NUMBER OF INDIVIDUALS: 41			

After being missed in winter for the first time ever last year, Mallard returned to the winter species list this year, but the mean daily count of 0.32 remained very low, less than 10% of the long-term average. In spring, the mean daily count of 2.99 set a new low for the season for the fifth consecutive year, and as has been the case in recent years, there was no distinct peak to migration. Numbers dropped off sharply in the final week of spring, and for the first time since 2012, no Mallards were observed in summer. Fall numbers were also well below average for a sixth consecutive year, although slightly higher than in 2016 and 2017. More than half of all fall observations this year were in the final week of the season; the high count of 41 individuals on November 4 was the most in a single day since October 24, 2014.

ABDU: American Black Duck / Canard noir (*Anas rubripes*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY				0.29		0.29					0.06				
# DAYS OBSERVED				1		1					2				
FIRST OBSERVED: April 24			LAST OBSERVED: May 7			PEAK DATE: Apr 24, May 7			PEAK NUMBER OF INDIVIDUALS: 2						
	AUGUST				SEPTEMBER				OCTOBER				NOVEMBER		
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY														0.29	0.02
# DAYS OBSERVED														1	1
FIRST OBSERVED: November 4				LAST OBSERVED: November 4				PEAK DATE: November 4				PEAK NUMBER OF INDIVIDUALS: 2			

American Black Duck was observed in spring for the third year in a row, although numbers were low as always. The timing of sightings in late April and early May was typical for the species. For the fourth year in a row, fall sightings of American Black Duck were limited to a single day. This, however, was the first year in which observations were restricted to November, i.e., under the older 13-week fall protocol, the species would have been missed this year.

NOPI: Northern Pintail / Canard pilet (*Anas acuta*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY			4.29								0.43				
# DAYS OBSERVED			1								1				
FIRST OBSERVED: April 12			LAST OBSERVED: April 12			PEAK DATE: April 12			PEAK NUMBER OF INDIVIDUALS: 30						
	AUGUST				SEPTEMBER				OCTOBER				NOVEMBER		
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY								0.29							0.02
# DAYS OBSERVED								1							1
FIRST OBSERVED: October 1				LAST OBSERVED: October 1				PEAK DATE: October 1				PEAK NUMBER OF INDIVIDUALS: 2			

A flock of 30 Northern Pintail flying over MBO on April 12 was the largest single-day count of the species since 2012, and the first spring record since 2015. The two individuals observed on October 1 marked the seventh year out of 14 with fall records for Northern Pintail.

GWTE (AGWT): (American) Green-winged Teal / Sarcelle d'hiver (*Anas crecca carolinensis*)

MARCH	APRIL					MAY					JUNE
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL
# BIRDS / DAY				2.71	0.43	2.43	0.14				0.57
# DAYS OBSERVED				5	2	4	1				12
FIRST OBSERVED: April 19			LAST OBSERVED: May 15			PEAK DATE: April 23			PEAK NUMBER OF INDIVIDUALS: 13		

The mean daily count of American Green-winged Teal was slightly above the long-term average for spring, and the peak of occurrence from late April to early May was also typical. For the fifth time in the past seven years, there were no sightings in fall.

HOME: Hooded Merganser / Harle couronné (*Lophodytes cucullatus*)

MARCH	APRIL					MAY					JUNE
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL
# BIRDS / DAY				1.43	0.43	2.43		0.14	0.14	0.14	0.47
# DAYS OBSERVED				4	1	6		1	1	1	14
FIRST OBSERVED: April 21			LAST OBSERVED: June 1			PEAK DATE: 4 dates			PEAK NUMBER OF INDIVIDUALS: 4		

The mean daily count of 0.47 in spring was a new record high for Hooded Merganser, thanks largely to a quartet of individuals that were observed on four occasions in late April and early May. For the second year in a row, sightings extended into the first week of June, but unlike last year we saw no ducklings.

COME: Common Merganser / Grand Harle (*Mergus merganser*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY	0.43			2.57	0.14	0.43	0.14				0.37				
# DAYS OBSERVED	1			3	1	2	1				8				
FIRST OBSERVED: April 1			LAST OBSERVED: May 10			PEAK DATE: Apr 21, Apr 24			PEAK NUMBER OF INDIVIDUALS: 8						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY													0.43		0.03
# DAYS OBSERVED													1		1
FIRST OBSERVED: October 30				LAST OBSERVED: October 30				PEAK DATE: October 30				PEAK NUMBER OF INDIVIDUALS: 3			

The mean daily count of 0.37 Common Mergansers in spring nearly doubled the previous record set in 2009. The total was heavily influenced by a record-high single-day count of 8 on April 21, matched again just three days later. Timing was largely typical, although the first sighting of the season on April 1 was the third-earliest in MBO's history. For the second year in a row, fall sightings were limited to a single date, and the total count was the lowest since 2013. As usual, all observations throughout the year were of individuals flying over MBO.

RUGR: Ruffed Grouse / Gélinotte huppée (*Bonasa umbellus*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY	0.14										0.01				
# DAYS OBSERVED	1										1				
FIRST OBSERVED: March 28			LAST OBSERVED: March 28			PEAK DATE: March 28			PEAK NUMBER OF INDIVIDUALS: 1						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY				0.14											0.01
# DAYS OBSERVED				1											1
FIRST OBSERVED: August 26				LAST OBSERVED: August 26				PEAK DATE: August 26				PEAK NUMBER OF INDIVIDUALS: 1			

For the second year in a row and third time in the past four years, Ruffed Grouse was observed in the first week of spring, although for the second consecutive year there were no winter sightings. As in 2017, the only fall observation was a single sighting in August.

ROPI: Rock Pigeon / Pigeon biset (*Columba livia*)

MARCH		APRIL					MAY					JUNE			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY				0.29	0.14	4.57	0.14		0.43		0.56				
# DAYS OBSERVED				2	1	2	1		2		8				
FIRST OBSERVED: April 18			LAST OBSERVED: May 25			PEAK DATE: May 5			PEAK NUMBER OF INDIVIDUALS: 30						
AUGUST		SEPTEMBER					OCTOBER					NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	0.86	0.57	4.71	4.00	1.86	4.00	3.29	0.57	2.14	8.14	0.86	3.86	2.00	1.71	2.76
# DAYS OBSERVED	3	2	5	3	2	4	4	1	3	3	1	5	3	3	42
FIRST OBSERVED: August 2				LAST OBSERVED: November 5				PEAK DATE: October 6				PEAK NUMBER OF INDIVIDUALS: 45			

There were only three Rock Pigeons observed in winter, accounting for a mean daily count of 0.07, roughly one tenth of the long-term average for the season. Numbers were slightly below average in spring, despite a flock of 30 individuals on May 5 that was the highest single-day count at MBO in any season since May 2009. For the sixth time in the past seven years there were no summer observations. In contrast, the mean daily count in fall set a new record high, and was more than double the long-term average for the season. The season high of 45 was the most observed in a single day in fall since October 2005, and the weekly means were well above average from mid-August to mid-September and again late September to early October.

MODO: Mourning Dove / Tourterelle triste (*Zenaida macroura*)

MARCH		APRIL					MAY					JUNE			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY				0.29	0.43	0.57	0.71	0.71	0.43		0.31				
# DAYS OBSERVED				2	3	3	4	2	2		16				
FIRST OBSERVED: April 22			LAST OBSERVED: May 28			PEAK DATE: May 22			PEAK NUMBER OF INDIVIDUALS: 3						
AUGUST		SEPTEMBER					OCTOBER					NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	0.29	0.43	0.86	0.86	1.00	0.43	0.71	0.14	0.29	0.71	0.57	0.29		0.43	0.50
# DAYS OBSERVED	2	2	4	3	4	2	3	1	1	2	2	1		2	29
FIRST OBSERVED: August 5				LAST OBSERVED: November 6				PEAK DATE: Aug 23, Oct 7				PEAK NUMBER OF INDIVIDUALS: 4			

Mourning Doves were unusually scarce for the second winter in a row, with a mean daily count of 1.42, roughly 30% of the long-term average for the season. Only two were banded in winter, less than half of the seasonal average. Spring numbers were also poor, with the mean daily count of 0.31 the lowest since 2012, and observations on just 16 days compared to an average of 29 days over the previous 13 years. In summer, Mourning Dove was missed entirely for the first time since 2008. Yet the fall results were the most surprising of all, with the mean daily count of 0.50 less than half of last year's record low, and observations on a record-low 29 days, a sharp drop from the previous mark of 46 days in 2008 and 2014.

BBCU: Black-billed Cuckoo / Coulicou à bec noir (*Coccyzus erythrophthalmus*)

MARCH		APRIL					MAY					JUNE			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY									0.57	0.14	0.07				
# DAYS OBSERVED									3	1	4				
FIRST OBSERVED: May 25			LAST OBSERVED: May 31			PEAK DATE: May 29			PEAK NUMBER OF INDIVIDUALS: 2						
AUGUST		SEPTEMBER					OCTOBER					NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	0.29	0.29		0.14	0.14	0.14									0.07
# DAYS OBSERVED	2	2		1	1	1									7
# PROCESSED		2													2
FIRST OBSERVED: August 3				LAST OBSERVED: September 5				PEAK DATE: 7 dates				PEAK NUMBER OF INDIVIDUALS: 1			

Black-billed Cuckoo was typically uncommon in spring, with a few observations scattered over the last week of May. Fall numbers were also close to the long-term average for the season, although much lower than over the past three years. The species was banded in fall for the fourth year in a row and tenth overall. As in 2015 and 2016, the last observation of the year was in the first week of September.

CONI: Common Nighthawk / Engoulevent d'Amérique (*Chordeiles minor*)

	AUGUST				SEPTEMBER				OCTOBER				NOVEMBER	TOTAL	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13		WEEK 14
# BIRDS / DAY					0.29	0.29									0.04
# DAYS OBSERVED					1	1									2
FIRST OBSERVED: September 3				LAST OBSERVED: September 6				PEAK DATE: Sep 3, Sep 6				PEAK NUMBER OF INDIVIDUALS: 2			

Common Nighthawk was observed in fall for the third time in the past five years. Both sightings were in the first week of September, about one week later than the peak of observations across all years.

CHSW: Chimney Swift / Martinet ramoneur (*Chaetura pelagica*)

	MARCH		APRIL					MAY					JUNE		TOTAL
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	
# BIRDS / DAY									0.43						0.04
# DAYS OBSERVED									2						2
FIRST OBSERVED: May 13			LAST OBSERVED: May 14			PEAK DATE: May 13			PEAK NUMBER OF INDIVIDUALS: 2						

	AUGUST				SEPTEMBER				OCTOBER				NOVEMBER	TOTAL	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13		WEEK 14
# BIRDS / DAY	0.14			1.57											0.12
# DAYS OBSERVED	1			3											4
FIRST OBSERVED: August 3				LAST OBSERVED: August 27				PEAK DATE: August 26				PEAK NUMBER OF INDIVIDUALS: 8			

The two Chimney Swift sightings this spring matched the 14-year average for the season, although they were marginally earlier than usual. Numbers in fall were the lowest since 2014, and the mean daily count was only half of the long-term average for the season.

RTHU: Ruby-throated Hummingbird / Colibri à gorge rubis (*Archilochus colubris*)

	MARCH		APRIL					MAY					JUNE		TOTAL
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	
# BIRDS / DAY								1.00	2.00	2.29	0.86				0.61
# DAYS OBSERVED								5	6	6	3				20
FIRST OBSERVED: May 11			LAST OBSERVED: June 1			PEAK DATE: May 22, 25, 28			PEAK NUMBER OF INDIVIDUALS: 4						

	AUGUST				SEPTEMBER				OCTOBER				NOVEMBER	TOTAL	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13		WEEK 14
# BIRDS / DAY	4.14	4.43	5.29	3.00	4.00	3.00	1.57								1.82
# DAYS OBSERVED	7	7	7	7	7	7	5								47
FIRST OBSERVED: August 1				LAST OBSERVED: September 16				PEAK DATE: August 16				PEAK NUMBER OF INDIVIDUALS: 9			

The mean daily count of Ruby-throated Hummingbirds in spring was slightly above average, with higher than usual numbers during the usual late May peak in weeks 8 and 9. In summer, the mean daily count of 1.29 was also above average, although the lowest it has been since 2013. The fall count was also slightly above average. The last observation for the year was on September 16, the earliest since 2013. After peaking in week 4 or 5 for the past four years, fall 2018 numbers were highest in week 3, as was the case annually from 2008 through 2013. For the first time ever, Ruby-throated Hummingbirds were banded this fall. The 68 individuals banded was more than anticipated based on past observations, despite banding effort being sporadic and limited by the availability of the one permitted bander. The peak was in week 2, with 24 individuals banded.

VIRA: Virginia Rail / Râle de Virginie (*Rallus limicola*)

	MARCH		APRIL					MAY					JUNE		TOTAL
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	
# BIRDS / DAY				0.14	0.14	0.14			1.71	1.14	0.57				0.39
# DAYS OBSERVED				1	1	1			7	4	3				17
FIRST OBSERVED: April 19			LAST OBSERVED: June 1			PEAK DATE: May 18, 19, 24			PEAK NUMBER OF INDIVIDUALS: 3						

Virginia Rail sightings were unusually numerous at MBO this spring, with the mean daily count of 0.39 second only to the record of 0.46 in 2011. Similar to 2016, observations extended from week 4 to week 10, although this year none were detected in week 7. Observations peaked in the third week of May, slightly later than in most previous years. There was a single observation in summer, the fifth time in the past six years that Virginia Rail has been detected during the season.

SORA: Sora / Marouette de Caroline (*Porzana carolina*)

	MARCH	APRIL					MAY				JUNE	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL	
# BIRDS / DAY						0.14					0.01	
# DAYS OBSERVED						1					1	
FIRST OBSERVED: May 2			LAST OBSERVED: May 2			PEAK DATE: May 2		PEAK NUMBER OF INDIVIDUALS: 1				

This was the sixth year in a row with Sora detected at MBO, but like in 2013 and 2015 it was limited to a single observation in spring. This year's record was notable for being the earliest ever, by one day.

SACR: Sandhill Crane / Grue du Canada (*Antigone canadensis*)

	MARCH	APRIL					MAY				JUNE	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL	
# BIRDS / DAY							0.86				0.09	
# DAYS OBSERVED							1				1	
FIRST OBSERVED: May 9			LAST OBSERVED: May 9			PEAK DATE: May 9		PEAK NUMBER OF INDIVIDUALS: 6				

A small flock of Sandhill Cranes was observed flying over MBO on May 9, the first sighting of the species since October 2015, and only the fourth overall. All previous observations were of lone individuals. The timing was consistent with the other spring records, ranging from April 24 to May 12.

KILL: Killdeer / Pluvier kildir (*Charadrius vociferus*)

	MARCH	APRIL					MAY				JUNE	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL	
# BIRDS / DAY	0.14		0.14	1.14	0.29	0.43	0.71	1.14	0.43	1.14	0.56	
# DAYS OBSERVED	1		1	4	2	3	4	5	2	5	27	
FIRST OBSERVED: April 2			LAST OBSERVED: June 3			PEAK DATE: Apr 22, May 21		PEAK NUMBER OF INDIVIDUALS: 3				

Killdeer counts this spring were slightly above average overall, with observations at least once per week except for week 2. The mean daily count was unusually high in the final week of spring, and there was a summer observation (just one individual) for only the sixth time in 14 years. However, for the second year in a row and the fourth time overall, there were no Killdeer detections in fall.

LESA: Least Sandpiper / Bécasseau minuscule (*Calidris minutilla*)

	MARCH	APRIL					MAY				JUNE	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL	
# BIRDS / DAY									0.43		0.04	
# DAYS OBSERVED									1		1	
FIRST OBSERVED: May 24			LAST OBSERVED: May 24			PEAK DATE: May 24		PEAK NUMBER OF INDIVIDUALS: 3				

The flock of three Least Sandpipers observed on May 24 was only the fourth ever record of the species at MBO, and the first since May 2013. They were feeding along the edge of Stoneycroft Pond near net C1.

SESA: Semipalmated Sandpiper / Bécasseau semipalmé (*Calidris pusilla*)

	AUGUST				SEPTEMBER				OCTOBER				NOVEMBER		
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY				0.14											0.01
# DAYS OBSERVED				1											1
FIRST OBSERVED: August 26				LAST OBSERVED: August 26				PEAK DATE: August 26				PEAK NUMBER OF INDIVIDUALS: 1			

A single Semipalmated Sandpiper observed on August 26 was the first ever sighting of the species at MBO, and became the 217th species on the site checklist. It was observed along the edge of the back pond, from the end of net H1.

AMWO: American Woodcock / Bécasse d'Amérique (*Scolopax minor*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY	0.14			0.29		0.29	0.29		0.14		0.11				
# DAYS OBSERVED	1			1		2	2		1		7				
# PROCESSED									1		1				
FIRST OBSERVED: April 2			LAST OBSERVED: May 26			PEAK DATE: April 23			PEAK NUMBER OF INDIVIDUALS: 2						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	0.14	0.14							0.43			0.29		0.29	0.09
# DAYS OBSERVED	1	1							2			1		2	7
FIRST OBSERVED: August 5				LAST OBSERVED: November 6				PEAK DATE: Sep 30, Oct 23				PEAK NUMBER OF INDIVIDUALS: 2			

The number of American Woodcock observations this spring was roughly double the long-term average, and the highest since 2014. The one banded in late May was only the second ever in spring, and seventh overall in MBO's 14-year history. The mean daily count in fall was also nearly twice the long-term average, with higher values only in 2013 and 2016. For the second year in a row there were records in the final week of fall, this year including a new record-late encounter on the last day of the season, November 6.

SPSA: Spotted Sandpiper / Chevalier grivelé (*Actitis macularius*)

MARCH	APRIL					MAY					JUNE	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL	
# BIRDS / DAY						0.29	0.57	0.14	0.29	0.29	0.16	
# DAYS OBSERVED						2	4	1	2	1	10	
FIRST OBSERVED: May 6			LAST OBSERVED: June 1			PEAK DATE: June 1			PEAK NUMBER OF INDIVIDUALS: 2			

The mean daily count of Spotted Sandpiper in spring was unusually high for the third consecutive year, this time reaching a new record, more than triple the long-term average for the season. It remains an uncommon migrant though, with observations on only 10 days over the second half of the season, and a peak count of two individuals on just one date. Conversely, the species was missed in fall for the first time since 2012, and only the third time overall out of 14 years.

SOSA: Solitary Sandpiper / Chevalier solitaire (*Tringa solitaria*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY						1.86	4.14	2.14	0.29	0.29	0.87				
# DAYS OBSERVED						6	7	6	2	2	23				
# PROCESSED							1				1				
FIRST OBSERVED: May 3			LAST OBSERVED: May 31			PEAK DATE: May 9, May 11, May 13			PEAK NUMBER OF INDIVIDUALS: 5						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY							0.14								0.01
# DAYS OBSERVED							1								1
FIRST OBSERVED: September 12				LAST OBSERVED: September 12				PEAK DATE: September 12				PEAK NUMBER OF INDIVIDUALS: 1			

Similar to Spotted Sandpiper, Solitary Sandpiper numbers in spring have been above average for the past three years and reached a new record high in 2018; one was banded during the peak of migration in week 7, only the sixth one in MBO's history. However, only one individual was observed in fall, by far the fewest ever.

LEYE: Lesser Yellowlegs / Petit Chevalier (*Tringa flavipes*)

MARCH	APRIL					MAY					JUNE	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL	
# BIRDS / DAY						0.57	1.43	0.43			0.24	
# DAYS OBSERVED						1	2	2			5	
FIRST OBSERVED: May 5			LAST OBSERVED: May 18			PEAK DATE: May 11, May 13			PEAK NUMBER OF INDIVIDUALS: 5			

Prior to 2018 there had been only three spring records of Lesser Yellowlegs at MBO in 2008, 2011, and 2012, each involving just one individual. The observations over five dates this spring, including two days with five individuals each, were therefore quite a surprise!

GRYE: Greater Yellowlegs / Grand Chevalier (*Tringa melanoleuca*)

MARCH	APRIL					MAY					JUNE
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL
# BIRDS / DAY						0.14	0.14	0.71	0.29		0.13
# DAYS OBSERVED						1	1	3	1		6
FIRST OBSERVED: May 8			LAST OBSERVED: May 28			PEAK DATE: May 18, 19, 28			PEAK NUMBER OF INDIVIDUALS: 2		

The mean daily count of Greater Yellowlegs this spring was also unusually high, only marginally below the record set in 2006, but nearly quadruple the long-term average for the season. The timing was similar to that of Lesser Yellowlegs, although this species lingered ten days longer.

RBGU: Ring-billed Gull / Goéland à bec cerclé (*Larus delawarensis*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY	4.57	6.86	5.43	16.57	10.43	12.29	13.00	39.57	76.43	15.43	20.06				
# DAYS OBSERVED	7	6	7	7	7	7	7	7	7	5	67				
FIRST OBSERVED: March 28			LAST OBSERVED: June 3			PEAK DATE: May 27			PEAK NUMBER OF INDIVIDUALS: 125						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	0.43	3.43		0.86		0.43	0.43	0.29	0.43	4.71	0.86	1.29	3.29	1.00	1.24
# DAYS OBSERVED	1	2		2		2	1	2	2	6	3	2	5	3	31
FIRST OBSERVED: August 7				LAST OBSERVED: November 6				PEAK DATE: October 9				PEAK NUMBER OF INDIVIDUALS: 28			

The mean daily count of 0.07 Ring-billed Gulls in winter was by far the lowest ever. Numbers remained slightly below normal in spring, although Ring-billed Gull was nonetheless the third most abundant species observed over the course of the season. The mean daily count of 1.71 in summer was below normal too, and the rate for fall set a new record low for the second year in a row, at a level roughly one quarter of the long-term average.

HERG: Herring Gull / Goéland argenté (*Larus argentatus*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY				0.86		0.14	0.43	0.57	0.43		0.24				
# DAYS OBSERVED				1		1	1	1	2		6				
FIRST OBSERVED: April 22			LAST OBSERVED: May 27			PEAK DATE: April 22			PEAK NUMBER OF INDIVIDUALS: 6						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY							0.14				0.43	0.14		0.43	0.08
# DAYS OBSERVED							1				1	1		2	5
FIRST OBSERVED: September 17				LAST OBSERVED: November 5				PEAK DATE: October 15				PEAK NUMBER OF INDIVIDUALS: 3			

After being missed in spring for two of the three previous years, Herring Gull numbers this year were somewhat above average for the season; although the peak count was on April 22, the remainder were all observed in May. The mean daily count in fall was close to average, and as usual sightings were weighted toward the later part of the season.

GBBG: Great Black-backed Gull / Goéland marin (*Larus marinus*)

AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY											0.14	0.29		0.29	0.05
# DAYS OBSERVED											1	2		2	5
FIRST OBSERVED: October 15				LAST OBSERVED: November 5				PEAK DATE: 5 dates				PEAK NUMBER OF INDIVIDUALS: 1			

Both in winter and spring, Great Black-backed Gull was missed for the third time in the past four years, and the fifth time overall. The mean daily count in fall matched the long-term average, and observations were limited to the later part of the season as in most years.

COLO: Common Loon / Plongeon huard (*Gavia immer*)

MARCH		APRIL					MAY					JUNE			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY				0.29	1.14	1.29	1.00	0.71	0.86		0.53				
# DAYS OBSERVED				2	4	5	4	3	3		21				
FIRST OBSERVED: April 23			LAST OBSERVED: May 27			PEAK DATE: May 4, May 27			PEAK NUMBER OF INDIVIDUALS: 4						
AUGUST		SEPTEMBER					OCTOBER					NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY					0.14	0.14	0.14	0.14			0.29		0.29		0.08
# DAYS OBSERVED					1	1	1	1			2		1		7
FIRST OBSERVED: August 31				LAST OBSERVED: October 27				PEAK DATE: October 27				PEAK NUMBER OF INDIVIDUALS: 2			

The number of Common Loons observed at MBO in spring varies quite a bit; this year the mean daily count was above average. For the third time in the past four years, Common Loon was observed on at least 30% of days during the spring season, more than in any of the first ten years. Fall sightings were much scarcer, as usual, with eight observations in total, occurring in six separate weeks between the end of August and late October.

DCCO: Double-crested Cormorant / Cormoran à aigrettes (*Phalacrocorax auritus*)

MARCH		APRIL					MAY					JUNE			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY				1.14	0.57	2.86		0.43	0.43	1.14					0.66
# DAYS OBSERVED				1	2	2		2	2	2					11
FIRST OBSERVED: April 22			LAST OBSERVED: May 31			PEAK DATE: May 5			PEAK NUMBER OF INDIVIDUALS: 18						
AUGUST		SEPTEMBER					OCTOBER					NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY		1.29	0.14			0.14		1.86	0.14	1.00		0.14			0.34
# DAYS OBSERVED		1	1			1		1	1	1		1			7
FIRST OBSERVED: August 10				LAST OBSERVED: October 19				PEAK DATE: September 24				PEAK NUMBER OF INDIVIDUALS: 13			

The mean daily count of Double-crested Cormorants in spring increased for the fourth year in a row, and was roughly 50% more than the long-term average for the season. This was largely due to a peak count of 18 individuals on May 5, one short of the single-day record for spring set last year on May 10. The mean daily count in fall was also around 50% higher than the long-term average, though less than in two of the past three years.

AMBI: American Bittern / Butor d'Amérique (*Botaurus lentiginosus*)

MARCH		APRIL					MAY					JUNE	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL		
# BIRDS / DAY				0.14		0.14				0.14	0.04		
# DAYS OBSERVED				1		1				1	3		
FIRST OBSERVED: April 23			LAST OBSERVED: May 26			PEAK DATE: Apr 23, May 8, May 26			PEAK NUMBER OF INDIVIDUALS: 1				

Over a span of more than one month, there were three spring sightings of American Bittern, slightly below average. For the second year in a row and seventh overall, there were no observations in fall.

GBHE: Great Blue Heron / Grand Héron (*Ardea herodias*)

MARCH		APRIL					MAY					JUNE			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY				0.71	0.43	0.86	1.00	0.29	0.29	0.14	0.37				
# DAYS OBSERVED				4	3	3	5	2	2	1	20				
FIRST OBSERVED: April 19			LAST OBSERVED: May 30			PEAK DATE: May 8			PEAK NUMBER OF INDIVIDUALS: 3						
AUGUST		SEPTEMBER					OCTOBER					NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	1.29	0.71	0.57	0.14		0.29		0.29	0.86	0.57	0.14				0.35
# DAYS OBSERVED	4	3	3	1		2		2	3	3	1				22
FIRST OBSERVED: August 2				LAST OBSERVED: October 14				PEAK DATE: August 2				PEAK NUMBER OF INDIVIDUALS: 4			

Great Blue Herons were unusually scarce at MBO this spring, with the third-lowest mean daily count out of 14 years; it was the fifth year with a peak count of 3 or fewer. The mean daily count of 0.14 in summer was one-quarter of the historical average. The mean daily count in fall was exactly the same as in 2017, and also matches the long-term average; sightings were scattered over the first two and a half months as usual.

GRHE: Green Heron / Héron vert (*Butorides virescens*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY					0.29	0.14	0.14	0.29	0.71		0.16				
# DAYS OBSERVED					2	1	1	2	4		10				
FIRST OBSERVED: April 26			LAST OBSERVED: May 29			PEAK DATE: May 29			PEAK NUMBER OF INDIVIDUALS: 2						
	AUGUST				SEPTEMBER				OCTOBER				NOVEMBER		
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	0.14		0.14		0.14										0.03
# DAYS OBSERVED	1		1		1										3
FIRST OBSERVED: August 6				LAST OBSERVED: September 2				PEAK DATE: Aug 6, Aug 20, Sep 2				PEAK NUMBER OF INDIVIDUALS: 1			

Green Heron observations this spring were a bit less common than usual, and for the first time since 2010 (and only the second time ever), none were detected in summer. The three sightings of lone individuals scattered over the first five weeks of fall marked the lowest total ever for the season.

TUVU: Turkey Vulture / Urubu à tête rouge (*Cathartes aura*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY		0.14	0.14	4.00	2.00	4.71	2.29	1.71	0.71	0.71	1.64				
# DAYS OBSERVED		1	1	6	2	6	5	5	4	2	32				
FIRST OBSERVED: April 7			LAST OBSERVED: June 1			PEAK DATE: April 27			PEAK NUMBER OF INDIVIDUALS: 13						
	AUGUST				SEPTEMBER				OCTOBER				NOVEMBER		
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	0.43	1.14	1.29	0.86	1.86	2.57	0.86	0.29	0.71	12.14	4.57	1.00	0.14		1.99
# DAYS OBSERVED	2	3	2	4	4	4	2	2	1	4	2	1	1		32
FIRST OBSERVED: August 2				LAST OBSERVED: October 26				PEAK DATE: Oct 6, Oct 8				PEAK NUMBER OF INDIVIDUALS: 40			

This spring's mean daily count of 1.64 Turkey Vultures was only marginally below the record high of 1.66 set in 2013. This year's result was influenced by a spring single-day record of 13 individuals on April 27, followed by the overall peak of migration in week 6. In summer, the mean daily count of 1.0 matched the record high from 2017. The high counts carried over to fall, when the mean daily count of 1.99 was the second-highest ever for the season, and more than double the long-term average. The single-day peak counts of 40 on October 6 and 8 were the third-highest ever at MBO, behind only 69 on September 27, 2012, and 71 on October 8, 2015; both of these days were within week 10, which ended up having the highest ever mean daily total for a week.

OSPR: Osprey / Balbuzard pêcheur (*Pandion haliaetus*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY					0.14	0.14	0.14	0.14			0.06				
# DAYS OBSERVED					1	1	1	1			4				
FIRST OBSERVED: April 27			LAST OBSERVED: May 17			PEAK DATE: 4 dates			PEAK NUMBER OF INDIVIDUALS: 1						
	AUGUST				SEPTEMBER				OCTOBER				NOVEMBER		
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY		0.14	0.29					0.14	0.29	0.57					0.10
# DAYS OBSERVED		1	2					1	2	3					9
FIRST OBSERVED: August 9				LAST OBSERVED: October 8				PEAK DATE: October 8				PEAK NUMBER OF INDIVIDUALS: 2			

Spring Osprey numbers were below average for a fourth consecutive year, with only a single individual observed each week, from week 5 through week 8. On the other hand, there were nearly twice as many Osprey sightings in fall than on average, and the mean daily count of 0.10 was only slightly below the record high of 0.12 in 2014. Seven of the ten observations were between late September and early October, coinciding with the typical peak of migration. However, for the third time in the past four years there were also sightings in August, suggesting there may be one or more nest sites relatively near MBO.

NOHA: Northern Harrier / Busard des marais (*Circus hudsonius*)

MARCH		APRIL					MAY					JUNE			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY				0.86	0.14	0.43	0.43	0.14	0.29		0.23				
# DAYS OBSERVED				1	1	2	3	1	2		10				
FIRST OBSERVED: April 24			LAST OBSERVED: May 24			PEAK DATE: April 24			PEAK NUMBER OF INDIVIDUALS: 6						
		AUGUST					SEPTEMBER					NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY			0.14			0.14	0.14	0.14	0.14	0.57	0.43	0.57			0.16
# DAYS OBSERVED			1			1	1	1	1	2	3	2			12
FIRST OBSERVED: August 17				LAST OBSERVED: October 23				PEAK DATE: October 23				PEAK NUMBER OF INDIVIDUALS: 3			

The mean daily count of Northern Harriers in spring set a new record high for the third time in the past five years; the peak count of 6 on April 24 tripled the previous single-day spring record. Conversely, fall sightings were scarcer than usual, the fewest since 2013. Over two-thirds of observations occurred in October.

SSHA: Sharp-shinned Hawk / Épervier brun (*Accipiter striatus*)

MARCH		APRIL					MAY					JUNE			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY				1.43		0.43	0.14	0.29	0.14		0.24				
# DAYS OBSERVED				3		3	1	1	1		9				
FIRST OBSERVED: April 19			LAST OBSERVED: May 27			PEAK DATE: April 24			PEAK NUMBER OF INDIVIDUALS: 8						
		AUGUST					SEPTEMBER					NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY		0.14	0.57	0.43	1.29	1.71	0.71	1.86	1.86	3.00	0.71	1.14	0.57	0.14	1.01
# DAYS OBSERVED		1	3	2	4	5	3	6	6	5	4	6	3	1	49
# PROCESSED					1			1	1	4-0-1		1			8-0-1
FIRST OBSERVED: August 10				LAST OBSERVED: November 5				PEAK DATE: October 5				PEAK NUMBER OF INDIVIDUALS: 7			

Sharp-shinned Hawk was missed in winter for the first time since 2013. Spring numbers were above average, thanks largely to a count of 8 individuals during a major raptor migration on April 24, double the previous spring single-day record. Both the number observed and banded in fall were average, though the peak in early October was a bit later than usual.

COHA: Cooper's Hawk / Épervier de Cooper (*Accipiter cooperii*)

MARCH		APRIL					MAY					JUNE			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY		0.14	0.14	2.14	0.43	0.86	0.86	0.86	0.29	0.43	0.61				
# DAYS OBSERVED		1	1	5	3	3	6	3	2	2	26				
FIRST OBSERVED: April 9			LAST OBSERVED: May 31			PEAK DATE: April 24			PEAK NUMBER OF INDIVIDUALS: 9						
		AUGUST					SEPTEMBER					NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	0.29	0.29	1.71	1.43	1.14	2.00	0.29	1.14	1.71	1.14	1.14	1.29	0.43		1.04
# DAYS OBSERVED	2	2	6	7	5	7	2	5	3	6	4	5	1		55
FIRST OBSERVED: August 1				LAST OBSERVED: October 25				PEAK DATE: October 1				PEAK NUMBER OF INDIVIDUALS: 7			

Two Cooper's Hawk were seen in winter, for a mean daily count of 0.05, half the long-term average. The spring mean daily count beat the record set in 2016, driven by the frequency of observations, with sightings on 26 days, double the long-term average. One summer sighting was only the fourth in MBO's history. Numbers remained well above average in fall, with observations on more than half the days, but no distinct peaks.

NOGO: Northern Goshawk / Autour des palombes (*Accipiter gentilis*)

		AUGUST					SEPTEMBER					OCTOBER			NOVEMBER	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL	
# BIRDS / DAY				0.14		0.14				0.14		0.14	0.29		0.06	
# DAYS OBSERVED				1		1				1		1	1		5	
FIRST OBSERVED: August 22				LAST OBSERVED: October 25				PEAK DATE: October 25				PEAK NUMBER OF INDIVIDUALS: 2				

For the second winter in a row, no Northern Goshawks were observed, and there were also none in spring, for the first time since 2015. Abundance in fall was close to average, although the highest since 2012.

BAEA: Bald Eagle / Pygargue à tête blanche (*Haliaeetus leucocephalus*)

MARCH		APRIL					MAY					JUNE			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY								0.14	0.71	0.14	0.10				
# DAYS OBSERVED								1	3	1	5				
FIRST OBSERVED: May 22			LAST OBSERVED: May 31			PEAK DATE: May 27			PEAK NUMBER OF INDIVIDUALS: 3						
		AUGUST			SEPTEMBER				OCTOBER			NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY				0.14	0.14	0.43	0.14	0.43	0.14	0.43		0.14			0.14
# DAYS OBSERVED				1	1	2	1	2	1	1		1			10
FIRST OBSERVED: August 24				LAST OBSERVED: October 21				PEAK DATE: October 5			PEAK NUMBER OF INDIVIDUALS: 3				

Although still scarce, the mean daily count of Bald Eagles this spring was a record high, nearly quadrupling the long-term average for the season. All observations were within a 10-day span near the end of spring, and included a single-day record high of 3 individuals on May 27. The mean daily count in fall tied the record high set just last year, and marks the seventh time in the past nine years that the previous record was either tied or exceeded. For the first time ever, there were sightings over seven consecutive weeks, focused on the middle of the season.

RSHA: Red-shouldered Hawk / Buse à épaulettes (*Buteo lineatus*)

MARCH		APRIL					MAY					JUNE			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY			0.14	0.71		1.14	0.71	0.86	0.71	1.00					0.53
# DAYS OBSERVED			1	3		4	4	5	4	3					24
FIRST OBSERVED: April 12			LAST OBSERVED: June 1			PEAK DATE: May 6, Jun 1			PEAK NUMBER OF INDIVIDUALS: 4						
		AUGUST			SEPTEMBER				OCTOBER			NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY		0.29	0.14		0.29	0.71	0.29		0.71	0.43		0.29			0.22
# DAYS OBSERVED		2	1		2	2	2		3	1		1			14
FIRST OBSERVED: August 10				LAST OBSERVED: October 23				PEAK DATE: Sep 8, Sep 27, Oct 5			PEAK NUMBER OF INDIVIDUALS: 3				

The mean daily count of Red-shouldered Hawks in spring was slightly above average, but observations were more heavily weighted to the second half of the season than usual. There were three sightings in summer, translating to a mean daily count of 0.43, well above average for the season. However, the mean daily count in fall was the lowest ever, less than half of the long-term average. Sightings were scattered over a span of 11 weeks, with no more than five individuals observed in any single week.

BWHA: Broad-winged Hawk / Petite Buse (*Buteo platypterus*)

MARCH		APRIL					MAY					JUNE			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY				8.57		1.29	0.14	0.29							1.03
# DAYS OBSERVED				1		4	1	2							8
FIRST OBSERVED: April 24			LAST OBSERVED: May 21			PEAK DATE: April 24			PEAK NUMBER OF INDIVIDUALS: 60						
		AUGUST			SEPTEMBER				OCTOBER			NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY		0.29	0.14	0.43	3.00	7.86	2.14	1.14	0.43	0.57	0.14				1.15
# DAYS OBSERVED		1	1	2	2	7	3	4	2	2	1				25
FIRST OBSERVED: August 10				LAST OBSERVED: October 10				PEAK DATE: September 8			PEAK NUMBER OF INDIVIDUALS: 37				

The optimal conditions for raptor migration on April 24 were coincided with the traditional peak of Broad-winged Hawk, and yielded a count of 60 individuals that nearly tripled the previous single-day record for the season. It also bloated the mean daily count for the season to a new record high nearly triple the previous peak set in 2011, and almost five times the long-term average for spring. In contrast, fall numbers were slightly below average overall, with only a modest peak count of 37 individuals on September 8, slightly earlier than in most years.

RTHA: Red-tailed Hawk / Buse à queue rousse (*Buteo jamaicensis*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY		0.29	0.29	5.29		0.86	0.71	1.29	0.43	0.29	0.94				
# DAYS OBSERVED		2	1	4		4	3	5	2	1	22				
FIRST OBSERVED: April 7			LAST OBSERVED: May 30			PEAK DATE: April 24			PEAK NUMBER OF INDIVIDUALS: 28						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY		1.14	1.29	0.43	1.57	2.86	0.71	0.29	1.57	3.71	1.71	5.00	3.14	0.14	1.68
# DAYS OBSERVED		4	7	2	4	6	3	1	5	6	5	6	5	1	55
FIRST OBSERVED: August 10				LAST OBSERVED: November 2				PEAK DATE: October 23				PEAK NUMBER OF INDIVIDUALS: 23			

The mean daily count of 0.12 Red-tailed Hawks in winter was less than half the long-term average for the season. In contrast, spring numbers were the highest ever. As for Sharp-shinned Hawk, Cooper’s Hawk, and Broad-winged Hawk, the big migration on April 24 drove up numbers – the 28 counted that day more than doubled the old single-day record of 13 on May 4, 2006. The summer mean daily count of 0.57 tied the record high for the season set in 2014. Numbers remained above average in fall, though to a lesser degree. There was an unusually early initial peak of migration in week 6, followed by two more waves in weeks 10 and 12-13 that coincided more with typical timing.

RLHA: Rough-legged Hawk / Buse pattue (*Buteo lagopus*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY				0.43	0.14	0.14					0.07				
# DAYS OBSERVED				3	1	1					5				
FIRST OBSERVED: April 18			LAST OBSERVED: May 2			PEAK DATE: 5 dates			PEAK NUMBER OF INDIVIDUALS: 1						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY													0.14		0.01
# DAYS OBSERVED													1		1
FIRST OBSERVED: October 25				LAST OBSERVED: October 25				PEAK DATE: October 25				PEAK NUMBER OF INDIVIDUALS: 1			

Rough-legged Hawk was missed in winter for the second time in the past three years, but it was a good spring for sightings, with single individuals observed on five days from mid-April to early May. These were the first spring sightings at MBO since 2007, and prior to this year there had been only three observations in total (one in 2006 and two in 2007). Fall numbers were typically scarce – as in 2015 and 2017 only a single individual was observed.

GHOW: Great Horned Owl / Grand-duc d'Amérique (*Bubo virginianus*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY				0.14	0.71	1.00	1.43	1.57	1.57	0.14	0.66				
# DAYS OBSERVED				1	4	4	7	7	7	1	31				
FIRST OBSERVED: April 19			LAST OBSERVED: May 30			PEAK DATE: May 12, May 17			PEAK NUMBER OF INDIVIDUALS: 3						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	0.57	0.71	1.14	0.14		0.71	0.29	0.57	0.57	0.57	0.43	0.14		0.29	0.44
# DAYS OBSERVED	4	4	4	1		5	2	4	4	4	3	1		2	38
FIRST OBSERVED: August 2				LAST OBSERVED: November 6				PEAK DATE: Aug 19, Aug 21				PEAK NUMBER OF INDIVIDUALS: 3			

After being observed in winter for six out of seven years beginning in 2011, Great Horned Owl was missed this year. Spring was a different matter, with the mean daily count of 0.6 nearly quadrupling the previous record set just last year. This was primarily due to the discovery of an active nest in one of the spruce trees adjacent to the winter banding area. One owlet was found on the ground below the nest on May 7, likely because of strong winds the night before. It was placed in a milk crate that was fixed to a nearby tree, and a motion-triggered camera was installed to monitor whether the adults would continue to feed it. They did, and it fledged on May 28. Three sightings in summer matched the record high mean daily count of 0.43 also established in 2017. Activity subsided somewhat in fall, but the mean daily count remained above the long-term average, though it was the lowest for the season since 2012.



Motion-triggered snapshot of one of the adult Great Horned Owls feeding the owlet in the milk crate.

NSWO: Northern Saw-whet Owl / Petite Nyctale (*Aegolius acadicus*)

	AUGUST				SEPTEMBER				OCTOBER				NOVEMBER	TOTAL	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13		WEEK 14
# BIRDS / DAY										0.29	0.29	0.14	0.29	0.43	0.10
# DAYS OBSERVED										2	1	1	2	3	9
# PROCESSED										1	1-0-1		1	0-0-1	3-0-2
FIRST OBSERVED: October 3				LAST OBSERVED: November 6				PEAK DATE: October 13				PEAK NUMBER OF INDIVIDUALS: 2			

Northern Saw-whet Owls were observed weekly during the final five weeks of the season, and for the sixth time in the past eight years, some were banded during the daytime Fall Migration Monitoring Program in addition to those from the dedicated owl banding efforts at night. The peak of movement this year, based on the nocturnal banding program, was week 10, with 58 owls banded (26% of the season total of 222). Curiously though, daytime observations were most frequent in the final week of the season, despite fewer owls banded at night that week than at any other time during the season.

BEKI: Belted Kingfisher / Martin-pêcheur d'Amérique (*Megasceryle alcyon*)

	MARCH	APRIL					MAY					JUNE	TOTAL		
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12		WEEK 13	WEEK 14
# BIRDS / DAY				0.29	0.29	0.86	0.14	0.29							0.19
# DAYS OBSERVED				2	2	6	1	1							12
FIRST OBSERVED: April 21			LAST OBSERVED: May 21			PEAK DATE: May 21			PEAK NUMBER OF INDIVIDUALS: 2						

	AUGUST				SEPTEMBER				OCTOBER				NOVEMBER	TOTAL	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13		WEEK 14
# BIRDS / DAY	0.29		0.29	0.14	0.29	0.14			0.14						0.09
# DAYS OBSERVED	2		2	1	2	1			1						9
FIRST OBSERVED: August 8				LAST OBSERVED: October 1				PEAK DATE: 9 dates				PEAK NUMBER OF INDIVIDUALS: 1			

The spring count of Belted Kingfishers was somewhat above average for the second year in a row. This spring nearly half of all observations were in week 6, somewhat surprising for a species that in most years has peaked in April. The mean daily count in fall perfectly matched the long-term average for the season, but was the lowest in three years. For the seventh year in a row, there was no more than a single individual observed on any day throughout fall.

RBWO: Red-bellied Woodpecker / Pic à ventre roux (*Melanerpes carolinus*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY		0.14	0.14	0.14							0.04				
# DAYS OBSERVED		1	1	1							3				
FIRST OBSERVED: April 9			LAST OBSERVED: April 21			PEAK DATE: Apr 9, Apr 13, Apr 21			PEAK NUMBER OF INDIVIDUALS: 1						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	0.14												0.29	0.29	0.05
# DAYS OBSERVED	1												2	2	5
FIRST OBSERVED: August 1				LAST OBSERVED: November 6				PEAK DATE: 5 dates				PEAK NUMBER OF INDIVIDUALS: 1			

Red-bellied Woodpecker was observed in winter for just the third year out of 14; there were three sightings over the course of the season, for a mean daily count of 0.07. Another three observations in April provided an above-average count for spring. As in every year except 2015 there were no summer records, though one was seen on the first day of the Fall Migration Monitoring Program. The other four fall sightings were all in the final two weeks of the season, including one on the final day for the first time. Overall, the count for fall was also above average.

YBSA: Yellow-bellied Sapsucker / Pic maculé (*Sphyrapicus varius*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY			0.14	0.86	0.43	0.86	1.57	1.00	0.43	0.14	0.54				
# DAYS OBSERVED			1	5	3	4	7	6	3	1	30				
# PROCESSED								1	0-0-1		1-0-1				
FIRST OBSERVED: April 12			LAST OBSERVED: May 31			PEAK DATE: 8 dates			PEAK NUMBER OF INDIVIDUALS: 2						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	1.43	0.57	0.43	0.14		0.14		0.14	0.43	0.14					0.24
# DAYS OBSERVED	6	4	3	1		1		1	2	1					19
# PROCESSED	4-0-1														4-0-1
FIRST OBSERVED: August 1				LAST OBSERVED: October 3				PEAK DATE: August 2				PEAK NUMBER OF INDIVIDUALS: 4			

The mean daily count of Yellow-bellied Sapsuckers in spring was slightly below average, and only one was banded compared to a long-term average of two. A modest peak of migration around mid-May was fairly typical. Three sightings in summer (mean daily count of 0.43), was slightly above average for the season. Fall counts were also on the high side, only slightly below the record mean daily high of 0.28 set in 2006 and 2007; the four individuals banded was the highest count for the season since 6 in 2008. The number of birds banded peaked in week 1 for the ninth time, but it was the first year that there was also a distinct peak in abundance that week; conversely only a few individuals were observed during the typical late September – early October migration period.

DOWO: Downy Woodpecker / Pic mineur (*Dryobates pubescens*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY	1.86	1.14	1.29	3.14	2.14	3.86	2.43	1.86	1.14	0.71	1.96				
# DAYS OBSERVED	7	5	5	7	6	7	7	7	5	3	59				
# PROCESSED				0-0-1	0-0-1	2	0-0-1	1-0-1	0-1-0		3-1-4				
FIRST OBSERVED: March 28			LAST OBSERVED: June 3			PEAK DATE: May 7			PEAK NUMBER OF INDIVIDUALS: 8						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	3.71	3.57	2.86	3.57	3.29	2.43	2.57	1.43	2.29	2.57	1.86	2.57	1.71	2.14	2.61
# DAYS OBSERVED	7	7	7	6	7	7	7	5	7	7	7	7	7	6	94
# PROCESSED	6-0-5	4-1-3	1-0-2	1-0-1	1-0-3	0-0-1	0-0-1		0-0-1	1	0-0-1	1	0-0-1		15-1-19
FIRST OBSERVED: August 1				LAST OBSERVED: November 6				PEAK DATE: Aug 3, Aug 13				PEAK NUMBER OF INDIVIDUALS: 6			

The mean daily count of 0.71 Downy Woodpeckers in winter was the lowest since 2008, and for the first time since 2010 none were banded. In spring, the number banded was average, while observations were slightly higher than usual, peaking slightly in early-mid May as usual. The mean daily count of 3.57 in summer matched the record set in 2015, and the 10 individuals banded was also well above average. In fall, both observations and number banded were marginally above long-term averages.

HAWO: Hairy Woodpecker / Pic chevelu (*Dryobates villosus*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY	0.71	0.57		0.43	1.00	0.86	0.86	0.57	1.29	0.43	0.67				
# DAYS OBSERVED	4	4		3	5	5	5	4	5	2	37				
# PROCESSED							0-2-0	0-0-1	2		2-2-1				
FIRST OBSERVED: March 29			LAST OBSERVED: June 2			PEAK DATE: May 25			PEAK NUMBER OF INDIVIDUALS: 4						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	1.29	1.29	0.71	1.29	1.29	0.86	1.43	0.57	0.71	0.86	0.71	2.00	1.43	1.86	1.16
# DAYS OBSERVED	6	6	4	7	7	6	6	3	4	4	5	6	6	7	77
# PROCESSED	2-0-1	1-0-2		0-0-1	0-0-1							0-2-0			3-2-5
FIRST OBSERVED: August 1				LAST OBSERVED: November 6				PEAK DATE: October 23				PEAK NUMBER OF INDIVIDUALS: 6			

In winter, the mean daily count of 0.39 Hairy Woodpeckers was below average, and for the first time since 2014 none were banded. In spring, the mean daily count was perfectly average, while it was the first time since 2011 that two individuals were banded during the season. For the second year in a row but only the fourth time in 14 years, there were no summer observations. Fall totals were average, and the slight increase in numbers toward the end of the season was also typical.

NOFL (YSFL): Yellow-shafted Flicker / Pic flamboyant (*Colaptes auratus auratus*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY		0.14		1.00	2.86	3.86	2.71	1.00	0.86	0.29	1.27				
# DAYS OBSERVED		1		2	6	7	7	4	4	2	33				
# PROCESSED							1				1				
FIRST OBSERVED: April 10			LAST OBSERVED: May 31			PEAK DATE: Apr 24, May 2, May 10			PEAK NUMBER OF INDIVIDUALS: 5						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	2.00	2.71	1.43	1.14	2.57	2.57	3.43	2.71	1.86	2.29	1.71	0.86	1.57	0.86	1.98
# DAYS OBSERVED	7	7	7	5	5	6	7	5	7	7	7	4	6	5	85
# PROCESSED		1			2		1								4
FIRST OBSERVED: August 1				LAST OBSERVED: November 6				PEAK DATE: September 16				PEAK NUMBER OF INDIVIDUALS: 8			

There was one Yellow-shafted Flicker sighting in winter, the first since 2015. The mean daily count and number banded in spring were both just slightly below average; the peak of migration was in week 6 for the fourth time in the past six years, after being earlier in all previous years. The mean daily count of 1.43 in summer was slightly above average, but for the first time since 2014 none were banded. In fall, the mean daily count was the lowest since 2008, but the number banded was slightly above average. The peak of migration was around mid-September as in most years, but less distinct than usual, whereas observations were uncommonly frequent over the final three weeks of the season.

PIWO: Pileated Woodpecker / Grand Pic (*Dryocopus pileatus*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY	1.29	1.00	0.57	1.71	1.57	1.71	1.14	1.43	0.57	0.29	1.13				
# DAYS OBSERVED	6	4	3	7	5	6	6	6	3	2	48				
# PROCESSED									0-1-0		0-1-0				
FIRST OBSERVED: March 28			LAST OBSERVED: June 1			PEAK DATE: Apr 9, May 1			PEAK NUMBER OF INDIVIDUALS: 4						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	0.86	1.43	0.57	1.00	1.00	0.86	1.43	0.43	1.43	1.71	1.00	1.14	0.86	1.71	1.10
# DAYS OBSERVED	4	6	3	5	5	4	6	2	6	7	5	6	4	6	69
FIRST OBSERVED: August 3				LAST OBSERVED: November 6				PEAK DATE: 4 dates				PEAK NUMBER OF INDIVIDUALS: 3			

The mean daily count of 0.20 Pileated Woodpeckers in winter was below average, but the spring rate of observation was slightly higher than usual; as in most years observations tapered off toward the end of the season. In summer, the mean daily count of 0.57 was above average, but the fall numbers were below average, the lowest since 2009.

AMKE: American Kestrel / Crécerelle d'Amérique (*Falco sparverius*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY				0.29		0.29	0.14	0.14			0.09				
# DAYS OBSERVED				2		2	1	1			6				
FIRST OBSERVED: April 20			LAST OBSERVED: May 22			PEAK DATE: 6 dates			PEAK NUMBER OF INDIVIDUALS: 1						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	0.14			0.14		0.29	0.14			0.14		0.14			0.07
# DAYS OBSERVED	1			1		2	1			1		1			7
FIRST OBSERVED: August 7				LAST OBSERVED: October 17				PEAK DATE: 7 dates				PEAK NUMBER OF INDIVIDUALS: 1			

Fewer American Kestrels were observed this spring than in last year's record-setting season, but the mean daily count remained above the long-term average. Observations of lone birds were scattered mid-season across six dates spanning slightly more than one month. The fall count was just short of the long-term average, but the lowest since 2014. As in spring, no more than one individual was observed on any day.

MERL: Merlin / Faucon émerillon (*Falco columbarius*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY						0.14	0.43	0.14	0.14		0.09				
# DAYS OBSERVED						1	3	1	1		6				
FIRST OBSERVED: April 28			LAST OBSERVED: May 16			PEAK DATE: 6 dates			PEAK NUMBER OF INDIVIDUALS: 1						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	0.14	0.14	0.57	0.43	0.14	0.57	0.43		0.43	0.29		0.29	0.14	0.29	0.28
# DAYS OBSERVED	1	1	3	3	1	3	3		3	1		2	1	2	24
FIRST OBSERVED: August 6				LAST OBSERVED: November 5				PEAK DATE: Aug 18, Sep 9, Oct 8				PEAK NUMBER OF INDIVIDUALS: 2			

One Merlin was observed in winter, the first since 2013, and only the fifth overall for the season. The mean daily count in spring was above average for a third consecutive year; all observations were within a span of just 19 days, and no more than one individual was ever observed in a day. In summer, numbers were only slightly above average, though sightings extended into week 14 for only the second time, and the observation on November 5 was a new record late date for the season.

PEFA: Peregrine Falcon / Faucon pèlerin (*Falco peregrinus*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY						0.14					0.01				
# DAYS OBSERVED						1					1				
FIRST OBSERVED: May 4			LAST OBSERVED: May 4			PEAK DATE: May 4			PEAK NUMBER OF INDIVIDUALS: 1						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY										0.14					0.01
# DAYS OBSERVED										1					1
FIRST OBSERVED: October 8				LAST OBSERVED: October 8				PEAK DATE: October 8				PEAK NUMBER OF INDIVIDUALS: 1			

A single Peregrine Falcon was observed in each of spring and fall. This matches the long-term average for spring, but is low for fall, when the long-term average is three. In both seasons, the timing of the sighting aligned well with the typical peak of migration for the species.

GCFL: Great Crested Flycatcher / Tyran huppé (*Myiarchus crinitus*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY						0.57	3.43	3.29	3.71	2.57	1.36				
# DAYS OBSERVED						3	7	7	7	5	29				
# PROCESSED							0-2-0			0-1-0	0-3-0				
	FIRST OBSERVED: May 6			LAST OBSERVED: June 5		PEAK DATE: May 25			PEAK NUMBER OF INDIVIDUALS: 6						
	AUGUST				SEPTEMBER				OCTOBER				NOVEMBER		
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	2.71	2.57	1.00	1.57	1.29	1.86	0.29								0.81
# DAYS OBSERVED	7	7	4	6	7	7	2								40
# PROCESSED	3-0-1	3		2	1										9-0-1
	FIRST OBSERVED: August 1				LAST OBSERVED: September 13				PEAK DATE: Aug 1, Aug 2				PEAK NUMBER OF INDIVIDUALS: 5		

The spring mean daily count was above average for the fifth consecutive year, but for only the fourth time none were banded. A record high 3.0 per day were observed in summer, and 3 were banded. The mean daily count in fall was second only to the record of 0.97 in 2008, and the 9 banded broke the previous record of 6 in 2005.

EAKI: Eastern Kingbird / Tyran tritri (*Tyrannus tyrannus*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY						0.43	0.29	1.71	1.14	0.29					0.39
# DAYS OBSERVED						3	2	7	5	2					19
	FIRST OBSERVED: May 3			LAST OBSERVED: June 5		PEAK DATE: May 22, May 24			PEAK NUMBER OF INDIVIDUALS: 3						
	AUGUST				SEPTEMBER				OCTOBER				NOVEMBER		
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	1.43	4.29	3.00	0.57											0.66
# DAYS OBSERVED	5	7	6	3											21
# PROCESSED		2													2
	FIRST OBSERVED: August 1				LAST OBSERVED: August 26				PEAK DATE: August 15				PEAK NUMBER OF INDIVIDUALS: 10		

There were fewer Eastern Kingbird observations in spring than any previous year, and for the first time since 2012 none were banded. The mean daily count of 0.29 in summer was also far below normal, but the fall total was the highest since 2011 and two were banded during the season, a record high and the first ones since 2009.

OSFL: Olive-sided Flycatcher / Moucherolle à côtés olive (*Contopus cooperi*)

	AUGUST				SEPTEMBER				OCTOBER				NOVEMBER		
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY			0.14												0.01
# DAYS OBSERVED			1												1
	FIRST OBSERVED: August 20				LAST OBSERVED: August 20				PEAK DATE: August 20				PEAK NUMBER OF INDIVIDUALS: 1		

A single Olive-sided Flycatcher was observed in fall, as in seven previous years; timing was perfectly typical.

EAWP: Eastern Wood-Pewee / Pioui de l'Est (*Contopus virens*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY										0.43	0.71	0.11			
# DAYS OBSERVED										3	4	7			
	FIRST OBSERVED: May 27			LAST OBSERVED: June 3		PEAK DATE: June 1			PEAK NUMBER OF INDIVIDUALS: 2						
	AUGUST				SEPTEMBER				OCTOBER				NOVEMBER		
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	1.00	2.29	1.14	1.14	1.14	1.00									0.55
# DAYS OBSERVED	6	7	7	7	5	5									37
# PROCESSED		3	1		1										5
	FIRST OBSERVED: August 2				LAST OBSERVED: September 10				PEAK DATE: August 13				PEAK NUMBER OF INDIVIDUALS: 4		

Spring sightings of Eastern Wood-Pewee were limited to the final two weeks, as in many previous years; the total count was slightly above average. For the first time since 2013, none were observed in summer. The mean daily count in fall was well above average for the fifth year in a row, and the total of 5 banded was a new record high, notable as the total over the previous 13 years was only 16. Peak migration was in week 2 as usual.

YBFL: Yellow-bellied Flycatcher / Moucherolle à ventre jaune (*Empidonax flaviventris*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY							0.14				0.01				
# DAYS OBSERVED							1				1				
# PROCESSED							1				1				
FIRST OBSERVED: May 13			LAST OBSERVED: May 13			PEAK DATE: May 13			PEAK NUMBER OF INDIVIDUALS: 1						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	0.14	0.86	1.29	1.43	1.00	0.14		0.29	0.29	0.29					0.41
# DAYS OBSERVED	1	5	4	6	3	1		1	2	2					25
# PROCESSED	1	3	7	1-0-1	5	1		2	2	1-0-1					23-0-2
FIRST OBSERVED: August 7				LAST OBSERVED: October 7				PEAK DATE: Aug 19, Aug 21, Sep 4				PEAK NUMBER OF INDIVIDUALS: 3			

Only one Yellow-bellied Flycatcher was observed this spring, an individual banded on May 13. This was the third time in 14 years that just one individual was detected; there have also been three years with none. In fall, the mean daily count was above average for the sixth year in a row, and reached a new record high. The 23 individuals banded was also quite high, although average over the past five years, reflecting the general increasing trend for this species in fall. The sighting on October 7 was a new record late for the species.

TRFL: Traill's Flycatcher / Moucherolle des saules ou M. des aulnes (*Empidonax traillii* or *alnorum*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY								0.14	1.43	1.43	0.30				
# DAYS OBSERVED								1	5	4	10				
# PROCESSED								1	5	2	8				
FIRST OBSERVED: May 21			LAST OBSERVED: June 3			PEAK DATE: May 30			PEAK NUMBER OF INDIVIDUALS: 5						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	0.57	0.86	1.71	0.71	0.86	1.29		0.14	0.14						0.45
# DAYS OBSERVED	4	4	6	4	4	7		1	1						31
# PROCESSED	4	4	4-0-1	3	5	4		1	1						26-0-1
FIRST OBSERVED: August 3				LAST OBSERVED: September 26				PEAK DATE: August 20				PEAK NUMBER OF INDIVIDUALS: 3			

The number of Traill's Flycatchers observed this spring was close to average, but only 8 were banded, the fewest since 2010. For only the fifth time in 14 years, none were observed in summer. After steadily declining since 2012, the number banded in fall rebounded to 26, behind only the record high of 29 in 2008; the mean daily count was also the highest since that year, and roughly 50% above the long-term average.

ALFL: Alder Flycatcher / Moucherolle des aulnes (*Empidonax alnorum*)

MARCH	APRIL					MAY					JUNE	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL	
# BIRDS / DAY									0.57	0.86	0.14	
# DAYS OBSERVED									2	3	5	
FIRST OBSERVED: May 25			LAST OBSERVED: June 1			PEAK DATE: May 29, May 30			PEAK NUMBER OF INDIVIDUALS: 3			

Nearly half of the Traill's Flycatchers observed at MBO this spring were recognized as Alder Flycatchers based on their calls, but the total number was the lowest since 2013. The lack of vocalizations in fall prevented any species-level identification during that season.

WIFL: Willow Flycatcher / Moucherolle des saules (*Empidonax traillii*)

MARCH	APRIL					MAY					JUNE	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL	
# BIRDS / DAY									0.14	0.14	0.03	
# DAYS OBSERVED									1	1	2	
FIRST OBSERVED: May 29			LAST OBSERVED: May 30			PEAK DATE: May 29, May 30			PEAK NUMBER OF INDIVIDUALS: 1			

Only two of the Traill's Flycatchers this spring were identifiable as Willow Flycatchers based on their vocalizations, but this is nonetheless double the long-term average.

LEFL: Least Flycatcher / Moucherolle tchébec (*Empidonax minimus*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY							2.14	1.43	1.00	0.29	0.49				
# DAYS OBSERVED							6	5	5	1	17				
# PROCESSED							6	4	1		11				
FIRST OBSERVED: May 10			LAST OBSERVED: May 31			PEAK DATE: May 11			PEAK NUMBER OF INDIVIDUALS: 6						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	0.29	0.57	0.29	1.00	0.43	0.43	0.14	0.29							0.24
# DAYS OBSERVED	2	2	2	5	3	3	1	2							20
# PROCESSED	2		1	4-0-1			1	2							10-0-1
FIRST OBSERVED: August 3				LAST OBSERVED: September 23				PEAK DATE: 4 dates				PEAK NUMBER OF INDIVIDUALS: 2			

The mean daily count of Least Flycatchers rebounded to slightly above average this spring, after last year dipping to the lowest level since 2012. The number of individuals banded was marginally above the long-term average of 10. Two Least Flycatchers were observed in summer, for a mean daily count of 0.29, the highest since 2013. In fall, the mean daily count and number banded both perfectly matched the long-term averages for the season. As in most years, there was a modest peak in migration in the fourth week of August.

EAPH: Eastern Phoebe / Moucherolle phébi (*Sayornis phoebe*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY		0.14		0.29	0.71	0.57	0.71	0.29	0.14	0.14	0.30				
# DAYS OBSERVED		1		2	4	4	5	2	1	1	20				
FIRST OBSERVED: April 7			LAST OBSERVED: June 2			PEAK DATE: May 1			PEAK NUMBER OF INDIVIDUALS: 2						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY		0.14	1.14	0.71	0.57	0.29	0.86	0.57	3.00	1.43	0.57	0.43	0.14		0.70
# DAYS OBSERVED		1	6	4	3	2	5	4	6	3	4	3	1		42
# PROCESSED								2	4						6
FIRST OBSERVED: August 13				LAST OBSERVED: October 26				PEAK DATE: September 30				PEAK NUMBER OF INDIVIDUALS: 7			

It was a poor spring for Eastern Phoebe, with the mean daily count less than half of the long-term average for the season, and none banded for the first time since 2012. However, two were banded in summer, compared to just five in all previous years combined, and the mean daily count of 0.57 was above average. The count remained above average in fall, though the number banded was typical for the season. There was an unusually distinct peak in migration in week 9, which had the highest ever weekly mean daily count.

NSHR: Northern Shrike / Pie-grièche boréale (*Lanius borealis*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY		0.14		0.29							0.04				
# DAYS OBSERVED		1		2							3				
# PROCESSED				1							1				
FIRST OBSERVED: April 8			LAST OBSERVED: April 19			PEAK DATE: Apr 8, Apr 18, Apr 19			PEAK NUMBER OF INDIVIDUALS: 1						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY														0.43	0.03
# DAYS OBSERVED														3	3
# PROCESSED														1	1
FIRST OBSERVED: November 4				LAST OBSERVED: November 6				PEAK DATE: Nov 4, Nov 5, Nov 6				PEAK NUMBER OF INDIVIDUALS: 1			

The mean daily count of Northern Shrikes in winter was 0.12, only slightly below the long-term average of 0.15. One was banded, the ninth overall during winter. The three sightings in spring were also just below average, while the one banded was only the second ever in spring, and the first since 2008. All fall sightings were in the final week of the season, and under the old 13-week program, this would have been only the second time the species was missed. The three individuals observed were again slightly below average, but one was banded, the 14th for fall in MBO's 14 years of operation.

BHVI: Blue-headed Vireo / Viréo à tête bleue (*Vireo solitarius*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY						0.71	0.43	0.14	0.14	0.29	0.17				
# DAYS OBSERVED						5	3	1	1	1	11				
# PROCESSED						1	1				2				
FIRST OBSERVED: May 2			LAST OBSERVED: May 31			PEAK DATE: May 31			PEAK NUMBER OF INDIVIDUALS: 2						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY		0.14		0.14	0.14		0.86	1.14	2.71	3.00	1.29				0.67
# DAYS OBSERVED		1		1	1		3	3	6	6	5				26
# PROCESSED						2	4-0-1	7-0-2	8	1					22-0-3
FIRST OBSERVED: August 11				LAST OBSERVED: October 14				PEAK DATE: October 3				PEAK NUMBER OF INDIVIDUALS: 9			

The mean daily count of Blue-headed Vireos this spring was below average, and the lowest since 2014, but two individuals were banded, which is normal. Despite the lower numbers, it was only the fifth time in 14 years that sightings extended as late as the final week of the season. Both the mean daily count and number of birds banded in fall were slightly above average, thanks to a particularly strong movement during the traditional peak of migration in late September and early October.

PHVI: Philadelphia Vireo / Viréo de Philadelphie (*Vireo philadelphicus*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY												0.14			0.01
# DAYS OBSERVED												1			1
FIRST OBSERVED: May 25			LAST OBSERVED: May 25			PEAK DATE: May 25			PEAK NUMBER OF INDIVIDUALS: 1						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY				0.57	0.57	0.86	0.71	0.86	1.00						0.33
# DAYS OBSERVED				2	3	3	4	3	4						19
# PROCESSED				1	3	4	3-0-1	3	0-0-3						14-0-4
FIRST OBSERVED: August 23				LAST OBSERVED: October 1				PEAK DATE: Sep 7, Sep 20, Sep 26				PEAK NUMBER OF INDIVIDUALS: 3			

For the third time in 14 years, only one Philadelphia Vireo was observed in spring; there have also been three years in which the species was missed entirely. This year's lone detection was in week 9, which has had the highest frequency of observations across all years. In fall, the mean daily count and number banded were both nearly double the long-term averages, and behind only the record highs set in 2014. All observations were within a shorter than usual span of 40 days extending from late August to the beginning of October; the peak, although modest, was in week 9, later than in any previous year.

WAVI: Warbling Vireo / Viréo mélodieux (*Vireo gilvus*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY						0.14	4.00	4.86	4.43	3.14	1.66				
# DAYS OBSERVED						1	7	7	7	6	28				
# PROCESSED							1-1-1	2-0-1	0-2-3		3-3-5				
FIRST OBSERVED: May 8			LAST OBSERVED: June 5			PEAK DATE: May 16			PEAK NUMBER OF INDIVIDUALS: 8						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	1.29	1.14	1.29	1.57	2.29	3.00	2.86	1.00	0.29						1.05
# DAYS OBSERVED	5	5	5	5	6	7	7	3	2						45
# PROCESSED	1		2	1-1-0		1	3	1							9-1-0
FIRST OBSERVED: August 1				LAST OBSERVED: September 30				PEAK DATE: September 5				PEAK NUMBER OF INDIVIDUALS: 6			

The mean daily count of Warbling Vireos in spring was above average for a sixth consecutive year, but for the third year in a row only three individuals were banded, slightly below average. However, seven were banded in summer, one short of the record set in 2012, and another nine in fall, second only to the 15 in 2008. The mean daily highs in both summer and fall were roughly double the long-term average for each season.

REVI: Red-eyed Vireo / Viréo aux yeux rouges (*Vireo olivaceus*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY							0.29	3.00	4.00	3.71	1.10				
# DAYS OBSERVED							2	7	7	7	23				
# PROCESSED								1	2	1	4				
FIRST OBSERVED: May 13			LAST OBSERVED: June 5			PEAK DATE: May 28			PEAK NUMBER OF INDIVIDUALS: 7						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	7.86	10.00	9.43	8.57	11.00	7.57	7.00	2.86	1.57	0.29					4.72
# DAYS OBSERVED	7	7	7	7	7	7	7	4	6	1					60
# PROCESSED	9-2-4	17-2-2	17-3-4	18-2-0	28-1-2	14-0-3	17-1-2	7-0-3	3	2					132-11-20
FIRST OBSERVED: August 1				LAST OBSERVED: October 4				PEAK DATE: August 29				PEAK NUMBER OF INDIVIDUALS: 22			

The mean daily count of Red-eyed Vireos was above average for an eighth consecutive spring, reflecting a sharp contrast in results before and since 2011. As usual, almost all observations were in the final three weeks of the season, and the number banded in spring was average. Red-eyed Vireo was the second-most abundant species at MBO this summer, with a record-high mean daily count of 7.43, nearly triple the long-term average. A record high 25 individuals were banded in summer, compared to 87 in total over the previous 13 years. A new banding record was also set in fall, eclipsing the previous high of 126 in 2014; the mean daily count for the season was only slightly below the record of 5.13 in 2016.

BLJA: Blue Jay / Geai bleu (*Cyanocitta cristata*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY	9.71	9.57	8.14	11.86	8.29	7.29	5.29	3.14	4.43	2.86	7.06				
# DAYS OBSERVED	7	7	7	7	7	7	7	7	7	6	69				
# PROCESSED				1-4-0	0-1-0	2-1-0	1-1-0	0-1-0			4-8-0				
FIRST OBSERVED: March 28			LAST OBSERVED: June 5			PEAK DATE: April 9			PEAK NUMBER OF INDIVIDUALS: 21						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	6.14	8.86	8.71	11.14	10.71	15.86	16.86	17.86	21.43	24.00	15.00	10.71	7.86	8.57	13.12
# DAYS OBSERVED	7	7	7	7	7	7	7	7	7	7	7	7	7	7	98
# PROCESSED			1		1	2	3	3	2	0-2-0	1		0-3-0		13-5-0
FIRST OBSERVED: August 1				LAST OBSERVED: November 6				PEAK DATE: September 27				PEAK NUMBER OF INDIVIDUALS: 45			

Blue Jay was the fifth most abundant species at MBO this winter, the first time it has ranked higher than ninth for the season; the mean daily count of 5.17 was above average, but lower than in 2009 and 2015. However, just two were banded, compared to a long-term average of five. Sightings remained well above average in spring, with only 2006 and 2013 having had higher mean daily counts; four were banded, which is double the long-term average. The mean daily count in summer dropped to 2.86, which is still above average for the season; as in most years none were banded. In fall, the mean daily count was the lowest since 2009, and the number banded the lowest since 2007. Migration peaked slightly later than usual, in early October.

AMCR: American Crow / Corneille d'Amérique (*Corvus brachyrhynchos*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY	9.71	9.71	7.57	14.14	3.86	9.00	7.57	12.71	13.29	7.14	9.47				
# DAYS OBSERVED	7	7	7	7	7	7	7	7	7	5	68				
FIRST OBSERVED: March 28			LAST OBSERVED: June 4			PEAK DATE: May 28			PEAK NUMBER OF INDIVIDUALS: 35						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	21.00	19.00	45.00	16.86	29.71	16.14	18.14	15.86	39.29	46.86	48.00	18.29	16.29	12.86	25.95
# DAYS OBSERVED	7	7	7	7	7	7	7	7	7	7	7	7	7	7	98
FIRST OBSERVED: August 1				LAST OBSERVED: November 6				PEAK DATE: October 13				PEAK NUMBER OF INDIVIDUALS: 101			

The mean daily count of American Crows was 3.95 in winter, the third-lowest on record, and in spring set a new record low. In summer, it was 4.14, the second-highest level since 2012. However, the fall count was also a record low, less than half the long-term average, and continuing a decade-long decline.

CORA: Common Raven / Grand Corbeau (*Corvus corax*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY	0.14	0.14	0.29	1.29	1.29	1.57	1.14	1.00	1.00	0.14	0.80				
# DAYS OBSERVED	1	1	2	6	4	7	6	5	5	1	38				
FIRST OBSERVED: March 31			LAST OBSERVED: May 31			PEAK DATE: May 4			PEAK NUMBER OF INDIVIDUALS: 4						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	0.43	1.00	1.14	1.14	1.86	2.43	1.00	1.00	1.71	2.00	2.29	2.14	1.43	1.71	1.52
# DAYS OBSERVED	3	5	5	5	3	7	4	4	6	6	6	7	5	7	73
FIRST OBSERVED: August 3				LAST OBSERVED: November 6				PEAK DATE: September 4				PEAK NUMBER OF INDIVIDUALS: 7			

The mean daily count of 0.44 Common Ravens in winter was somewhat above average, as was the result for spring. In summer, only two were observed, for a mean daily count of 0.29, nearly matching the long-term average of 0.31. In fall, there were slightly fewer observations than last year's record high, but the strong pattern of increase over the past several years continued.

HOLA: Horned Lark / Alouette hausse-col (*Eremophila alpestris*)

AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY														1.29	0.09
# DAYS OBSERVED														3	3
FIRST OBSERVED: October 31				LAST OBSERVED: November 4				PEAK DATE: Oct 31, Nov 1				PEAK NUMBER OF INDIVIDUALS: 4			

Horned Lark was almost missed at MBO this year, showing up only in the last week of fall. This was the fifth consecutive year with sightings in fall, compared to only two of the first nine years of the Fall Migration Monitoring Program, but this was the first time that observations were limited to week 14.

PUMA: Purple Martin / Hirondelle noire (*Progne subis*)

AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	0.14	1.29	0.43	1.86											0.27
# DAYS OBSERVED	1	2	2	4											9
FIRST OBSERVED: August 5				LAST OBSERVED: August 27				PEAK DATE: August 8				PEAK NUMBER OF INDIVIDUALS: 8			

For the third year in a row, no Purple Martins were observed in spring. In fall, the mean daily count and number of days with observations were both average and similar to results from 2017, an encouraging sign after a string of eight below-average years from 2009 through 2016. The peak in week 4 was later than any previous year.

TRES: Tree Swallow / Hirondelle bicolor (*Tachycineta bicolor*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY				7.00	17.29	18.14	15.86	14.57	12.71	9.71	9.53				
# DAYS OBSERVED				5	7	7	7	7	7	7	47				
# PROCESSED					3	2	4	2-1-2			11-1-2				
FIRST OBSERVED: April 19			LAST OBSERVED: June 5			PEAK DATE: April 27			PEAK NUMBER OF INDIVIDUALS: 42						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	0.14	1.00	0.14	2.71											0.29
# DAYS OBSERVED	1	2	1	5											9
FIRST OBSERVED: August 5				LAST OBSERVED: August 27				PEAK DATE: August 27				PEAK NUMBER OF INDIVIDUALS: 6			

The mean daily count of Tree Swallows in spring increased for the fifth consecutive year, and the species was the fifth-most numerous at MBO this spring, the highest rank it has ever achieved. The 11 individuals banded was the most since 2012. However, summer observations remained below average for a seventh straight year with a mean daily count of 2.14, compared to a long-term average of 4.70. Despite that, a record high 43 individuals were banded through the nest box program. The mean daily count in fall was far below the long-term average of 0.72, and this was only third time in 14 years that all observations were restricted to the first four weeks of the season.

NRWS: Northern Rough-winged Swallow / Hironde à ailes hérissées (*Stelgidopteryx serripennis*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY							0.14		0.14		0.03				
# DAYS OBSERVED							1		1		2				
FIRST OBSERVED: May 12			LAST OBSERVED: May 27			PEAK DATE: May 12, May 27			PEAK NUMBER OF INDIVIDUALS: 1						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY				0.14											0.01
# DAYS OBSERVED				1											1
FIRST OBSERVED: August 27				LAST OBSERVED: August 27				PEAK DATE: August 27				PEAK NUMBER OF INDIVIDUALS: 1			

Only two Northern Rough-winged Swallows were observed at MBO this spring, the fewest since 2012. The species was recorded in fall for the eighth time in 14 years, but only one individual was seen on August 27, less than half the long-term average.

BANS: Bank Swallow / Hironde de rivage (*Riparia riparia*)

AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY					0.14										0.01
# DAYS OBSERVED					1										1
FIRST OBSERVED: September 3				LAST OBSERVED: September 3				PEAK DATE: September 3				PEAK NUMBER OF INDIVIDUALS: 1			

Only one Bank Swallow was observed at MBO this year, on September 3. It was the seventh fall in 14 years with at least one observation of the species, and the fifth year without any spring records.

CLSW: Cliff Swallow / Hironde à front blanc (*Petrochelidon pyrrhonota*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY						1.86	5.14	5.86	9.29	6.29	2.84				
# DAYS OBSERVED						4	6	4	6	4	24				
FIRST OBSERVED: May 4			LAST OBSERVED: June 5			PEAK DATE: May 27			PEAK NUMBER OF INDIVIDUALS: 25						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY			2.86												0.20
# DAYS OBSERVED			3												3
FIRST OBSERVED: August 16				LAST OBSERVED: August 18				PEAK DATE: August 17				PEAK NUMBER OF INDIVIDUALS: 10			

Cliff Swallow numbers for spring rebounded somewhat from a near-record low in 2017, but remained at less than half the long-term average for the season. Unusually, Cliff Swallows were observed on three consecutive days in fall, but there were no observations outside of this. That brief period alone though accounted for the highest fall total for this species since 2008.

BARS: Barn Swallow / Hironde rustique (*Hirundo rustica*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY					0.43	1.57	0.86	0.71	0.29	0.14	0.40				
# DAYS OBSERVED					2	7	5	4	1	1	20				
FIRST OBSERVED: April 27			LAST OBSERVED: June 1			PEAK DATE: May 8			PEAK NUMBER OF INDIVIDUALS: 3						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	0.14	5.29	3.57	2.57	0.57										0.87
# DAYS OBSERVED	1	5	4	4	2										16
FIRST OBSERVED: August 6				LAST OBSERVED: September 4				PEAK DATE: August 14				PEAK NUMBER OF INDIVIDUALS: 16			

The mean daily count of Barn Swallows this spring was average, although the peak came earlier than usual in the first week of May. In fall, the mean daily count was more than double the long-term average, and second only to the record of 1.03 in 2015. As usual, numbers were highest around mid-August.

BCCH: Black-capped Chickadee / Mésange à tête noire (*Poecile atricapillus*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY	9.14	10.43	8.57	11.71	10.86	12.14	9.57	7.57	6.43	3.57	9.00				
# DAYS OBSERVED	7	7	7	7	7	7	7	7	7	5	68				
# PROCESSED				1-3-15	2-3-4	0-0-8	0-3-5	2-0-2	0-0-2	0-0-1	5-9-37				
	FIRST OBSERVED: March 28			LAST OBSERVED: June 5		PEAK DATE: April 12		PEAK NUMBER OF INDIVIDUALS: 18							
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	7.86	11.29	14.00	14.43	16.00	16.00	16.14	13.86	15.57	17.57	19.14	22.14	17.57	22.86	16.03
# DAYS OBSERVED	7	7	7	7	7	7	7	7	7	7	7	7	7	7	98
# PROCESSED	0-0-2	4-0-2	1-3-3	4-2-0	2-1-2	4-1-1	3-1-5	3-2-11	6-0-7	4-1-7	19-2-25	13-2-11	9-1-12	3-0-8	75-16-96
	FIRST OBSERVED: August 1				LAST OBSERVED: November 6			PEAK DATE: October 17			PEAK NUMBER OF INDIVIDUALS: 40				

The mean daily count and number of Black-capped Chickadees banded in winter were both slightly below long-term averages, but this reflected the harsher winter overall, as it marked the first time since 2006 that Black-capped Chickadee was the second-most numerous bird overall (behind only Canada Goose), and the first time since 2010 that it was among the top three species banded during the season. Spring numbers remain fairly consistent from year to year, but the mean daily count for 2018 was slightly below average, and the lowest since 2009. Only four were banded in summer, the fewest since 2014; the mean daily count of 4.29 was around 20% less than average. Both the mean daily count and number banded were also a bit below average in fall; the 75 banded was well below the average of 207 over the past four “even” years, which since 2010 have had much higher counts than “odd” years, with an average of 47 banded.

BOCH: Boreal Chickadee / Mésange à tête brune (*Poecile hudsonicus*)

AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY													0.14		0.01
# DAYS OBSERVED													1		1
	FIRST OBSERVED: October 24				LAST OBSERVED: October 24			PEAK DATE: October 24			PEAK NUMBER OF INDIVIDUALS: 1				

One Boreal Chickadee was observed on October 24, 13 years and four days after the only previous record.

TUTI: Tufted Titmouse / Mésange bicolor (*Baeolophus bicolor*)

One Tufted Titmouse was observed this winter on November 27, the first since November 6, 2014, and only the third record overall for MBO.

RBNU: Red-breasted Nuthatch / Sittelle à poitrine rousse (*Sitta canadensis*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY	0.14	0.14	0.29	0.14	0.14	0.71	0.29				0.19				
# DAYS OBSERVED	1	1	1	1	1	4	2				11				
	FIRST OBSERVED: March 29			LAST OBSERVED: May 12		PEAK DATE: Apr 11, May 5		PEAK NUMBER OF INDIVIDUALS: 2							
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	0.29	0.14	0.14	0.86	0.43	0.57	0.29	0.43	0.43	1.71	1.29	0.29	0.14	0.57	0.54
# DAYS OBSERVED	1	1	1	4	3	4	2	2	2	5	4	2	1	3	35
# PROCESSED								1	1						2
	FIRST OBSERVED: August 5				LAST OBSERVED: November 6			PEAK DATE: October 9			PEAK NUMBER OF INDIVIDUALS: 6				

Only one Red-breasted Nuthatch was observed this winter, with the associated mean daily count of 0.02 roughly one-quarter of the long-term average for the season. In contrast, spring numbers were unusually high for a second consecutive year, though still quite uncommon overall, with a concentrated spike of observations only in early May. In fall, the mean daily count over the past three years has remained nearly identical, at around 20% above the long-term average. For only the second time, the species was observed in each week of fall, but numbers were only slightly elevated from late August to mid-September, and slightly more so in the first half of October. Two individuals were banded in fall, twice the long-term average.

WBNU: White-breasted Nuthatch / Sittelle à poitrine blanche (*Sitta carolinensis*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY	1.71	0.71	1.14	1.86	1.29	1.57	1.00	1.29	0.57	0.29	1.14				
# DAYS OBSERVED	6	4	4	7	4	6	6	5	4	2	48				
# PROCESSED					0-1-0	0-1-1	0-0-1	0-0-1			0-2-3				
FIRST OBSERVED: March 28			LAST OBSERVED: June 2			PEAK DATE: Mar 30, May 8			PEAK NUMBER OF INDIVIDUALS: 4						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	2.43	2.86	3.43	2.43	2.29	2.00	2.43	1.43	2.71	2.71	2.14	2.43	2.43	2.43	2.44
# DAYS OBSERVED	6	7	7	7	7	7	7	5	7	6	7	6	6	6	91
# PROCESSED				0-0-1					1	1-0-1		0-1-0			2-1-2
FIRST OBSERVED: August 1				LAST OBSERVED: November 6				PEAK DATE: October 1				PEAK NUMBER OF INDIVIDUALS: 7			

The mean daily count of White-breasted Nuthatches in winter was 0.61, slightly below average; for the first time in five winters, none were banded. In spring, the mean daily count was lower than in 2016 and 2017, but still well above average and higher than any previous years. In summer, the mean daily count of 2.00 was a record high, nearly triple the long-term average. One was banded, only the second ever in summer. The species remained unusually abundant throughout fall, with the total count only slightly below the top years of 2015 and 2016.

BRCR: Brown Creeper / Grimpereau brun (*Certhia americana*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY	0.14		0.43	1.43	0.14	0.29		0.14			0.26				
# DAYS OBSERVED	1		1	5	1	2		1			11				
# PROCESSED				1		1					2				
FIRST OBSERVED: March 30			LAST OBSERVED: May 21			PEAK DATE: April 17			PEAK NUMBER OF INDIVIDUALS: 3						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY							0.29	0.14	1.00	1.71	1.57	0.86	0.71	1.14	0.53
# DAYS OBSERVED							1	1	3	6	5	5	3	5	29
# PROCESSED							1		4	7	3	1	2	3	21
FIRST OBSERVED: September 18				LAST OBSERVED: November 6				PEAK DATE: October 6				PEAK NUMBER OF INDIVIDUALS: 4			

For only the third time, no Brown Creepers were observed in winter. The species was uncommon in spring as always, but the mean daily count and number banded were both somewhat above average. The mean daily count in fall was double the long-term average, and well above the previous record of 0.44 set in 2012. The 21 individuals banded tied the record high from 2012.

HOWR: House Wren / Troglodyte familier (*Troglodytes aedon*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY					2.71	4.29	6.57	4.29	4.43	3.00	2.53				
# DAYS OBSERVED					7	7	7	7	7	5	40				
# PROCESSED						0-1-0	5-4-6	0-0-3	3-0-1	0-0-1	8-5-11				
FIRST OBSERVED: April 25			LAST OBSERVED: June 5			PEAK DATE: May 9			PEAK NUMBER OF INDIVIDUALS: 9						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	6.57	6.29	4.57	6.14	4.14	3.71	3.00	1.57	3.00	0.86					2.85
# DAYS OBSERVED	7	7	6	7	7	7	7	5	7	4					64
# PROCESSED	9-0-4	4-0-4	6-0-2	2-0-2		2-0-2	1-0-2	1	1						26-0-16
FIRST OBSERVED: August 1				LAST OBSERVED: October 7				PEAK DATE: August 6				PEAK NUMBER OF INDIVIDUALS: 13			

The mean daily count of House Wrens in spring was the second highest ever, behind the record of 3.40 in 2012; the number banded as also just one short of the high of 9 in 2012. Numbers remained high in summer, with the mean daily count of 2.86 the third highest ever, and the five individuals banded tying the record from 2016. The pattern continued in fall, with the mean daily count the highest other than in 2009, and the number banded third behind 36 in 2007 and 32 in 2009. As usual, numbers were highest in the first week of fall, and dropped off considerably after August.

WIWR: Winter Wren / Troglodyte des forêts (*Troglodytes hiemalis*)

	AUGUST				SEPTEMBER				OCTOBER				NOVEMBER	TOTAL	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13		WEEK 14
# BIRDS / DAY								0.14	1.43	0.71	0.71	1.00	0.14	0.14	0.31
# DAYS OBSERVED								1	5	4	4	5	1	1	21
# PROCESSED								1	1	1	1	1	1		6
FIRST OBSERVED: September 24				LAST OBSERVED: October 31				PEAK DATE: Sep 29, Oct 1				PEAK NUMBER OF INDIVIDUALS: 3			

Winter Wren was missed in spring for the first time since 2008, and only the third time overall. The mean daily count and number of Winter Wrens banded in fall were both close to average, though for the first time since 2009, the first observation of the season was not until week 8.

MAWR: Marsh Wren / Troglodyte des marais (*Cistothorus palustris*)

	MARCH		APRIL			MAY					JUNE		TOTAL
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10			
# BIRDS / DAY										0.14			0.01
# DAYS OBSERVED										1			1
FIRST OBSERVED: May 25			LAST OBSERVED: May 25			PEAK DATE: May 25			PEAK NUMBER OF INDIVIDUALS: 1				

Only one Marsh Wren was observed this year, on May 25; this was the seventh year out of 14 with at least one observation in spring.

CARW: Carolina Wren / Troglodyte de Caroline (*Thryothorus ludovicianus*)

	MARCH		APRIL			MAY					JUNE		TOTAL
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10			
# BIRDS / DAY						0.14					0.14	0.03	
# DAYS OBSERVED						1					1	2	
FIRST OBSERVED: May 5			LAST OBSERVED: June 1			PEAK DATE: May 5, Jun 1			PEAK NUMBER OF INDIVIDUALS: 1				

	AUGUST				SEPTEMBER				OCTOBER				NOVEMBER	TOTAL
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	
# BIRDS / DAY	0.43													0.03
# DAYS OBSERVED	2													2
# PROCESSED	1													1
FIRST OBSERVED: August 10				LAST OBSERVED: August 14				PEAK DATE: August 14				PEAK NUMBER OF INDIVIDUALS: 2		

This was only the second year during which Carolina Wren was observed in both spring and fall, and the first time two individuals were observed in spring. One was banded in August, only the second ever in any season.

GCKI: Golden-crowned Kinglet / Roitelet à couronne dorée (*Regulus satrapa*)

	MARCH		APRIL			MAY					JUNE		TOTAL
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10			
# BIRDS / DAY			0.43	2.43	0.86	1.00				0.14		0.49	
# DAYS OBSERVED			2	4	3	3				1		13	
# PROCESSED				5		1						6	
FIRST OBSERVED: April 11			LAST OBSERVED: May 27			PEAK DATE: April 24			PEAK NUMBER OF INDIVIDUALS: 12				

	AUGUST				SEPTEMBER				OCTOBER				NOVEMBER	TOTAL
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	
# BIRDS / DAY								5.00	18.71	7.29	5.86	1.57	4.57	3.07
# DAYS OBSERVED								6	7	7	7	6	6	39
# PROCESSED								7	24-0-2	15	9-0-1	4-0-1	10	69-0-4
FIRST OBSERVED: September 27				LAST OBSERVED: November 6				PEAK DATE: October 8				PEAK NUMBER OF INDIVIDUALS: 43		

Golden-crowned Kinglet was missed in winter for the sixth time. After being very high for three of the past four years, the mean daily count in spring was around 30% below the long-term average, though the number banded was slightly higher than usual. In fall, both the mean daily count and number banded were only marginally below long-term averages. The first fall observation was not until September 27, later than in any previous year, and almost three weeks later than average. There was a particularly sharp spike in numbers in week 10, aligned with the typical peak of migration.

RCKI: Ruby-crowned Kinglet / Roitelet à couronne rubis (*Regulus calendula*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY				1.57	9.14	23.14	3.71	0.29	0.29		3.81				
# DAYS OBSERVED				1	7	7	6	1	1		23				
# PROCESSED				6	11-0-1	43-0-5	4-0-1	1			65-0-7				
FIRST OBSERVED: April 24			LAST OBSERVED: May 28			PEAK DATE: May 3			PEAK NUMBER OF INDIVIDUALS: 43						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY						0.14		4.14	33.57	40.29	23.00	16.43	3.71	4.43	8.98
# DAYS OBSERVED						1		6	7	7	7	7	6	6	47
# PROCESSED								9	75-0-11	107-0-10	69-0-12	30-0-5	9-0-2	10	309-0-40
FIRST OBSERVED: September 10				LAST OBSERVED: November 6				PEAK DATE: October 3				PEAK NUMBER OF INDIVIDUALS: 80			

The mean daily count of Ruby-crowned Kinglets in spring was less than half of last year's record high, and slightly below the long-term average; the number banded perfectly matched the average over the previous 13 years. Nearly two-thirds of individuals were observed in week 6. In fall, the mean daily count was the highest since 2013, and only marginally below the long-term average. As in spring, the number banded was precisely the same as the long-term average. For the ninth time in 14 years, numbers peaked in week 10.

EABL: Eastern Bluebird / Merlebleu de l'Est (*Sialia sialis*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY					0.14	0.14					0.03				
# DAYS OBSERVED					1	1					2				
FIRST OBSERVED: April 26			LAST OBSERVED: May 5			PEAK DATE: Apr 26, May 5			PEAK NUMBER OF INDIVIDUALS: 1						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY							0.29			2.43	6.57	4.71	1.86	1.71	1.26
# DAYS OBSERVED							1			3	7	4	4	3	22
FIRST OBSERVED: September 15				LAST OBSERVED: November 5				PEAK DATE: October 23				PEAK NUMBER OF INDIVIDUALS: 17			

For the second year in a row, only two Eastern Bluebirds were observed in spring, roughly one-third the long-term average. In contrast, the mean daily count in fall was more than double the long-term average, and only slightly short of the record set in 2014. As usual, numbers were highest around mid-October.

VEER: Veery / Grive fauve (*Catharus fuscescens*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY							0.57	1.86	2.57	1.29	0.63				
# DAYS OBSERVED							3	7	7	4	21				
# PROCESSED							1	2-1-0	1-0-2	1	5-1-2				
FIRST OBSERVED: May 10			LAST OBSERVED: June 2			PEAK DATE: May 22, May 30			PEAK NUMBER OF INDIVIDUALS: 4						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	2.00	2.71	2.43	2.57	1.57	1.00	0.57	0.29							0.94
# DAYS OBSERVED	6	7	7	7	7	6	4	2							46
# PROCESSED	5-1-4	9-0-1	2-0-6	4-2-2	4	1-0-1	2								27-3-14
FIRST OBSERVED: August 1				LAST OBSERVED: September 25				PEAK DATE: 6 dates				PEAK NUMBER OF INDIVIDUALS: 4			

In spring, the mean daily count was around 10% higher than the previous record set in 2010, and nearly double the long-term average; five were banded, which was an above-average total for the fifth year in a row. Considering those results, it was surprising that the mean daily count of 0.86 and two individuals banded in summer were both considerably below average. Fall numbers were high again though, with the mean daily count only slightly below the record high of 1.01 in 2015, and the number banded well above average for the fifth consecutive year.

GCTH: Gray-cheeked Thrush / Grive à joues grises (*Catharus minimus*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY									0.14		0.01				
# DAYS OBSERVED									1		1				
# PROCESSED									1		1				
FIRST OBSERVED: May 26			LAST OBSERVED: May 26			PEAK DATE: May 26			PEAK NUMBER OF INDIVIDUALS: 1						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY							0.29	0.43	1.14	0.86	0.43				0.22
# DAYS OBSERVED							2	3	5	3	3				16
# PROCESSED							2	3	6-0-1	6	2-0-1				19-0-2
FIRST OBSERVED: September 13				LAST OBSERVED: October 14				PEAK DATE: September 30				PEAK NUMBER OF INDIVIDUALS: 3			

Only one Gray-cheeked Thrush was banded and observed in spring, which is average; it was observed on May 26, which matches the overall average across all years. Numbers were unusually high in fall, with the third-highest mean daily count and second-highest total banded over the 14 years of the program. Numbers peaked in week 9, one week later than average.

BITH: Bicknell's Thrush / Grive de Bicknell (*Catharus bicknelli*)

AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY									0.14						0.01
# DAYS OBSERVED									1						1
# PROCESSED									1						1
FIRST OBSERVED: September 30				LAST OBSERVED: September 30				PEAK DATE: September 30				PEAK NUMBER OF INDIVIDUALS: 1			

One Bicknell's Thrush was observed on September 30, the first since October 2015. The date of observation matched the average of all fall sightings from MBO's first ten years, but was earlier than the two in 2015. It was the sixth Bicknell's Thrush banded at MBO in fall, and the seventh overall.

SWTH: Swainson's Thrush / Grive à dos olive (*Catharus ustulatus*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY								0.43	3.00	1.86	0.43				0.57
# DAYS OBSERVED								2	7	5	1				15
# PROCESSED								3	13-0-2	3					19-0-2
FIRST OBSERVED: May 11			LAST OBSERVED: June 1			PEAK DATE: May 21, May 28			PEAK NUMBER OF INDIVIDUALS: 5						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	1.86	3.14	3.57	4.29	4.57	6.29	7.57	8.14	25.14	11.43	1.57	0.86	0.57	0.14	5.65
# DAYS OBSERVED	7	7	7	7	7	7	7	6	7	7	6	4	4	1	84
# PROCESSED	6-0-2	11	12-0-2	1-0-1	11-0-1	15-0-1	20	30-0-4	67-0-18	30-0-17	2-0-1	2-0-2	1-0-2		208-0-51
FIRST OBSERVED: August 1				LAST OBSERVED: November 5				PEAK DATE: September 30				PEAK NUMBER OF INDIVIDUALS: 58			



The mean daily count of Swainson's Thrush in spring more than tripled the previous record high! The species was observed daily throughout week 8 and migration remained strong in week 9 as well; previously it had never been observed more than 7 days in any spring. The 19 birds banded nearly matched the total from all 13 previous years (23). For the third year in a row, molt migrants were banded during the end of the summer program, two individuals this year. Fall results were similarly impressive, with the mean daily count 60% higher than the previous record in 2015, and the number of birds banded also a record high, nearly triple the long-term average. Swainson's Thrush ranked as the fifth most frequently banded species in fall for the third time in the past four years. For only the second time, sightings extended into the last two weeks of the season. Several individuals were tracked through the Motus network on their southward migration after leaving MBO, one as far away as Colombia (see Section 8.3 for details).

HETH: Hermit Thrush / Grive solitaire (*Catharus guttatus*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY					0.43	0.43	0.43				0.13				
# DAYS OBSERVED					3	3	3				9				
# PROCESSED					1	1					2				
FIRST OBSERVED: April 27			LAST OBSERVED: May 14			PEAK DATE: 9 dates			PEAK NUMBER OF INDIVIDUALS: 1						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	0.14			0.14					0.57	2.57	7.43	9.00	4.71	3.71	2.02
# DAYS OBSERVED	1			1					3	6	7	6	6	6	36
# PROCESSED									3	8-0-3	22-0-7	26-0-10	2-0-4	6-0-5	67-0-29
FIRST OBSERVED: August 5				LAST OBSERVED: November 6				PEAK DATE: October 19				PEAK NUMBER OF INDIVIDUALS: 22			

For the first time in four years, no Hermit Thrushes were observed in winter. The mean daily count this spring was typical, but the two individuals banded doubled the long-term average for the season. Observations were equally spread out among weeks 5 to 7, in contrast to the usual peak in week 5. For the first time ever there was a summer record, a juvenile banded on July 15. There were also two Hermit Thrushes sightings in August, but all other fall sightings were between late September and the final day of the season. For the second year in a row, sightings peaked in week 12, later than in all but one previous year. The fall mean daily count was a record high, slightly more than in 2012; the number banded was above average, but lower than in four previous years.

WOTH: Wood Thrush / Grive des bois (*Hylocichla mustelina*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY						0.43	1.00	0.86	1.14	0.71	0.41				
# DAYS OBSERVED						3	5	5	6	3	22				
# PROCESSED						1	3-0-1	1			5-0-1				
FIRST OBSERVED: May 6			LAST OBSERVED: June 1			PEAK DATE: May 13			PEAK NUMBER OF INDIVIDUALS: 3						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	0.29	0.71	0.29	0.14	0.57	0.43	1.00	0.14							0.26
# DAYS OBSERVED	1	3	2	1	3	3	5	1							19
# PROCESSED	1-0-1		1		2	1	1								6-0-1
FIRST OBSERVED: August 4				LAST OBSERVED: September 24				PEAK DATE: August 11				PEAK NUMBER OF INDIVIDUALS: 3			

The mean daily count of Wood Thrushes in spring was above average for a fifth consecutive year, and more than double the long-term average. Five were banded, compared to only nine across all previous springs. The mean daily count in summer was 1.14, triple the season average; three were banded, the same as last year. In fall, the mean daily count matched the record set in 2015, and the number banded one short of the record from 2015.

AMRO: American Robin / Merle d'Amérique (*Turdus migratorius*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY	2.86	4.86	5.00	16.86	6.71	8.00	3.57	3.00	4.14	2.57	5.76				
# DAYS OBSERVED	7	7	7	7	7	7	7	7	7	6	69				
# PROCESSED				3	1	2	1-1-0		1-1-0	1	9-2-0				
FIRST OBSERVED: March 28			LAST OBSERVED: June 4			PEAK DATE: April 22			PEAK NUMBER OF INDIVIDUALS: 55						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	10.14	18.86	5.71	8.29	10.14	15.86	19.00	18.00	18.29	65.57	94.71	404.14	808.86	299.00	128.33
# DAYS OBSERVED	7	7	7	7	7	7	7	7	7	7	7	7	7	7	98
# PROCESSED	8	2	2		1	1	1	3	2		22	79-0-1	79	33	233-0-1
FIRST OBSERVED: August 1				LAST OBSERVED: November 6				PEAK DATE: October 26				PEAK NUMBER OF INDIVIDUALS: 1559			

In winter, the mean daily count of 3.20 American Robins was the lowest since 2011; in spring it was a record low and the number banded was half the long-term average. The mean daily count in summer was below average at 4.71, and only 7 were banded, the fewest in a decade. In fall though, the mean daily count was the third-highest ever, highlighted by an unusually high peak of 1559 on October 26; the number banded was above average.

GRCA: Gray Catbird / Moqueur chat (*Dumetella carolinensis*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY						1.57	4.00	3.86	3.00	1.43	1.39				
# DAYS OBSERVED						4	7	7	7	4	29				
# PROCESSED							8-1-2	4-1-4	5-0-1	1	18-2-7				
FIRST OBSERVED: May 3			LAST OBSERVED: June 5			PEAK DATE: May 10			PEAK NUMBER OF INDIVIDUALS: 8						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	7.86	5.43	5.71	6.29	6.71	8.14	12.43	6.43	5.14	0.86	1.29	0.57			4.78
# DAYS OBSERVED	7	7	7	7	7	7	7	7	7	3	6	3			75
# PROCESSED	24-0-5	6-0-8	5-0-3	5-0-7	3-0-7	9-0-4	20-0-12	8-1-6	1-0-1	1	2-0-1	0-0-1			84-1-55
FIRST OBSERVED: August 1				LAST OBSERVED: October 23				PEAK DATE: September 14				PEAK NUMBER OF INDIVIDUALS: 18			

In spring, both the mean daily count and number banded were slightly above average. The peak was in week 7, earlier than in any previous year, although only slightly higher than in week 8. The mean daily count of 3.86 in summer was above average for the sixth consecutive year, but the lowest since 2013; 10 individuals were banded, slightly above average. In fall, the mean daily count was close to average, but the number banded was well above average for the fifth year in a row. Both in terms of observations and number banded, week 7 results were the highest of any week in MBO's history; the peak count of 18 individuals on September 14 matched the previous single-day highs from September 13, 2012, and August 8, 2015.

BRTH: Brown Thrasher / Moqueur roux (*Toxostoma rufum*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY					1.43	2.00	1.57	0.57	0.14	0.14	0.59				
# DAYS OBSERVED					5	6	7	3	1	1	23				
# PROCESSED					2-1-0	2	1				5-1-0				
FIRST OBSERVED: April 27			LAST OBSERVED: May 31			PEAK DATE: April 27			PEAK NUMBER OF INDIVIDUALS: 4						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	1.00	1.86	0.86	1.14	1.14	1.29	1.86	1.00	0.57	0.14					0.78
# DAYS OBSERVED	5	7	5	6	6	7	7	5	3	1					52
# PROCESSED	2-0-2	2-0-2			2										6-0-4
FIRST OBSERVED: August 1				LAST OBSERVED: October 5				PEAK DATE: Aug 10, Sep 15				PEAK NUMBER OF INDIVIDUALS: 3			

The mean daily count of Brown Thrashers in spring was roughly 50% above average for a third straight year, and the number banded was only one less than last year's record high. For the first time ever there was a return in spring. The mean daily count in summer was 0.29, and one individual was banded. In fall, the mean daily count was again 50% above average, but the number banded was close to normal.

EUST: European Starling / Étourneau sansonnet (*Sturnus vulgaris*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY	2.29			11.57	2.71	3.71	3.86	2.29	0.86	0.43	2.77				
# DAYS OBSERVED	2			5	3	5	3	4	3	1	26				
FIRST OBSERVED: April 2			LAST OBSERVED: May 30			PEAK DATE: April 22			PEAK NUMBER OF INDIVIDUALS: 48						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY		0.14	1.14	7.57	14.29	7.29	14.43	4.43	96.57	71.14	76.14	135.57	145.14	63.86	45.55
# DAYS OBSERVED		1	2	3	3	4	2	2	6	7	7	7	7	7	58
# PROCESSED													4		4
FIRST OBSERVED: August 12				LAST OBSERVED: November 6				PEAK DATE: October 25				PEAK NUMBER OF INDIVIDUALS: 458			

In winter, the mean daily count of 3.63 was the lowest ever, roughly 20% of the long-term average. However, in spring it was slightly above average, thanks to a large flock on April 22, the highest single-day count in spring aside from 60 on April 6, 2013. For only the fourth time in 14 years, none were observed in summer. The mean daily count in fall was slightly above average, and a record high four were banded, compared to a previous cumulative total of five for the season. The fall peak spanned weeks 12 and 13, as in many years.

BOWA: Bohemian Waxwing / Jaseur boréal (*Bombycilla garrulus*)

MARCH	APRIL					MAY					JUNE	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL	
# BIRDS / DAY							4.71				0.47	
# DAYS OBSERVED							1				1	
FIRST OBSERVED: May 10			LAST OBSERVED: May 10			PEAK DATE: May 10			PEAK NUMBER OF INDIVIDUALS: 33			

AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY													0.14		0.01
# DAYS OBSERVED													1		1
FIRST OBSERVED: October 28				LAST OBSERVED: October 28				PEAK DATE: October 28				PEAK NUMBER OF INDIVIDUALS: 1			

For only the third time, no Bohemian Waxwings were observed in winter. The only spring observation was a flock of 33 on May 10, later than any observations in previous years. Only one individual was observed in fall, but it marked the first time that the species was observed four years in a row.

CEDW: Cedar Waxwing / Jaseur d'Amérique (*Bombycilla cedrorum*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY			0.86	20.57	22.71	54.71	17.71	12.86	29.57	15.29					17.43
# DAYS OBSERVED			1	6	6	7	6	7	7	6					46
# PROCESSED				13	3	42-0-1	26					25-0-1		13	122-0-2
FIRST OBSERVED: April 16			LAST OBSERVED: June 5			PEAK DATE: May 5			PEAK NUMBER OF INDIVIDUALS: 135						

AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	11.86	16.14	12.43	11.57	10.86	11.71	9.00	6.71	7.29	2.00		1.29	0.71	4.14	7.55
# DAYS OBSERVED	7	7	6	7	7	7	7	6	5	1		2	2	5	69
# PROCESSED	9	8			1-0-1	1	3-0-1								22-0-2
FIRST OBSERVED: August 1				LAST OBSERVED: November 6				PEAK DATE: August 17				PEAK NUMBER OF INDIVIDUALS: 40			

Only one Cedar Waxwing was observed in winter. In spring, the mean daily count and number banded were well above average, but below the records set in 2014. The week 6 peak was particularly pronounced. In summer, the mean daily count of 5.86 and 5 birds banded were both close to average. In contrast, the mean daily count in fall was the second-lowest ever for the season, and the number banded was well below the long-term average of 30.

HOSP: House Sparrow / Moineau domestique (*Passer domesticus*)

MARCH	APRIL					MAY					JUNE	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL	
# BIRDS / DAY						0.29					0.03	
# DAYS OBSERVED						1					1	
FIRST OBSERVED: May 6			LAST OBSERVED: May 6			PEAK DATE: May 6			PEAK NUMBER OF INDIVIDUALS: 2			

Two House Sparrows were observed on May 6, the first sighting since October 2016.

AMPI: American Pipit / Pipit d'Amérique (*Anthus rubescens*)

MARCH	APRIL					MAY					JUNE	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL	
# BIRDS / DAY						0.71	1.14				0.19	
# DAYS OBSERVED						3	2				5	
FIRST OBSERVED: May 2			LAST OBSERVED: May 13			PEAK DATE: May 9, May 13			PEAK NUMBER OF INDIVIDUALS: 4			

AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY												0.14	0.43	0.57	0.08
# DAYS OBSERVED												1	1	2	4
FIRST OBSERVED: October 17				LAST OBSERVED: November 1				PEAK DATE: Oct 26, Nov 1				PEAK NUMBER OF INDIVIDUALS: 3			

American Pipit sightings in spring were slightly more numerous than usual, all coming within a span of 12 days in the first half of May, typical timing. Fall observations were unusually scarce, the fewest since 2011.

EVGR: Evening Grosbeak / Gros-bec errant (*Coccothraustes vespertinus*)

	AUGUST				SEPTEMBER				OCTOBER				NOVEMBER	TOTAL	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13		WEEK 14
# BIRDS / DAY										0.57	0.43	0.14	0.71	1.57	0.24
# DAYS OBSERVED										2	2	1	1	2	8
FIRST OBSERVED: October 5				LAST OBSERVED: November 1				PEAK DATE: November 1				PEAK NUMBER OF INDIVIDUALS: 9			

It was a great fall for Evening Grosbeak, which nearly doubled the previous high mean daily count for the season; this year's sightings account for 41% of all fall Evening Grosbeak records over 14 years.

PIGR: Pine Grosbeak / Durbec des sapins (*Pinicola enucleator*)

	AUGUST				SEPTEMBER				OCTOBER				NOVEMBER	TOTAL	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13		WEEK 14
# BIRDS / DAY													0.14	0.14	0.02
# DAYS OBSERVED													1	1	2
FIRST OBSERVED: October 27				LAST OBSERVED: November 6				PEAK DATE: Oct 27, Nov 6				PEAK NUMBER OF INDIVIDUALS: 1			

The two Pine Grosbeaks observed in the final week of fall were the first for the season since 2007, and the first for MBO overall since December 2016.

HOFI: House Finch / Roselin familier (*Haemorhous mexicanus*)

	MARCH	APRIL				MAY				JUNE		TOTAL
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10		
# BIRDS / DAY		0.29	0.29	0.14	0.29					0.14	0.29	0.14
# DAYS OBSERVED		1	1	1	2					1	1	7
FIRST OBSERVED: April 8			LAST OBSERVED: June 2			PEAK DATE: Apr 8, Apr 12, Jun 2			PEAK NUMBER OF INDIVIDUALS: 2			

	AUGUST				SEPTEMBER				OCTOBER				NOVEMBER	TOTAL	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13		WEEK 14
# BIRDS / DAY		1.14	1.43	2.14	1.86	1.14	0.71			0.71	0.43	2.14	1.00	0.57	0.95
# DAYS OBSERVED		4	2	6	4	3	2			1	2	4	3	1	32
# PROCESSED		1													1
FIRST OBSERVED: August 8				LAST OBSERVED: November 1				PEAK DATE: October 19				PEAK NUMBER OF INDIVIDUALS: 9			

For the first time since 2008 and only the second time ever, no House Finches were observed at MBO this winter, remarkable for a species that seven times has been among the ten most abundant species during the season. Observations were typically scarce in spring. In fall, the mean daily count perfectly matched the long-term average, though it was the lowest since 2013; only one was banded compared to the average of two.

PUFI: Purple Finch / Roselin pourpré (*Haemorhous purpureus*)

	MARCH	APRIL				MAY				JUNE		TOTAL
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10		
# BIRDS / DAY	0.14	1.29	0.86	2.43	1.57	1.71	2.00	1.43	2.00	1.14	1.46	
# DAYS OBSERVED	1	4	3	7	6	7	7	6	7	6	54	
FIRST OBSERVED: March 30			LAST OBSERVED: June 5			PEAK DATE: May 15			PEAK NUMBER OF INDIVIDUALS: 7			

	AUGUST				SEPTEMBER				OCTOBER				NOVEMBER	TOTAL	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13		WEEK 14
# BIRDS / DAY	5.71	3.57	1.71	1.57	2.00	1.71	1.71	2.14	3.71	8.71	2.14	1.71	0.86	0.29	2.68
# DAYS OBSERVED	7	6	5	7	5	4	4	5	5	6	6	5	3	1	69
# PROCESSED	23-0-2	7-0-1		1	2	1	3	3	11-0-1	9-1-2	2-0-2		1		63-1-8
FIRST OBSERVED: August 1				LAST OBSERVED: November 1				PEAK DATE: October 8				PEAK NUMBER OF INDIVIDUALS: 18			

In winter, the mean daily count of 0.05 was well below the long-term average of 0.35; for only the second time in the past nine years, none were banded. In spring, the mean daily count was more than double the long-term average, behind only the record in 2016, yet remarkably none were banded this spring, compared to 27 that year. A key difference this year was that numbers remained largely consistent throughout the season. The mean daily count of 1.00 in summer matched last year's record high, and six were banded, compared to a cumulative total of only five across all previous years. In fall, both the mean daily count and number banded exceeded the previous records from 2012 by large margins. There was a strong movement through MBO right at the beginning of the season, and then a second wave in late September and early October.

CORE: Common Redpoll / Sizerin flammé (*Acanthis flammea*)

	AUGUST				SEPTEMBER				OCTOBER				NOVEMBER	TOTAL	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13		WEEK 14
# BIRDS / DAY												0.29	21.86	19.57	2.98
# DAYS OBSERVED												1	5	6	12
# PROCESSED												8	1	9	
FIRST OBSERVED: October 23				LAST OBSERVED: November 6				PEAK DATE: October 30				PEAK NUMBER OF INDIVIDUALS: 62			

For the first time ever, Common Redpoll was missed for a second consecutive winter. However, fall results shattered previous records, with both the mean daily count and the number banded triple the cumulative totals for the season from 2005 through 2017. Numbers remained elevated throughout most of the final two weeks of the season.

RECR: Red Crossbill / Bec-croisé des sapins (*Loxia curvirostra*)

	AUGUST				SEPTEMBER				OCTOBER				NOVEMBER	TOTAL	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13		WEEK 14
# BIRDS / DAY			0.29												0.02
# DAYS OBSERVED			1												1
FIRST OBSERVED: August 15				LAST OBSERVED: August 15				PEAK DATE: August 15				PEAK NUMBER OF INDIVIDUALS: 2			

Two Red Crossbills flew over MBO on August 15, becoming the 216th species observed on site.

WWCR: White-winged Crossbill / Bec-croisé bifascié (*Loxia leucoptera*)

	AUGUST				SEPTEMBER				OCTOBER				NOVEMBER	TOTAL	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13		WEEK 14
# BIRDS / DAY				0.29						0.43					0.05
# DAYS OBSERVED				1						1					2
FIRST OBSERVED: August 23				LAST OBSERVED: October 6				PEAK DATE: October 6				PEAK NUMBER OF INDIVIDUALS: 3			

Two sightings of small flocks of White-winged Crossbills six weeks apart this fall marked the first observation of this species at MBO since winter 2015, and the first in fall since October 2014. The August 23 sighting matched the earliest fall date on record, from 2012.

PISI: Pine Siskin / Tarin des pins (*Spinus pinus*)

	MARCH		APRIL					MAY					JUNE		TOTAL
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	
# BIRDS / DAY	0.43		0.86		0.29	0.29	0.71				0.14				0.27
# DAYS OBSERVED	1		1		1	2	4				1				10
# PROCESSED						1									1
FIRST OBSERVED: April 1			LAST OBSERVED: May 24					PEAK DATE: April 11					PEAK NUMBER OF INDIVIDUALS: 6		

	AUGUST				SEPTEMBER				OCTOBER				NOVEMBER	TOTAL	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13		WEEK 14
# BIRDS / DAY										4.00	2.14	3.43	4.29	4.14	1.29
# DAYS OBSERVED										5	5	5	6	5	26
FIRST OBSERVED: October 3				LAST OBSERVED: November 6				PEAK DATE: November 4				PEAK NUMBER OF INDIVIDUALS: 20			

More Pine Siskins were observed this winter than last, but the mean daily count of 0.24 was still less than one-third of the long-term average for the season; for the first time in four winters, none were banded. Similarly in spring, observations were more frequent than in 2017, but still less than half of the long-term average. However, one newly fledged juvenile was banded in early May, only the ninth Pine Siskin ever in spring. Sightings were scattered throughout the season. In fall, the mean daily count was average, and observations were limited to the final third of the season, as in many previous years. There was no clear peak of migration, rather sightings remained frequent and relatively steady over the course of October and early November. Despite the number of sightings, none were banded, but this is not unusual for Pine Siskin, which has been banded at MBO in fall in only three previous years.

AMGO: American Goldfinch / Chardonneret jaune (*Spinus tristis*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY	4.14	4.14	3.57	7.43	5.43	14.00	13.00	12.71	10.71	6.71	8.19				
# DAYS OBSERVED	7	5	6	7	7	7	7	7	7	6	66				
# PROCESSED				3-1-0		4-2-0	12-0-3	14-3-3	7-4-1	3-1-1	43-11-8				
FIRST OBSERVED: March 28			LAST OBSERVED: June 4			PEAK DATE: May 7			PEAK NUMBER OF INDIVIDUALS: 30						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	9.86	15.71	16.86	16.14	25.14	47.14	30.71	20.86	18.29	10.57	5.14	6.00	18.14	35.00	19.68
# DAYS OBSERVED	7	7	7	7	7	7	7	7	7	7	7	7	7	7	98
# PROCESSED	0-1-0		3-1-0	7-1-1	6-2-1	22-2-0	20-0-2	14	7		1		9-1-0	10-1-0	99-9-4
FIRST OBSERVED: August 1				LAST OBSERVED: November 6				PEAK DATE: November 4				PEAK NUMBER OF INDIVIDUALS: 84			

The mean daily count of American Goldfinches this winter was 5.49, roughly 40% below the long-term average for the season. However, it was the fourth-most abundant species at MBO over the course of winter, matching the record high rank it previously reached in 2005, 2006, and 2016. The 65 individuals banded tied (with 2015) for the fewest in winter over the past nine years, but nonetheless this was the eighth time in 13 years of winter banding that more American Goldfinches were banded than any other species. In spring, both the mean daily count and the number banded were less than 10% below long-term averages; as usual, numbers were markedly higher throughout May. The mean daily count of 5.29 in summer was quite low compared to the long-term average of 8.95, but six were banded, which is more than usual. After four years during which the mean daily count in fall was remarkably consistent (ranging from 16.20 to 16.59), it rose to 19.68 this year, second only to the record of 20.33 in 2013; the 99 individuals banded was a new record high for the season. There was a strong peak to migration in early to mid-September as usual, but also another very distinct movement over the final two weeks of the season, including a peak count of 84 individuals on November 4 that was the third-highest single-day record of the species at MBO behind 100 on September 13, 2006 and 85 on September 3, 2013.

SNBU: Snow Bunting / Plectrophenax des neiges (*Plectrophenax nivalis*)

AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY												0.14	0.29	0.43	0.06
# DAYS OBSERVED												1	1	1	3
FIRST OBSERVED: October 23				LAST OBSERVED: November 1				PEAK DATE: November 1				PEAK NUMBER OF INDIVIDUALS: 3			

Snow Buntings were observed this winter for the seventh time in 14 years, but the mean daily count of 0.10 was low compared to the long-term average of 0.37. Aside from that, the year's only other sightings were on three days scattered over the final three weeks of fall, totaling six individuals. This was the third time in four years with fall sightings, after being recorded during the season only once in MBO's first decade.

EATO: Eastern Towhee / Tohi à flancs roux (*Pipilo erythrophthalmus*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY					0.29						0.03				
# DAYS OBSERVED					2						2				
FIRST OBSERVED: April 26			LAST OBSERVED: April 27			PEAK DATE: Apr 26, Apr 27			PEAK NUMBER OF INDIVIDUALS: 1						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY								0.14							0.01
# DAYS OBSERVED								1							1
FIRST OBSERVED: October 1				LAST OBSERVED: October 1				PEAK DATE: October 1				PEAK NUMBER OF INDIVIDUALS: 1			

An Eastern Towhee observed on two consecutive days in late April marked the first sighting of the species at MBO since October 2014, and only the third and fourth spring records ever. There was also one fall sighting on October 1, the fifth record for the season in MBO's history. This was the first year ever within observations in both spring and fall.

ATSP: American Tree Sparrow / Bruant hudsonien (*Spizelloides arborea*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY	2.86	1.57	1.29	1.57	0.29						0.76				
# DAYS OBSERVED	5	4	3	5	2						19				
# PROCESSED				2-0-2							2-0-2				
FIRST OBSERVED: March 28			LAST OBSERVED: April 26			PEAK DATE: March 29			PEAK NUMBER OF INDIVIDUALS: 10						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY												0.29	0.86	6.86	0.57
# DAYS OBSERVED												2	3	7	12
# PROCESSED												1	1	9	11
FIRST OBSERVED: October 22				LAST OBSERVED: November 6				PEAK DATE: Nov 1, Nov 4				PEAK NUMBER OF INDIVIDUALS: 13			

The mean daily count of American Tree Sparrows in winter was 2.56, the lowest since 2014, and roughly 20% below the long-term average. Only nine were banded, also the fewest since 2014, and less than half of the long-term average. Numbers remained low in spring, with the fewest observed and banded since 2012. The final observation of the season was on April 26, the earliest since 2012. In fall, the mean daily count was over 40% below the long-term average, and for the second year in a row the number banded was less than one-third of the season average. This is despite the inclusion of week 14; omitting that, only two individuals would have been banded, by far the fewest of any year. Migrants were particularly late this fall, with 86% of individuals observed in week 14.

CHSP: Chipping Sparrow / Bruant familier (*Spizella passerina*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY				0.29	2.29	3.71	4.00	3.57	2.57	1.71	1.81				
# DAYS OBSERVED				1	6	7	7	7	7	5	40				
# PROCESSED					1	2	1	3		0-0-1	7-0-1				
FIRST OBSERVED: April 24			LAST OBSERVED: June 3			PEAK DATE: May 19			PEAK NUMBER OF INDIVIDUALS: 8						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	0.57	0.14		0.29	0.29	1.71	2.00	0.71	2.00	1.43	0.14				0.66
# DAYS OBSERVED	2	1		2	2	5	4	3	4	4	1				28
# PROCESSED	2							1		1					4
FIRST OBSERVED: August 4				LAST OBSERVED: October 11				PEAK DATE: Sep 14, Sep 27, Oct 8				PEAK NUMBER OF INDIVIDUALS: 6			

Chipping Sparrow sightings were unusually numerous this spring, behind only the record high of 2.21 per day in 2013; the number banded was also above average. As usual, there was a distinct peak in numbers from early through mid-May. However, only one individual was observed in summer, for a mean daily count of 0.14. In fall, the mean daily count was average, but the number banded rebounded only slightly from last year's record low of two, and remained far below the long-term average of 12.

SAVS: Savannah Sparrow / Bruant des prés (*Passerculus sandwichensis*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY					0.14	0.14	0.43				0.07				
# DAYS OBSERVED					1	1	2				4				
FIRST OBSERVED: April 25			LAST OBSERVED: May 10			PEAK DATE: May 10			PEAK NUMBER OF INDIVIDUALS: 2						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY				0.14											0.01
# DAYS OBSERVED				1											1
FIRST OBSERVED: August 23				LAST OBSERVED: August 23				PEAK DATE: August 23				PEAK NUMBER OF INDIVIDUALS: 1			

After being missed in spring for the first time ever in 2017, Savannah Sparrows were back in 2018, but still scarce compared to the long-term average mean daily count of 0.37. This species has always been scarcer at MBO in fall, and the one sighting this year in late August was only slightly below the long-term average of two.

FOSP: Fox Sparrow / Bruant fauve (*Passerella iliaca*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY					0.14						0.01				
# DAYS OBSERVED					1						1				
FIRST OBSERVED: April 26			LAST OBSERVED: April 26			PEAK DATE: April 26			PEAK NUMBER OF INDIVIDUALS: 1						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY										0.43	1.71	2.57	3.86	3.43	0.86
# DAYS OBSERVED										2	4	5	7	7	25
# PROCESSED										1	8-0-2	10	5-0-1	2-0-3	26-0-6
FIRST OBSERVED: October 6				LAST OBSERVED: November 6				PEAK DATE: October 22				PEAK NUMBER OF INDIVIDUALS: 9			

For the third time in the past five years, Fox Sparrow was not observed in winter. Aside from 2007 when none at all were observed in spring, this year’s lone spring sighting on April 26 was a record low by a wide margin, and only around 1% of the long-term average mean daily count of 1.36. Fall was better, with the mean daily count and number banded both slightly above average for the season. As always, observations were limited to late fall. Curiously, over two-thirds of individuals banded this fall were in weeks 11 and 12, although numbers observed peaked during weeks 13 and 14.

SOSP: Song Sparrow / Bruant chanteur (*Melospiza melodia*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY	2.00	4.86	8.00	11.86	14.14	10.57	9.86	6.71	8.29	5.71	8.20				
# DAYS OBSERVED	3	6	7	7	7	7	7	7	7	7	65				
# PROCESSED				12-5-3	9-1-5	3-2-5	2-0-10	0-3-1	0-1-1	0-0-6	26-12-31				
FIRST OBSERVED: April 1			LAST OBSERVED: June 5			PEAK DATE: April 27			PEAK NUMBER OF INDIVIDUALS: 19						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	14.14	13.43	6.43	6.71	6.14	5.71	10.57	8.71	9.57	9.57	5.43	5.14	1.86	2.14	7.54
# DAYS OBSERVED	7	7	7	7	7	7	7	7	7	7	7	7	5	4	93
# PROCESSED	57-3-4	44-1-9	12-3-6	7-0-7	2-0-2	4	4-0-4	12-0-2	5-1-1	8-0-1	10-0-1	6-0-2	3	2	176-8-39
FIRST OBSERVED: August 1				LAST OBSERVED: November 5				PEAK DATE: August 11				PEAK NUMBER OF INDIVIDUALS: 26			

The mean daily count of Song Sparrows in spring was below average for the third time in the past four years, but the number banded was 30% above average, and close to the season record of 30. In summer, the mean daily count was 3.43, the same as in 2017 and less than half the long-term average; eight were banded, which is half the long-term average, but typical over the past five years. The mean daily count and number banded in fall were the highest since 2014 and 2013 respectively, but both remained well below average. As usual, fall numbers were highest in the first half of August; the 57 banded in week 1 tied with week 1 of fall 2007 for the second-highest ever single-week total, behind only the record of 95 in week 1 of fall 2013.

LISP: Lincoln's Sparrow / Bruant de Lincoln (*Melospiza lincolni*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY						0.14		0.14			0.03				
# DAYS OBSERVED						1		1			2				
# PROCESSED								1			1				
FIRST OBSERVED: May 6			LAST OBSERVED: May 16			PEAK DATE: May 6, May 16			PEAK NUMBER OF INDIVIDUALS: 1						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY					0.14	0.14		0.57	1.00	0.57	0.29				0.19
# DAYS OBSERVED					1	1		2	4	3	1				12
# PROCESSED						1		1		1					3
FIRST OBSERVED: September 4				LAST OBSERVED: October 14				PEAK DATE: October 1				PEAK NUMBER OF INDIVIDUALS: 4			

The mean daily count of Lincoln’s Sparrows this spring tied the record low from 2010, and it was the first year ever with only one individual banded during the season. In fall, the banding total tied the record low from 2013, and the mean daily count was also well below average.

SWSP: Swamp Sparrow / Bruant des marais (*Melospiza georgiana*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY			0.14	1.57	3.00	4.14	3.14	2.00	1.57	1.29	1.69				
# DAYS OBSERVED			1	4	7	7	7	7	6	5	44				
# PROCESSED				2	0-2-2	9-1-0	5-0-2	1-0-4	1	0-0-1	18-3-9				
FIRST OBSERVED: April 14			LAST OBSERVED: June 5			PEAK DATE: April 24			PEAK NUMBER OF INDIVIDUALS: 7						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	0.71	0.86	0.86	0.71	0.57	0.29	2.14	0.29	2.57	1.00	1.71	0.57	0.14	0.43	0.92
# DAYS OBSERVED	2	5	3	5	3	2	6	2	4	6	5	2	1	2	48
# PROCESSED	1	5	2	1-0-1	1-0-1	0-0-1	2-0-3	1	2	3	3		1	1	23-0-6
FIRST OBSERVED: August 2				LAST OBSERVED: November 4				PEAK DATE: September 29				PEAK NUMBER OF INDIVIDUALS: 6			

Both the mean daily count and number of Swamp Sparrows banded in spring were close to average, and the peak from late April to mid-May was also typical. However, only two were observed in summer, matching the record low from 2007; both were banded. The fall banding total was the lowest since 20 in 2010, and the mean daily count was below 1.0 for only the third time, but slightly higher than in 2010 and 2011. The low numbers in the first half of August were particularly notable.

WTSP: White-throated Sparrow / Bruant à gorge blanche (*Zonotrichia albicollis*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY			0.14	0.71	9.86	8.57	1.86	0.86	0.14		2.21				
# DAYS OBSERVED			1	1	7	7	5	3	1		25				
# PROCESSED				3	10-0-1	15	4	2	1		35-0-1				
FIRST OBSERVED: April 13			LAST OBSERVED: May 24			PEAK DATE: April 26			PEAK NUMBER OF INDIVIDUALS: 15						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	0.43	1.29	1.14	1.57	2.57	5.29	9.57	29.57	95.71	66.43	30.29	22.29	7.29	11.71	20.37
# DAYS OBSERVED	2	5	4	6	6	7	7	7	7	7	7	7	7	7	86
# PROCESSED	2-0-1	6-0-2	1-1-0	3-0-1	4-0-3	6-0-1	19-0-2	47-0-7	134-0-16	95-0-17	41-0-11	13-0-2	6	8	385-1-63
FIRST OBSERVED: August 1				LAST OBSERVED: November 6				PEAK DATE: October 3				PEAK NUMBER OF INDIVIDUALS: 155			

The winter mean daily count of 0.44 was the lowest since 2012; five were banded, which is slightly below average. The mean daily count and spring banding totals were the lowest since 2010, and well below the season averages of 5.31 and 52, respectively. One was banded in summer and it was the only one observed. The mean daily count remained slightly below average in fall, but the number banded was high, and for the fourth time in the past five years it was the most frequently banded species of the season.

WCSP (EWCS): (Eastern) White-crowned Sparrow / Bruant à couronne blanche (*Zonotrichia leucophrys*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY						1.57	0.71	0.43			0.27				
# DAYS OBSERVED						3	3	3			9				
# PROCESSED						1		2			3				
FIRST OBSERVED: May 6			LAST OBSERVED: May 21			PEAK DATE: May 8			PEAK NUMBER OF INDIVIDUALS: 5						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY								2.14	7.71	5.86	2.86			0.29	1.35
# DAYS OBSERVED								5	7	7	5			1	25
# PROCESSED								2	5-0-1	4					11-0-1
FIRST OBSERVED: September 26				LAST OBSERVED: November 2				PEAK DATE: Oct 9, Oct 10				PEAK NUMBER OF INDIVIDUALS: 13			

Fewer White-crowned Sparrows were banded than in any previous spring, the fifth consecutive year with a below-average total; the mean daily count was less than half of average, and only above the record low of 0.17 in 2005. Similarly in fall, the banding total was far below the long-term average of 33 for a fourth year in a row, and the mean daily count was at least one-third below the long-term average for the sixth straight year.

DEJU (SCJU): Dark-eyed (Slate-colored) Junco / Junco ardoisé (*Junco hyemalis hyemalis*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY	7.00	5.57	3.00	2.86	0.57	0.57					1.96				
# DAYS OBSERVED	7	6	7	7	3	2					32				
# PROCESSED				0-1-0							0-1-0				
FIRST OBSERVED: March 28			LAST OBSERVED: May 6			PEAK DATE: April 8			PEAK NUMBER OF INDIVIDUALS: 23						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY		0.14		0.29	0.14		0.29	0.43	6.14	17.86	11.00	13.57	11.29	21.29	5.89
# DAYS OBSERVED		1		2	1		2	2	5	7	7	7	3	6	47
# PROCESSED		1					1	1	1	10	2-1-0	4-1-0	3	9	32-2-0
FIRST OBSERVED: August 10				LAST OBSERVED: November 6				PEAK DATE: November 1				PEAK NUMBER OF INDIVIDUALS: 39			

In winter, the mean daily count of Dark-eyed Juncos was 7.34, the lowest since 2009, but it was the third-most numerous species over the course of the season, only the second time the species has ranked this high. The 49 banded was the fewest since 2014, but ranked second for the season, the fifth time in 13 years of winter banding that this species has been in the top two. For only the second time, none were banded in spring, compared to a long-term average of 17; the mean daily count was less than half the long-term average and the lowest since 2010. Fall observations doubled last year's unusually low count but remained far below average, while the 32 banded was fewer than in any previous fall. Curiously though there were four observations within the first five weeks of fall, including one juvenile banded on August 10, compared to only one over this period during all previous years.

BOBO: Bobolink / Goglu des prés (*Dolichonyx oryzivorus*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY							0.86	0.71	0.14		0.17				
# DAYS OBSERVED							6	5	1		12				
FIRST OBSERVED: May 9			LAST OBSERVED: May 25			PEAK DATE: 12 dates			PEAK NUMBER OF INDIVIDUALS: 1						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY				0.29											0.02
# DAYS OBSERVED				1											1
FIRST OBSERVED: August 22				LAST OBSERVED: August 22				PEAK DATE: August 22				PEAK NUMBER OF INDIVIDUALS: 2			

Spring Bobolink numbers have remained low over the past decade; this year's count was typical over that period but less than half the overall long-term average. For the fifth year in a row, Bobolink numbers in fall were extremely low, this time with only two individuals observed on August 22, close to the overall fall peak date.

BAOR: Baltimore Oriole / Oriole de Baltimore (*Icterus galbula*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY						1.86	6.43	9.14	7.86	4.29	2.96				
# DAYS OBSERVED						5	7	7	7	6	32				
# PROCESSED						1-1-0	3-1-1	2-4-10	1-2-5	2-1-4	9-9-20				
FIRST OBSERVED: May 4			LAST OBSERVED: June 5			PEAK DATE: May 19, May 24			PEAK NUMBER OF INDIVIDUALS: 12						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	7.71	9.14	6.29	5.14	2.43	0.86	0.14								2.27
# DAYS OBSERVED	7	7	7	7	6	4	1								39
# PROCESSED	23-0-6	17-0-2	2	2	1-1-1	0-0-1									45-1-10
FIRST OBSERVED: August 1				LAST OBSERVED: September 12				PEAK DATE: August 1				PEAK NUMBER OF INDIVIDUALS: 16			

The mean daily count of Baltimore Orioles in spring continued its steady decline since peaking in 2012, and this year was 10% below the long-term average; the number banded was the fewest since 2013. In contrast, the mean daily count of 5.00 and 17 banded in summer were both record highs by large margins (the previous highs being 4.09 in 2006, and 9 in 2011, respectively). Baltimore Oriole was the second most frequently banded species this summer; previously the highest it had ranked was fifth, in 2006 and 2011. Fall numbers remained well above average; as usual the vast majority were banded in early August and sightings tapered off by late in the month.

RWBL: Red-winged Blackbird / Carouge à épaulettes (*Agelaius phoeniceus*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY	19.57	20.86	19.29	28.57	25.14	29.29	29.43	27.86	20.29	20.00	24.03				
# DAYS OBSERVED	7	7	7	7	7	7	7	7	7	7	70				
# PROCESSED				2-1-0	3-2-0	16-1-2	23-2-0	13-2-2	7-0-2	5-0-3	69-8-9				
FIRST OBSERVED: March 28			LAST OBSERVED: June 5			PEAK DATE: Apr 27, May 21, May 31			PEAK NUMBER OF INDIVIDUALS: 40						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	3.57	12.71	13.71	2.86	2.71	1.57	0.29	37.43	105.71	106.86	136.14	86.14	50.86	61.43	44.43
# DAYS OBSERVED	6	7	5	5	2	2	1	4	6	7	6	7	6	7	71
FIRST OBSERVED: August 2				LAST OBSERVED: November 6				PEAK DATE: September 28				PEAK NUMBER OF INDIVIDUALS: 502			

The mean daily count of 0.63 Red-winged Blackbirds this winter was the lowest since 0.59 in 2006, and far below the long-term season average of 9.25; none were banded. Red-winged Blackbird was the only species this spring that was observed on all 70 days of the season. However, the mean daily count was the lowest ever in spring, continuing a six-year pattern of decline. The number banded was also below average, although the highest since 2013. For the first time since 2014 but the ninth time overall, Red-winged Blackbird was the most abundant bird observed in summer, with a mean daily count this year of 8.43; only one was banded. For the first time since 2005 none were banded in fall; similarly the mean daily count for the season was the lowest ever aside from 2005. Numbers peaked unusually early from weeks 9 to 11, and for the second straight year showed an uncanny decline over the final two weeks of the season.

BHCO: Brown-headed Cowbird / Vacher à tête brune (*Molothrus ater*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY		0.71		3.57	3.29	3.29	2.00	1.71	2.43	1.00	1.80				
# DAYS OBSERVED		2		6	6	7	7	7	6	6	47				
# PROCESSED									1		1				
FIRST OBSERVED: April 4			LAST OBSERVED: June 5			PEAK DATE: April 22			PEAK NUMBER OF INDIVIDUALS: 8						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY								0.14				0.14			0.02
# DAYS OBSERVED								1				1			2
FIRST OBSERVED: September 27				LAST OBSERVED: October 19				PEAK DATE: Sep 27, Oct 19				PEAK NUMBER OF INDIVIDUALS: 1			

Brown-headed Cowbird numbers at MBO have shown an ongoing decline and 2018 was no exception. In spring, the mean daily count was only 60% of the long-term average, and just one individual was banded, compared to an average of three over 14 years. There were two summer sightings, for a mean daily count of 0.29, roughly one-quarter of the long-term average – however, both were banded, matching the total to date over the previous 12 years of summer banding! The two individuals observed in fall was a new record low.

RUBL: Rusty Blackbird / Quiscale rouilleux (*Euphagus carolinus*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY	0.14			0.29	2.57	3.71	0.86	0.71			0.83				
# DAYS OBSERVED	1			2	6	6	3	1			19				
FIRST OBSERVED: April 3			LAST OBSERVED: May 17			PEAK DATE: May 3			PEAK NUMBER OF INDIVIDUALS: 10						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY								2.00	4.14	2.57	10.86	3.86	1.29		1.77
# DAYS OBSERVED								4	6	4	6	5	3		28
# PROCESSED												1			1
FIRST OBSERVED: September 27				LAST OBSERVED: November 3				PEAK DATE: October 23				PEAK NUMBER OF INDIVIDUALS: 35			

Rusty Blackbird was missed in winter for the first time since 2013. One was seen on April 3, but otherwise spring observations were concentrated in the middle of the season, and were average in abundance. The mean daily count in fall was slightly below average despite a robust (though unusually late) peak of migration in week 12. One was banded, only the fifth ever in fall.

COGR: Common Grackle / Quiscale bronzé (*Quiscalus quiscula*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY	2.29	0.57	0.86	9.43	11.14	6.00	8.43	9.00	10.29	5.71	6.37				
# DAYS OBSERVED	4	1	2	6	7	7	7	7	7	7	55				
# PROCESSED							8	5	21-1-1	5	39-1-1				
FIRST OBSERVED: March 28			LAST OBSERVED: June 5			PEAK DATE: April 22			PEAK NUMBER OF INDIVIDUALS: 35						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	7.86	13.29	15.29	116.43	162.29	235.86	32.00	27.71	135.43	98.00	102.00	72.14	28.43	104.86	82.26
# DAYS OBSERVED	6	7	7	7	7	6	5	3	7	7	7	5	5	4	83
# PROCESSED		1													1
FIRST OBSERVED: August 1				LAST OBSERVED: November 5				PEAK DATE: September 5				PEAK NUMBER OF INDIVIDUALS: 630			

Four Common Grackles were observed this winter, for a mean daily count of 0.10, roughly one-quarter of the long-term average; as usual they were observed in November as part of the tail end of the mixed blackbird flocks common in late fall. The mean daily count was slightly below average in spring, but the total of 39 banded was the second highest ever, behind only 59 in 2006; over half of them were in week 9, which usually is well past the peak of the season, but this year saw a second wave of apparent late migrants come through. Considering those results, it was surprising that the mean daily count of 3.57 in summer was the lowest since 2012. However, one was banded, the first in three summers. Only one was banded in fall as well, but that tied a record low set in 2007 and was far below the season average of 11 – yet the mean daily count was the third highest ever, and nearly 50% above the long-term average. It was only the second time ever that there was a large movement in late August; this fall there were three distinct waves of migration, with the first extending until early September, another from late September to mid-October, and the final one in early November.

OVEN: Ovenbird / Paruline couronnée (*Seiurus aurocapilla*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY								1.86	1.14	1.14				0.86	0.50
# DAYS OBSERVED								7	6	6				5	24
# PROCESSED								1						1	2
FIRST OBSERVED: May 9			LAST OBSERVED: June 5			PEAK DATE: May 11			PEAK NUMBER OF INDIVIDUALS: 3						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	2.86	2.86	1.00	2.00	1.57	0.57	0.71	0.71							0.88
# DAYS OBSERVED	7	6	5	7	6	3	4	3							41
# PROCESSED	17-0-3	16-0-3	5-0-2	7-0-4	8-0-3	4	3-0-1	4							64-0-16
FIRST OBSERVED: August 1				LAST OBSERVED: September 23				PEAK DATE: August 4				PEAK NUMBER OF INDIVIDUALS: 6			

Ovenbird was typically uncommon this spring, with one or two individuals observed on most days beginning in the second third of May; only two individuals were banded but this is actually double the long-term average. The summer mean daily count of 0.43 was slightly below average, and included two that were banded, which is close to normal for the season. In fall, both the mean daily count and number banded were above average for the fourth year in a row, although down slightly from last year’s record highs. There is a sharp contrast between the number banded from 2005 to 2014 (range 13 to 47; mean 38) vs. from 2015 to 2018 (range 64 to 71; mean 67).

WEWA: Worm-eating Warbler / Paruline vermivore (*Helmitheros vermivorum*)

MARCH	APRIL					MAY					JUNE	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL	
# BIRDS / DAY							0.14				0.01	
# DAYS OBSERVED							1				1	
# PROCESSED							1				1	
FIRST OBSERVED: May 13			LAST OBSERVED: May 13			PEAK DATE: May 13			PEAK NUMBER OF INDIVIDUALS: 1			

A Worm-eating Warbler captured on May 13 became the 122nd species banded and 215th species observed at MBO. It is the 28th warbler species observed and banded at MBO, and the first new warbler species observed since Pine Warbler was added to the site list in April 2006.

NOWA: Northern Waterthrush / Paruline des ruisseaux (*Parkesia noveboracensis*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY						0.14	2.86	5.00	3.00		1.10				
# DAYS OBSERVED						1	7	7	7		22				
# PROCESSED						1	7-0-3	15-0-11	7-0-7		30-0-21				
	FIRST OBSERVED: May 4			LAST OBSERVED: May 29		PEAK DATE: May 22			PEAK NUMBER OF INDIVIDUALS: 9						
	AUGUST				SEPTEMBER				OCTOBER				NOVEMBER		
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	0.29	0.86	1.00	0.29	1.14	0.57	0.57	0.71	0.57	0.14					0.44
# DAYS OBSERVED	2	4	5	2	4	2	3	5	3	1					31
# PROCESSED	2	4-0-2	4-0-3	2	6-0-2	3	4	4-0-1	4	0-0-1					33-0-9
	FIRST OBSERVED: August 1				LAST OBSERVED: October 4			PEAK DATE: 4 dates			PEAK NUMBER OF INDIVIDUALS: 3				

The mean daily count in spring was identical to 2017, and continued a six-year streak of significantly above-average results (mean of 1.32 over that period, compared to 0.48 from 2005 through 2012). However, the count of 30 individuals banded was only slightly above the long-term average of 26. For the third year in a row and ninth time overall, migration peaked in week 8; it was only the third time in 14 years that none were observed in the final week of the season. Both the mean daily count and the number banded were marginally below average in fall, and the lowest since 2013. However, the individual recaptured on October 4 was the second-latest record ever, behind an exceptionally late migrant on October 16, 2015. The peak count of three individuals on four dates was the lowest for fall since 2007.

GWWA: Golden-winged Warbler / Paruline à ailes dorées (*Vermivora chrysoptera*)

MARCH	APRIL					MAY					JUNE	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL	
# BIRDS / DAY							0.14				0.01	
# DAYS OBSERVED							1				1	
	FIRST OBSERVED: May 13			LAST OBSERVED: May 13		PEAK DATE: May 13			PEAK NUMBER OF INDIVIDUALS: 1			

A Golden-winged Warbler observed on May 13 was only the second ever spring record of this species at MBO, and the sixth overall, the most recent prior to this year being in August 2017.

BAWW: Black-and-white Warbler / Paruline noir et blanc (*Mniotilta varia*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY						1.14	3.43	1.00	0.14		0.57				
# DAYS OBSERVED						4	7	6	1		18				
# PROCESSED						1	6-0-2	0-0-2			7-0-4				
	FIRST OBSERVED: May 3			LAST OBSERVED: May 23		PEAK DATE: May 11			PEAK NUMBER OF INDIVIDUALS: 8						
	AUGUST				SEPTEMBER				OCTOBER				NOVEMBER		
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	1.14	1.86	1.29	2.29	1.43	0.29	1.00	0.14	0.43	0.14					0.71
# DAYS OBSERVED	5	6	4	6	5	2	6	1	3	1					39
# PROCESSED	4	6-0-5	4-0-1	6-0-2	6-0-2	1	4-0-1	0-0-1	2-0-1	1					34-0-13
	FIRST OBSERVED: August 1				LAST OBSERVED: October 7			PEAK DATE: August 26			PEAK NUMBER OF INDIVIDUALS: 7				

It was a good spring for Black-and-white Warbler, with the highest mean daily count since 2010, and a record high seven individuals banded, including six in week 8, doubling the record for any previous week. The eight individuals counted on the peak date of May 11 was the second-highest ever in a day for spring, behind only an exceptional record of 16 on May 18, 2010. Overall, the peak of migration was in week 7 for the fourth time in the past six years, compared to being in week 8 in five of the previous six years. For the second year in a row, one Black-and-white Warbler was observed in summer, equivalent to the long-term average; like last year, the bird was captured and banded. Fall migration was also good, with the mean daily count above average for the third time in the past four years, and a banding total second only to the record high of 39 in 2010. However, there was only a modest peak in migration in week 4, and a briefer second spike in numbers in week 7, a pattern previously observed only from 2013 through 2015.

TEWA: Tennessee Warbler / Paruline obscure (*Oreothlypis peregrina*)

MARCH		APRIL					MAY					JUNE			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY							2.43	27.14	19.71	1.14	5.04				
# DAYS OBSERVED							5	7	7	4	23				
# PROCESSED							1	80-0-2	58-0-6	2	141-0-8				
FIRST OBSERVED: May 10			LAST OBSERVED: June 2			PEAK DATE: May 22			PEAK NUMBER OF INDIVIDUALS: 100						
		AUGUST				SEPTEMBER				OCTOBER				NOVEMBER	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	1.86	2.43	1.71	3.43	2.29	2.29	5.00	7.00	5.86	0.43					2.31
# DAYS OBSERVED	7	6	5	5	7	6	6	5	6	2					55
# PROCESSED	12	7-0-2	5-0-1	11-0-2	4-0-1	7-0-2	11-0-1	15-0-3	15	1					88-0-12
FIRST OBSERVED: August 1				LAST OBSERVED: October 4				PEAK DATE: September 18				PEAK NUMBER OF INDIVIDUALS: 21			

The mean daily count of Tennessee Warblers this spring was down considerably from last year's record high of 7.17, but the average of 5.21 since 2014 remains nearly quadruple the average of 1.36 from 2005 through 2013, no doubt reflecting the outbreak of Spruce Budworm in Quebec. Similarly, the 141 birds banded this spring matched the average since 2014, far above the average of 37 in previous years. As usual, the vast majority of Tennessee Warblers passed through in weeks 8 and 9; the peak of 100 on May 22 was second only to the record high of 130 on May 19 last year. An early molt migrant was banded in late summer, the first for the season since 2014. Fall numbers were close to long-term averages, but the peak in week 8 was later than in any previous year except 2007, and the number seen and banded in week 9 higher than in any other year except 2011.

OCWA: Orange-crowned Warbler / Paruline verdâtre (*Oreothlypis celata*)

MARCH		APRIL					MAY					JUNE			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY									0.14		0.01				
# DAYS OBSERVED									1		1				
# PROCESSED									1		1				
FIRST OBSERVED: May 16			LAST OBSERVED: May 16			PEAK DATE: May 16			PEAK NUMBER OF INDIVIDUALS: 1						
		AUGUST				SEPTEMBER				OCTOBER				NOVEMBER	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY								0.29	0.43	0.29	0.14	0.29		0.14	0.11
# DAYS OBSERVED								1	3	2	1	2		1	10
# PROCESSED									1		1				2
FIRST OBSERVED: September 24				LAST OBSERVED: November 4				PEAK DATE: September 24				PEAK NUMBER OF INDIVIDUALS: 2			

Only one Orange-crowned Warbler was observed in spring, half the average count. This individual was banded on May 16, the seventh across all years in spring. Orange-crowned Warbler has now been banded at MBO in every "even" spring except 2008, but never yet in any "odd" year; all but one have been banded in week 8. Both the mean daily count and number banded in fall were double the results from 2017 but still below average.

NAWA: Nashville Warbler / Paruline à joues grises (*Oreothlypis ruficapilla*)

MARCH		APRIL					MAY					JUNE			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY						0.43	3.43	1.57	0.43		0.59				
# DAYS OBSERVED						3	7	6	2		18				
# PROCESSED						1	11-0-2	7			19-0-2				
FIRST OBSERVED: May 3			LAST OBSERVED: May 25			PEAK DATE: May 13			PEAK NUMBER OF INDIVIDUALS: 7						
		AUGUST				SEPTEMBER				OCTOBER				NOVEMBER	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	0.14	1.14	1.14	1.86	2.43	0.71	0.57	2.57	3.71	0.86	0.43	0.14			1.12
# DAYS OBSERVED	1	6	4	4	6	5	3	5	7	4	3	1			49
# PROCESSED	1	5	5-0-1	9-0-1	7-0-2	2	3	7-0-2	13-0-1	3	2				57-0-7
FIRST OBSERVED: August 1				LAST OBSERVED: October 17				PEAK DATE: October 1				PEAK NUMBER OF INDIVIDUALS: 7			

Spring results for Nashville Warbler were average, but a record high 19 were banded; the peak was in week 7 for the sixth time in seven years. In fall, both the mean daily count and number banded were the highest since 2014, but well below the long-term averages; there were two small peaks in late August and late September.

MOWA: Mourning Warbler / Paruline triste (*Geothlypis philadelphia*)

MARCH		APRIL					MAY					JUNE			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY							0.29	0.86	0.14	0.14	0.14				
# DAYS OBSERVED							1	4	1	1	7				
# PROCESSED								2-0-1			2-0-1				
FIRST OBSERVED: May 10			LAST OBSERVED: June 5			PEAK DATE: May 10, 19, 21			PEAK NUMBER OF INDIVIDUALS: 2						
		AUGUST				SEPTEMBER				OCTOBER				NOVEMBER	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	0.14			0.14		0.14		0.14							0.04
# DAYS OBSERVED	1			1		1		1							4
# PROCESSED	1					1		1							3
FIRST OBSERVED: August 4				LAST OBSERVED: September 22				PEAK DATE: 4 dates				PEAK NUMBER OF INDIVIDUALS: 1			

Despite being a rare sight over the last four weeks of the season, Mourning Warblers were more numerous than usual this spring. However, the number banded was slightly below average. Only four individuals were observed in fall, just one more than the record low in 2016; the total of three banded was also far below the season average of eight. The September 22 record was the latest ever in fall by five days.

COYE: Common Yellowthroat / Paruline masquée (*Geothlypis trichas*)

MARCH		APRIL					MAY					JUNE			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY						0.29	4.43	7.71	7.00	3.71					2.31
# DAYS OBSERVED						1	7	7	7	6					28
# PROCESSED								9-3-0	15-6-7	8-4-4	1				33-13-11
FIRST OBSERVED: May 8			LAST OBSERVED: June 5			PEAK DATE: May 16			PEAK NUMBER OF INDIVIDUALS: 13						
		AUGUST				SEPTEMBER				OCTOBER				NOVEMBER	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	4.00	4.71	5.00	6.00	6.43	4.00	4.57	2.71	2.14	0.71					2.88
# DAYS OBSERVED	7	7	7	7	7	7	7	6	7	3					65
# PROCESSED	9-0-1	9-0-4	8-0-3	5-0-8	12-1-2	2	7-2-1	4	2	2					60-3-19
FIRST OBSERVED: August 1				LAST OBSERVED: October 6				PEAK DATE: August 26				PEAK NUMBER OF INDIVIDUALS: 11			

The mean daily count of Common Yellowthroats this spring was slightly below average, and the lowest since 2010. However, the number banded was the third-highest ever for spring. In summer, the mean daily count of 5.00 was only marginally below the record high of 5.10 in 2008, and a record high of 10 individuals banded, more than triple the previous average for the season. Fall numbers were below average, with the third-fewest banded of any year and the lowest mean daily count since 2009. Numbers peaked in late August and early September near normal levels, but tapered off more quickly than usual after that.

AMRE: American Redstart / Paruline flamboyante (*Setophaga ruticilla*)

MARCH		APRIL					MAY					JUNE			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY							4.86	3.00	4.86	2.14					1.49
# DAYS OBSERVED							7	7	7	6					27
# PROCESSED							5	4-1-1	4-6-5	1					14-7-6
FIRST OBSERVED: May 9			LAST OBSERVED: June 5			PEAK DATE: May 15			PEAK NUMBER OF INDIVIDUALS: 9						
		AUGUST				SEPTEMBER				OCTOBER				NOVEMBER	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	11.71	16.14	13.00	18.00	13.86	3.43	1.29	0.71	0.57						5.62
# DAYS OBSERVED	7	7	7	7	7	7	6	3	3						54
# PROCESSED	53-0-2	69-1-1	54-0-4	57-1-6	42-0-4	8-0-2	4-0-1	3	1						291-2-20
FIRST OBSERVED: August 1				LAST OBSERVED: September 30				PEAK DATE: August 29				PEAK NUMBER OF INDIVIDUALS: 37			

It was another exceptional year for American Redstarts at MBO. The mean daily count this spring was double the long-term average and set a new record for the fourth year in a row. In summer, the mean daily count of 3.71 and 15 banded were both new records by wide margins. In fall, the mean daily count was a new record high for the third year in a row, and the number banded was a fourth consecutive record, with this year's total more than double the long-term average. Numbers were high throughout the first five weeks of fall this year.

CMWA: Cape May Warbler / Paruline tigrée (*Setophaga tigrina*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY							1.29	0.57	0.43		0.23				
# DAYS OBSERVED							4	2	2		8				
# PROCESSED							3		1		4				
FIRST OBSERVED: May 11			LAST OBSERVED: May 24			PEAK DATE: May 11, May 12			PEAK NUMBER OF INDIVIDUALS: 3						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	1.86	1.71	1.00	3.14	0.43	0.14	0.14								0.60
# DAYS OBSERVED	4	5	3	5	3	1	1								22
# PROCESSED	12	8-0-2	3-0-1	14-0-3	0-0-1		1								38-0-7
FIRST OBSERVED: August 2				LAST OBSERVED: September 12				PEAK DATE: August 25				PEAK NUMBER OF INDIVIDUALS: 8			

Although still quite scarce this spring, the number of Cape May Warblers banded was a record high for the season, and the mean daily count was only marginally behind the record high of 0.24 in 2015. Fall results were similarly impressive, with the mean daily count and number banded both more than double the long-term averages, and the highest aside from the record highs of 1.06 and 45 in 2013. However, this year's migration spanned from week 1 through week 7, peaking in week 4, whereas in 2013 it was later, between weeks 3 and 9, and not peaking until week 7. The 14 banded in week 4 tied MBO's single-week record set in week 7 of 2013.

NOPA: Northern Parula / Paruline à collier (*Setophaga americana*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY							1.29	0.71			0.20				
# DAYS OBSERVED							6	3			9				
FIRST OBSERVED: May 9			LAST OBSERVED: May 20			PEAK DATE: 5 dates			PEAK NUMBER OF INDIVIDUALS: 2						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY		0.14		0.14	0.71	0.57	0.29								0.13
# DAYS OBSERVED		1		1	5	3	2								12
# PROCESSED					2		1								3
FIRST OBSERVED: August 11				LAST OBSERVED: September 18				PEAK DATE: September 5				PEAK NUMBER OF INDIVIDUALS: 2			

Northern Parulas were slightly more numerous than usual this spring, but for the second year in a row none were banded. Fall numbers observed and banded were average, but it was the first time since 2015 that any were banded during the season. The peak in week 5 was two weeks earlier than usual.

MAWA: Magnolia Warbler / Paruline à tête cendrée (*Setophaga magnolia*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY							9.00	13.29	4.57		2.69				
# DAYS OBSERVED							5	7	6		18				
# PROCESSED							26	51-0-5	11-0-6		88-0-11				
FIRST OBSERVED: May 10			LAST OBSERVED: May 28			PEAK DATE: May 18			PEAK NUMBER OF INDIVIDUALS: 28						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY		0.71	0.86	7.14	9.71	8.71	5.29	10.00	6.00	1.43	1.00				3.63
# DAYS OBSERVED		3	5	7	7	7	7	5	7	3	6				57
# PROCESSED		1	3	24-0-3	34	28-0-3	15-0-6	40-0-6	25-0-4	6-0-2	5-0-1				181-0-25
FIRST OBSERVED: August 9				LAST OBSERVED: October 16				PEAK DATE: September 23				PEAK NUMBER OF INDIVIDUALS: 24			

Both the mean daily count and the number of birds banded in spring were double the long-term averages and set a new record for the fourth time in the past six years. Despite the high numbers, it was only the fourth time in 14 years that none were observed in week 10. The spring peak was in week 8 as in most previous years. On the other hand, both results were slightly below average in fall. Unusually, there appeared to be two waves of migration this fall, with one peak ranging from week 4 to 6, and a second shorter one in week 8. The sighting on October 16 was the second latest ever in fall.

BBWA: Bay-breasted Warbler / Paruline à poitrine baie (*Setophaga castanea*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY							0.14	1.29	0.14		0.16				
# DAYS OBSERVED							1	5	1		7				
FIRST OBSERVED: May 15			LAST OBSERVED: May 24			PEAK DATE: May 17, May 19			PEAK NUMBER OF INDIVIDUALS: 3						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY		0.29	0.29	1.43	0.71		0.14	0.29	0.29						0.24
# DAYS OBSERVED		2	2	5	3		1	1	1						15
# PROCESSED		1	1	4	3			2	2						13
FIRST OBSERVED: August 8				LAST OBSERVED: September 28				PEAK DATE: August 26				PEAK NUMBER OF INDIVIDUALS: 5			

The mean daily count of Bay-breasted Warblers this spring was double the long-term average, and the highest since a record of 0.23 in 2009. Despite that, none were banded for the third year in a row. Fall results were even more notable, with the number banded and the main daily count both record highs, and more than double the long-term averages for the season. The five individuals observed on August 26 marked an all-time single-day high for MBO. Numbers were highest in late August and the first few days of September, which is typical.

BLBW: Blackburnian Warbler / Paruline à gorge orangée (*Setophaga fusca*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY							1.14	0.14			0.13				
# DAYS OBSERVED							4	1			5				
FIRST OBSERVED: May 10			LAST OBSERVED: May 17			PEAK DATE: May 15			PEAK NUMBER OF INDIVIDUALS: 3						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY				1.14											0.08
# DAYS OBSERVED				5											5
# PROCESSED				2											2
FIRST OBSERVED: August 24				LAST OBSERVED: August 28				PEAK DATE: Aug 25, Aug 26, Aug 27				PEAK NUMBER OF INDIVIDUALS: 2			

Blackburnian Warblers were slightly more numerous than average in both spring and fall, although still quite rare. The migration windows were very narrow, with all spring observations occurring within an eight-day span in mid-May, and all fall records within five days in the last week of August. Both periods were slightly earlier than the average timing across all years. The two banded in fall were the first in any season since 2015.

YEWA: Yellow Warbler / Paruline jaune (*Setophaga petechia*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY						1.14	11.00	12.86	10.29	5.00	4.03				
# DAYS OBSERVED						3	7	7	7	6	30				
# PROCESSED						1	11-8-2	24-0-16	4-1-13	0-0-1	40-9-32				
FIRST OBSERVED: May 6			LAST OBSERVED: June 5			PEAK DATE: May 16			PEAK NUMBER OF INDIVIDUALS: 18						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	3.00	2.57	1.00	0.43				0.14							0.51
# DAYS OBSERVED	6	6	3	3				1							19
# PROCESSED	9	6-0-3						1							16-0-3
FIRST OBSERVED: August 1				LAST OBSERVED: September 19				PEAK DATE: August 3				PEAK NUMBER OF INDIVIDUALS: 6			

The mean daily count of Yellow Warblers in spring was well below average for the fourth year in a row, above only the record low of 3.60 in 2015. Despite that, the number banded was slightly above average, and the highest since 2013. As usual, the first individuals were observed in week 6, and numbers spiked in week 7 and remained elevated for three weeks. However, the decline in abundance in week 10 was sharper than in most years, and the mean daily count that week was a record low. This carried over into summer with the mean daily count of 2.00 and two individuals banded both near record lows. The mean daily count in fall was the lowest ever, 60% below the long-term average, and only in 2014 were fewer banded (11). Aside from one late migrant banded on September 19, all other fall sightings were in August, and most within the first two weeks of the season.

CSWA: Chestnut-sided Warbler / Paruline à flancs marron (*Setophaga pensylvanica*)

MARCH		APRIL					MAY					JUNE			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY							2.00	6.00	2.43	1.29	1.17				
# DAYS OBSERVED							7	7	6	4	24				
# PROCESSED								9	1-0-1		10-0-1				
FIRST OBSERVED: May 9			LAST OBSERVED: June 5			PEAK DATE: May 17, May 21			PEAK NUMBER OF INDIVIDUALS: 8						
		AUGUST				SEPTEMBER				OCTOBER				NOVEMBER	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	0.71	2.43	2.29	4.43	2.14	0.14	0.14	0.29	0.29						0.92
# DAYS OBSERVED	3	7	6	7	5	1	1	2	2						34
# PROCESSED	3	8-0-1	4-0-2	18-0-1	4-0-2		1	2	1						41-0-6
FIRST OBSERVED: August 2				LAST OBSERVED: September 30				PEAK DATE: August 26				PEAK NUMBER OF INDIVIDUALS: 12			

Spring numbers for Chestnut-sided Warbler remained well above average for a fifth consecutive year. The peak of migration was in week 8 for the fourth time in the past five years, and was particularly distinct this year, setting single-week record highs for both mean daily count and number banded. For the fifth consecutive year one was banded in summer; this year it was the only individual observed, which is below average for the season. It was a great fall for this species with new record highs for both mean daily count and number banded, in both cases eclipsing the marks set in 2011 (0.80 and 36, respectively) and nearly double the long-term averages. The peak of migration was in week 4, one week later than average, and as in spring it set all-time single-week records for both mean daily count and number banded.

BLPW: Blackpoll Warbler / Paruline rayée (*Setophaga striata*)

MARCH		APRIL					MAY					JUNE			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY								1.71	1.43	0.14	0.33				
# DAYS OBSERVED								4	4	1	9				
# PROCESSED									1		1				
FIRST OBSERVED: May 17			LAST OBSERVED: June 5			PEAK DATE: May 19			PEAK NUMBER OF INDIVIDUALS: 5						
		AUGUST				SEPTEMBER				OCTOBER				NOVEMBER	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY					0.14		0.29	0.43	0.29	0.14					0.09
# DAYS OBSERVED					1		2	2	1	1					7
# PROCESSED					1			3	1	1					6
FIRST OBSERVED: August 30				LAST OBSERVED: October 6				PEAK DATE: Sep 23, Sep 30				PEAK NUMBER OF INDIVIDUALS: 2			

Blackpoll Warblers were incredible scarce at MBO this year. The mean daily count this spring was one-third of the long-term average, and the lowest since 2006; the lone bird banded was the fewest ever, and far below the long-term average of 18. For the fourth consecutive year, the mean daily count and banding total in fall were less than half the long-term average, and only slightly above the record lows of 0.07 and two in 2016.

BTBW: Black-throated Blue Warbler / Paruline bleue (*Setophaga caerulescens*)

MARCH		APRIL					MAY					JUNE			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY						0.57	1.57	1.29	0.29		0.37				
# DAYS OBSERVED						2	7	4	2		15				
# PROCESSED							3-0-1	3			6-0-1				
FIRST OBSERVED: May 6			LAST OBSERVED: May 27			PEAK DATE: May 16			PEAK NUMBER OF INDIVIDUALS: 4						
		AUGUST				SEPTEMBER				OCTOBER				NOVEMBER	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	0.29	0.29	0.57	1.43	0.29		0.29	0.86	1.43	0.43		0.29			0.44
# DAYS OBSERVED	2	2	4	6	2		1	3	4	3		2			29
# PROCESSED		1-0-1	3	5-0-1			0-1-0	5	5	2		1			22-1-2
FIRST OBSERVED: August 2				LAST OBSERVED: October 21				PEAK DATE: September 30				PEAK NUMBER OF INDIVIDUALS: 5			

The spring mean daily count of Black-throated Blue Warblers was the lowest since 2012, but the number banded was a record high; timing of migration was typical. In fall, the number banded was between 20 and 24 for the fourth consecutive year, well below the long-term average of 30; the mean daily count was also below average.

WPWA: Western Palm Warbler / Paruline à couronne rousse (forme de l'Ouest) (*Setophaga palmarum palmarum*)

MARCH	APRIL					MAY					JUNE		TOTAL	
WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY					0.43	0.57	0.14							0.11
# DAYS OBSERVED					2	3	1							6
# PROCESSED					1	3								4
FIRST OBSERVED: May 3			LAST OBSERVED: May 16			PEAK DATE: May 6, May 9			PEAK NUMBER OF INDIVIDUALS: 2					
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER		TOTAL
WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY						0.29	1.86	0.86	0.71					0.27
# DAYS OBSERVED						2	4	4	3					13
# PROCESSED							3	1						4
FIRST OBSERVED: September 15				LAST OBSERVED: October 9				PEAK DATE: September 24				PEAK NUMBER OF INDIVIDUALS: 6		

Although still quite scarce, there were more Western Palm Warblers observed at MBO this spring than in any previous year except 2011. The four individuals banded doubled the previous record from 2012, and account for 40% of all spring banding records over the past 14 years. On the other hand, fall numbers were below average, and the lowest they have been since 2013.

YPWA: Yellow Palm Warbler / Paruline à couronne rousse (forme de l'Est) (*Setophaga palmarum hypochrysea*)

AUGUST				SEPTEMBER				OCTOBER				NOVEMBER		TOTAL
WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY								0.14						0.01
# DAYS OBSERVED								1						1
# PROCESSED								1						1
FIRST OBSERVED: September 26				LAST OBSERVED: September 26				PEAK DATE: September 26				PEAK NUMBER OF INDIVIDUALS: 1		

Only one Yellow Palm Warbler was observed at MBO this year, an individual banded on September 26. Although this is an improvement over last year when none were observed at all, numbers in recent years have overall been much lower than in MBO's early years.

YRWA (MYWA): Yellow-rumped (Myrtle) Warbler / Paruline à croupion jaune (*Setophaga coronata coronata*)

MARCH	APRIL					MAY					JUNE		TOTAL	
WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY				0.14	0.14	5.43	39.43	17.14	2.14					6.44
# DAYS OBSERVED				1	1	6	7	7	2					24
# PROCESSED						2	81-0-8	19-0-4	6-0-2					108-0-14
FIRST OBSERVED: April 24			LAST OBSERVED: May 24			PEAK DATE: May 13			PEAK NUMBER OF INDIVIDUALS: 83					
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER		TOTAL
WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY				0.71	0.57	1.00	4.14	21.57	14.43	4.00	3.71	0.71	1.29	3.72
# DAYS OBSERVED				3	2	2	6	7	7	5	6	4	5	47
# PROCESSED				1		1	4	21	2	3				32
FIRST OBSERVED: August 31				LAST OBSERVED: November 6				PEAK DATE: October 2				PEAK NUMBER OF INDIVIDUALS: 64		

The mean daily count of Yellow-rumped Warblers in spring was more than double the long-term average, and the second-highest ever aside from the record of 8.50 in 2011; the number banded this spring was even higher than in 2011, and more than double the long-term season average of 47. In contrast, the number banded in fall was a record low, striking in comparison to the previous low of 57 in 2015, and the long-term average of 423 (or 163, if omitting the two years with exceptional totals of over 1500). Correspondingly, the mean daily count in fall was around 30% of the long-term average, though slightly above the record low observed in 2007. Surprisingly, given the overall poor fall numbers, there were nine observations over five days in week 14, compared to a total of only three previous November records across all years. Otherwise, the timing of migration was quite typical in both spring and fall.

BTNW: Black-throated Green Warbler / Paruline à gorge noire (*Setophaga virens*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY						0.14	1.29	1.86	0.43		0.37				
# DAYS OBSERVED						1	6	6	2		15				
# PROCESSED							1				1				
FIRST OBSERVED: May 8			LAST OBSERVED: May 28			PEAK DATE: May 16			PEAK NUMBER OF INDIVIDUALS: 6						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	0.14		0.29	0.86	1.00	0.43	0.29	0.29	1.57	0.29					0.37
# DAYS OBSERVED	1		2	4	4	1	2	2	5	2					23
# PROCESSED	1			2	1			1	2						7
FIRST OBSERVED: August 2				LAST OBSERVED: October 4				PEAK DATE: Aug 31, Sep 29				PEAK NUMBER OF INDIVIDUALS: 4			

One Black-throated Green Warbler was banded at MBO this spring, the ninth ever for the season; the mean daily count was also slightly above average. Nearly one quarter of the season’s observations were on the peak date of May 16. For only the fifth time in 14 years, Black-throated Green Warbler was observed in the first week of fall, but as in two of those previous years, this was followed by a lack of detections in week 2. Overall, the mean daily count in fall was only slightly below average, but the number banded was half the long-term average, but consistent with the low totals over the past five years. There were two weak peaks of migration in late August and late September.

CAWA: Canada Warbler / Paruline du Canada (*Cardellina canadensis*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY							0.14	0.86	0.57		0.16				
# DAYS OBSERVED							1	4	2		7				
# PROCESSED								4	1-0-2		5-0-2				
FIRST OBSERVED: May 11			LAST OBSERVED: May 25			PEAK DATE: 4 dates			PEAK NUMBER OF INDIVIDUALS: 2						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	0.14	0.86	0.86	3.14	1.43	0.14	0.14								0.48
# DAYS OBSERVED	1	2	4	7	5	1	1								21
# PROCESSED	1	5	5	9-0-4	7-0-2	1									28-0-6
FIRST OBSERVED: August 7				LAST OBSERVED: September 15				PEAK DATE: August 26				PEAK NUMBER OF INDIVIDUALS: 8			

After increasing annually from 2013 through 2017, the mean daily count of Canada Warblers this spring dropped back to just above average. The number banded was also the fewest since 2012, and slightly below average. Fall results were much better, with both the mean daily count and number banded roughly 50% above long-term averages. Week 4 was especially productive, marking the first week ever with a mean daily count above 3; it was also only the third time ever that the peak of migration was this late in the season.

WIWA: Wilson's Warbler / Paruline à calotte noire (*Cardellina pusilla*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY							0.86	4.29	3.57	0.14	0.89				
# DAYS OBSERVED							4	6	5	1	16				
# PROCESSED							1-0-2	15-0-6	10-0-6		26-0-14				
FIRST OBSERVED: May 11			LAST OBSERVED: June 2			PEAK DATE: May 19			PEAK NUMBER OF INDIVIDUALS: 8						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY			0.57	0.43	0.43	0.14	1.57	0.86							0.29
# DAYS OBSERVED			3	3	3	1	5	4							19
# PROCESSED					2	1	7-0-1	3-0-2							13-0-3
FIRST OBSERVED: August 22				LAST OBSERVED: October 1				PEAK DATE: September 22				PEAK NUMBER OF INDIVIDUALS: 5			

In spring, both the mean daily count and number banded were well above average and the highest since 2015. For only the fourth time, numbers peaked in week 8, although they were only slightly higher than during the typical peak of week 9. However, in fall the mean daily count was 40% below average, and fewer were banded than in any previous year. The peak was in week 8, later than any previous year.

HYWA: Hybrid Warbler / Paruline hybride

MARCH	APRIL					MAY					JUNE
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL
# BIRDS / DAY								0.14			0.01
# DAYS OBSERVED								1			1
# PROCESSED								1			1
FIRST OBSERVED: May 22			LAST OBSERVED: May 22			PEAK DATE: May 22			PEAK NUMBER OF INDIVIDUALS: 1		

On May 22, an apparent Mourning Warbler x Common Yellowthroat hybrid was captured and banded (see photo on page 2).

SCTA: Scarlet Tanager / Piranga écarlate (*Piranga olivacea*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY									0.14	0.14	0.03				
# DAYS OBSERVED									1	1	2				
# PROCESSED									1		1				
FIRST OBSERVED: May 28			LAST OBSERVED: May 31			PEAK DATE: May 28, May 31			PEAK NUMBER OF INDIVIDUALS: 1						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	0.43	0.86	0.71	0.57	0.14	0.14	0.29	0.29	0.29						0.27
# DAYS OBSERVED	3	4	4	2	1	1	2	2	2						21
# PROCESSED	1	2	1	1	1		1								7
FIRST OBSERVED: August 2				LAST OBSERVED: September 30				PEAK DATE: 5 dates				PEAK NUMBER OF INDIVIDUALS: 2			

Only two Scarlet Tanagers were observed at MBO this spring, matching the record low from 2008, 2013, and 2014. However, for the first time ever in spring, one was banded. In fall, the mean daily count was another substantial increase over last year's record high of 0.19; the long-term average for the season is only 0.12. The number banded was also a new record high and more than double the season average. There was a slight peak in numbers in mid-August, but otherwise sightings were steady at a low level throughout the first two-thirds of the season.

NOCA: Northern Cardinal / Cardinal rouge (*Cardinalis cardinalis*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY	8.14	7.86	7.57	10.00	9.57	8.57	6.43	6.14	6.29	4.29	7.49				
# DAYS OBSERVED	7	7	7	7	7	7	7	7	7	6	69				
# PROCESSED				2	0-1-0	1-1-0		0-1-1			3-3-1				
FIRST OBSERVED: March 28			LAST OBSERVED: June 5			PEAK DATE: April 19			PEAK NUMBER OF INDIVIDUALS: 13						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	8.14	7.43	5.57	6.71	6.14	5.57	6.14	3.71	6.43	4.86	5.00	6.29	7.00	11.00	6.43
# DAYS OBSERVED	7	7	7	7	7	7	7	7	7	7	7	7	7	7	98
# PROCESSED	7-1-2	4-0-1	3-0-5	2-0-1		1-0-1	1		1	4-2-1	2	0-0-1	1-1-1	3-0-1	29-4-14
FIRST OBSERVED: August 1				LAST OBSERVED: November 6				PEAK DATE: Nov 4, Nov 6				PEAK NUMBER OF INDIVIDUALS: 18			

After setting a new record five years in a row, the mean daily count of Northern Cardinals was down slightly this winter to 4.68. The 13 individuals banded was above the long-term winter average of 9. In spring, the mean daily count was slightly below the levels in 2016 and 2017, but much higher than in all previous years. In summer, the mean daily count of 3.86 was also well above average, but only one was banded, the 15th over 13 years of summer banding. As in spring, the fall mean daily count was marginally lower than in 2016 and 2017 (6.59 and 6.53, respectively), but more than 50% above the long-term average. The number banded in fall was less than in any of the past three years, but still well above the long-term average of 17. As usual, observations were relatively steady over the course of the season, aside from an increase right at the end. Far more were banded in August this year than usual, with 16 over the first four weeks of the season, compared to a high of 10 across all previous years.

RBGR: Rose-breasted Grosbeak / Cardinal à poitrine rose (*Pheucticus ludovicianus*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	TOTAL				
# BIRDS / DAY						0.43	3.86	3.71	2.71	1.29	1.20				
# DAYS OBSERVED						3	7	7	7	6	30				
# PROCESSED							3-2-0	2-3-3	1-0-1		6-5-4				
FIRST OBSERVED: May 6			LAST OBSERVED: June 5			PEAK DATE: May 12			PEAK NUMBER OF INDIVIDUALS: 6						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	7.14	8.29	3.57	3.29	4.29	2.14	2.43	1.00	0.57	0.14					2.35
# DAYS OBSERVED	7	7	7	7	6	6	7	3	3	1					54
# PROCESSED	18-0-4	17-0-3	4-1-3	8-0-2	8-2-3	2	5-0-1	1-0-2	1						64-3-18
FIRST OBSERVED: August 1				LAST OBSERVED: October 3				PEAK DATE: August 11				PEAK NUMBER OF INDIVIDUALS: 15			

Rose-breasted Grosbeak observations this spring were above average, while the number banded was typical. The peak of observations spanned weeks 7 and 8, matching the usual timing for this species. In summer, the mean daily count of 2.71 was just short of the record high of 2.86 in 2014, and the eight individuals banded tied the record high from 2014 and 2015. However, the fall results were the most impressive, with the mean daily count beating the old record from 2006, and the number banded far above the previous high of 47 reached just two years ago, and much higher than the long-term average of 36 – a count nearly reached this year in the first two weeks alone!

INBU: Indigo Bunting / Passerin indigo (*Passerina cyanea*)

MARCH	APRIL					MAY					JUNE				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY								1.14	1.86	1.29	1.86				0.61
# DAYS OBSERVED								4	7	5	6				22
# PROCESSED								1	2	0-1-0	1				4-1-0
FIRST OBSERVED: May 12			LAST OBSERVED: June 5			PEAK DATE: June 2			PEAK NUMBER OF INDIVIDUALS: 4						
AUGUST				SEPTEMBER				OCTOBER				NOVEMBER			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	TOTAL
# BIRDS / DAY	3.86	3.57	1.57	1.29	1.29	0.43	0.86		0.29						0.94
# DAYS OBSERVED	7	7	6	6	5	3	4		1						39
# PROCESSED	3	3		2	3	1	2								14
FIRST OBSERVED: August 1				LAST OBSERVED: September 26				PEAK DATE: Aug 4, Aug 5				PEAK NUMBER OF INDIVIDUALS: 6			

The mean daily count of Indigo Buntings this spring was average, although the lowest since 2013. However, the number banded matched the record high from 2008, and was double the long-term average for the season. Only one individual was observed in summer, matching the record low from 2015, and 80% below the long-term average for the season. In fall, both the mean daily count and number banded were below average for the third consecutive year; the banding total was especially low, less than half of the long-term average of 29. Over half of all observations were in the first two weeks of the season, and September encounters were particularly scarce this year.



It was a great fall for finches at MBO, with both Purple Finch (left) and Common Redpoll (right) banded in record numbers (photos by Simon Duval).