2018 Annual Report

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2018 Executive Summary

The Lesser Slave Lake Bird Observatory (LSLBO) completed its 25th year of avian population monitoring in the Lesser Slave Lake Provincial Park of northern Alberta (24th year of standardized efforts). Dedicated to bird conservation through research and education, the LSLBO manages four core monitoring programs that contribute to several national and international networks: spring migration monitoring, fall migration monitoring, Monitoring Avian Productivity and Survivorship (MAPS), and fall owl migration monitoring.

Spring migration monitoring took place from April 16th to June 10th (56 days) with generally above average coverage thanks to the early start. Census and visual migration counts were performed daily. Approximately 71,000 birds of 165 species were encountered. Weather conditions permitted only 74.7% of possible net-hours to be attained. A total of 602 birds of 48 species were banded, including the LSLBO's first Common Redpoll and Brown Thrasher (107 species have now been banded at the LSLBO). There were an additional 83 recapture records, of which, the oldest known-aged bird was a 3 year old Ovenbird. Total capture rates were well below average with 18.0 birds per 100 net-hours.

Fall migration was monitored from July 12th to September 30th (81 days) for a slightly above average duration, allowing for above average coverage overall. Daily censuses and visual migration counts contributed to over 57,000 birds of 151 species being counted across monitoring methods. Heavy smoke from fires in B.C. blanketed the area for nearly 6 weeks. Although poor weather resulted in below average mist-netting (only 71.1% of possible net-hours attained), this was the second busiest season for fall banding in the LSLBO's history with 3,387 birds of 62 species banded. Many species beat their previous banding records. An additional 353 recaptures were collected with a Black-capped Chickadee estimated to be over 6 years old as the oldest know-aged bird. Total capture rates were above average with 70.7 birds per 100 net-hours.

The MAPS program was run June 10th to August 1st across four sites, completing our 25th year of MAPS contributions. Banding was above average with 380 birds of 31 species banded between the four stations, including one American Three-toed Woodpecker. The oldest known-aged bird captured was an 8+ year old White-throated Sparrow. Of the 65 species detected, 25 species were confirmed to breed in at least one site. Due to a large storm in June drastically altering the canopy, a habitat structure assessment was performed in one site.

Targeted fall owl migration monitoring was conducted for the 15th year on 48 nights, September 1st to October 31st. A Northern Saw-whet Owl net array and a smaller Boreal Owl net array captured a combined 186 Saw-whet Owls and 3 Boreal Owls - the second busiest year yet. The oldest owl recaptured was a Barred Owl estimated to be over 11 years old.

Special projects included a Songbird Monitoring Project for West Fraser as well as two collaborative research projects. The first year of a three year research project was completed for

Vanderwell Contractors which examines breeding bird use of cut blocks at various post-harvest ages and vegetation composition. The third year of a collaborative research project with Ph.D. candidate Ruthie Oliver was delivered for the ABoVe project studying American Robin spring migration movement patterns. The LSLBO also co-authored two peer-reviewed articles on Canada Warbler breeding ecology.

Education and Outreach projects at the LSLBO allowed 813 people to visit the LSLBO banding activities and learn about bird conservation. 26 public banding lab tour programs were provided to over 380 people as well as 13 spring fieldtrip programs for 280 students from grade 1 to post-secondary. The two biggest LSLBO outreach events were the 23rd Annual Songbird Festival and our annual Family Owl Night.

Migration Monitoring

Migration monitoring is a method to estimate population trends vital to bird conservation. Since much of northern Canada is remote with low human population densities, breeding bird surveys often cannot provide sufficient information on northern species. Similarly, South American nations often lack the resources required to study Neotropical migratory species on their wintering grounds. By considering numbers of observed and captured individuals migrating through more accessible locations, population trends of these species can be obtained.

The LSLBO has been conducting migration monitoring over both spring and fall migration periods since 1994, with 2018 marking the 24th year of standardized data collection (since 1995). We are a full-member station of the Canadian Migration Monitoring Network - Réseau canadien de surveillance des migrations (CMMN-RCSM). Established in 1998, the CMMN is a unique network including Bird Studies Canada, the Canadian Wildlife Service, and approximately 25 member stations working collaboratively to monitor avian migration across Canada.

Migration monitoring follows a standardized approach outlined in the Lesser Slave Lake Bird Observatory Station Manual (revised 2013). The approach is roughly the same in both spring and fall, with small differences to account for the opposite directions of migration. Priority species for monitoring are passerines and near-passerines, but all avian species encountered are recorded daily using four methods: census, visual migration counts, incidental observations, and banding. Census is performed once daily over a 700 m long transect crossing the study site for 30 minutes during peak migration hours. Visual migration counts are 5 minute long observations from a fixed location of clearly migrating individuals. Other birds encountered in the study area not included in these standardized counts are recorded as incidental observations.

Banding is performed alongside these observations to record species that migrate discretely and to gather morphometric measurements and demographic information from a subset of individuals that cannot be otherwise obtained. Mist-netting is accomplished using 12 standard nets (since 1995) and 2 non-standard aerial nets (since fall 2010) for a period of 7 hours beginning half an hour before sunrise (maximum 98 net-hours possible in a day). Mist-netting is not performed under adverse weather conditions or the heavy presence of avian predators.

To summarize the effort dedicated to observing migration, a daily coverage code is assigned (Table 1). Throughout migration monitoring, the LSLBO strives to obtain a coverage code of 4. However, when the weather prevents mist-netting, the maximum coverage code that can be attained is 3.

Table 1. Criteria for daily coverage codes. Obtaining field hours is mandatory; performance of census, visual migration counts, and standard mist-netting is required as described. Class 1 observers can reliably identify >75% of bird species encountered; class 2 observers can identify 50-75%.

Code	Coverage	Field Hours	Census	# Vis. Migs.	Standard Mist-Netting (%)	Requirements (Census, vis. migs., mist-netting, # observers)
0	None	0	No	0	0%	No Activity
1	Casual	1	Yes	4	≥10%	One of the three counts (1 class 2+ obs.)
2	Poor	2	Yes	4	≥25%	Census, one of other counts (1+ class 2+ obs.)
3	Fair	4	Yes	6	≥50%	Two counts (1+ class 2+ obs.)
4	Good	6	Yes	7	≥50%	All (1+ class 1+ obs.)
5	Excellent	10	Yes	8	≥90%	All (3+ class 1+ obs.)

Spring Migration Monitoring

Spring migration monitoring occurs for 7 to 8 weeks from mid-April to mid-June, depending on weather conditions. This period covers the migration window for most species encountered at the LSLBO as they move northward to their breeding grounds. Although migration 'peaks' for some species, such as American Tree-sparrow and Dark-eyed Junco often occur before monitoring begins, most other songbird species 'peak' later in the spring. Overall, the diversity of species observed increases quickly in May, with individuals breeding locally encountered frequently throughout June. Busy periods for banding often occur mid to late May.

Similar to 2016 and 2017, spring migration monitoring this year took place April 16th to June 10th for 56 days (Table 2). Due to coverage beginning a week earlier than average thanks to warm weather, the number of days covered and the number of days with banding, census, and visual migration monitoring activity were all above average. Census was performed daily and our goal of 8 visual migration counts per day was achieved on all but 9 days. Wind and rain completely prevented the nets from being opened on 5 days, while cold starts and late morning winds prevented full net-hours on an additional 37 days. Low volunteer activity kept the person days accumulated close to average (see Staff and Volunteers, p. 23). Overall, monitoring efforts for spring migration were similar to past years.

Table 2. Summary of effort during spring migration monitoring. Averages based on 1995 to 2018 data, except visual migration effort (2000-2018; standard observation time reduced from 10 to 5 minutes).

	2018	Average	Max (Year)	Min (Year)
Daily Coverage				
First day	April 16	April 22	May 4 (1996, 98)	April 15 (2016)
Last day	June 10	June 9	June 17 (1997)	May 15 (2011)*
Number of days	56	47	57 (2000, 01, 06)	24 (2011)*
Person days	103	101	130 (2001)	55 (2011)*
Average daily coverage code	3.82	3.78	3.95 (2005)	3.46 (2000)
Banding				
Number of days	51	43	54 (2001)	23 (2011)*
Standard nets average daily net-hours	64.6	65.0	75.8 (2008)	49.0 (2003)
Aerial nets (2011-2018) average daily net-hours	8.5	9.4	10.8 (2015)	8.1 (2017)
Census				
Number of days	56	46	57 (2001, 16)	24 (2011)*
Visual Migration Counts				
Number of days	56	49	57 (2000, 01, 16)	24 (2011)*
Average daily vis. migs.	7.7	7.8	0.84 (2002)	0.75 (2016)

*2011: monitoring site was evacuated due to large forest fires in May

Spring Migration Daily Totals

A total of 70,814 birds from 165 species were recorded across counting methods. Census documented 12% of all birds encountered. Species diversity was high for census counts with 112 species including the only American White Pelican and Golden-crowned Kinglet recorded during spring migration monitoring. Visual migration counts similarly documented 13% of birds encountered with 66 species recorded, although none were unique to these counts. Banding accounted for less than 1% of encounters. Despite being a relatively low source of observations, 48 species were banded, including the only records for spring migration monitoring of: American Three-toed Woodpecker, Gray-cheeked Thrush, Gray Catbird, Brown Thrasher, and Oregon Junco. Incidental observations contributed the most individuals (73% of records) of 152 species, 25 of which were only encountered incidentally, including: Whimbrel, Ruby-throated Hummingbird, Say's Phoebe, Northern Shrike, Gray Jay, Marsh Wren, Cape May Warbler, Chestnut-sided Warbler, Black-throated Green-warbler, Vesper Sparrow, and Fox Sparrow.

Overall migration activity first peaked on April 24th with large flocks of Common Redpoll and American Robins, followed by a second large peak on May 6th with flocks of geese and robins (Figure 1). Waterfowl migration was busiest in early May with sizeable groups of geese, but died down as smaller flocks of ducks began moving through. Songbird migration was more erratic with very large groups of Common Redpolls and American Robins early in the season being followed by large groups of warblers and sparrows later in the season. The busiest day of songbird migration was May 4th due again mostly to the movements of American Robins, after which, songbird migration slowed with a few peaks during favourable weather. For a brief weekly review of observations (matching each interval on the x-axis), see Spring Migration Weekly Summary (p. 9). For a more detailed break-down of each species' abundance, as well as arrival, peak, and departure timing, see Appendix I. 2018 Migration Occurrence Records (p. 29).

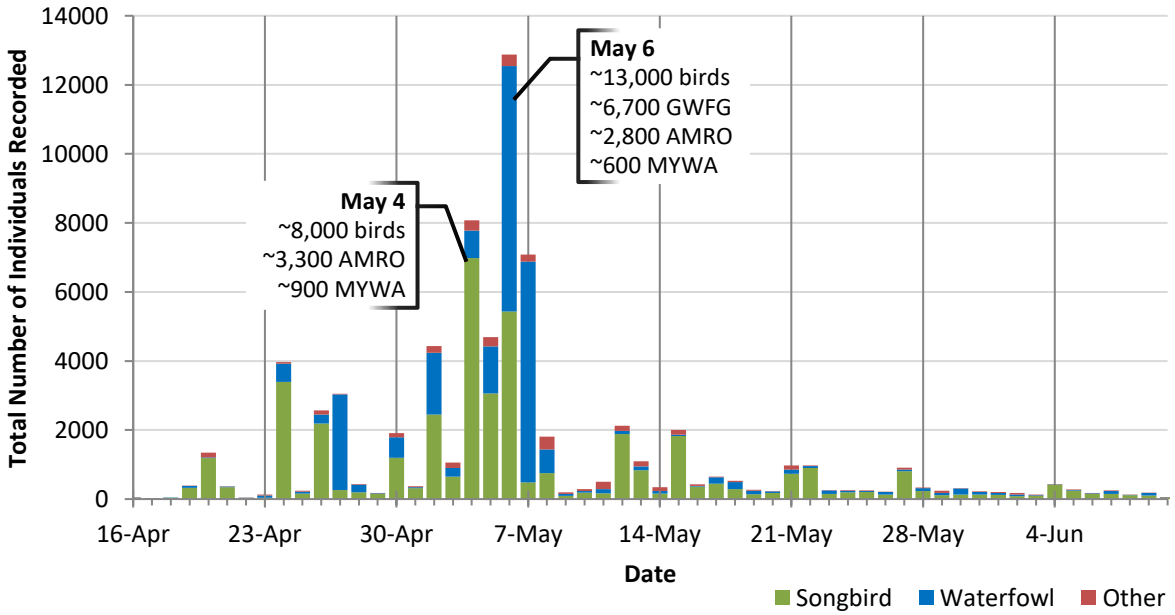

Figure 1. Total number of individuals detected each day during spring migration, 2018. *Codes: American Robin (AMRO), Myrtle Warbler (MYWA), Greater White-fronted Goose (GWFG).*

Spring Migration Banding

A total of 4,097.4 net-hours were accumulated during spring migration monitoring, representing 74.7% of all possible net-hours. Twelve standard nets were set for 3,619.4 net-hours (76.9% of 4,704.0 possible net-hours), which is above the season average of 3,291.8 net-hours (2000-2018, 2011 excluded). Two non-standard aerial nets accumulated 478.0 net-hours (61.0% of 784.0 possible net-hours). Non-standard net-hours were slightly below the average of 487.0 net-hours (2012-2018), despite the above average number of days monitored. The aerial nets are more exposed to wind and are often closed before the 7 hours of monitoring has been completed.

A total of 602 birds were banded during spring migration monitoring with an additional 83 recapture records. The banding total is below the season average of 899 birds (1995-2018, 2011 excluded). Banding was slow through April with cold weather preventing mist-netting and only small flocks of early migrants in the area. The first peak in capture rates occurred on May 6th with 38 birds banded (Figure 2). The busiest day of spring banding was May 17th, when 47 birds of 12 species were banded, 20 of which were White-throated Sparrows. This peak occurred before the season average peak in migration of May 21st.

A total of 48 species were banded (average 45 species; 1995-2018, 2011 excluded). The five most frequently banded species accounted for 44% of all birds banded. These species were: White-throated Sparrow (89 banded), Swainson's Thrush (50), Slate-coloured Junco (49), Alder Flycatcher (45), and Myrtle Warbler (29). Other species' banding totals are listed in Appendix II. 2018 & To-date Banding Totals (p. 60).

Highlights for this spring include the LSLBO's first banding records for Brown Thrasher and Common Redpoll. The first American Three-toed Woodpecker for spring migration monitoring was also banded (the 2nd record across all programs). As well, American Robins broke their spring record with 23 individuals banded beating the previous record of 20 set in 2000.

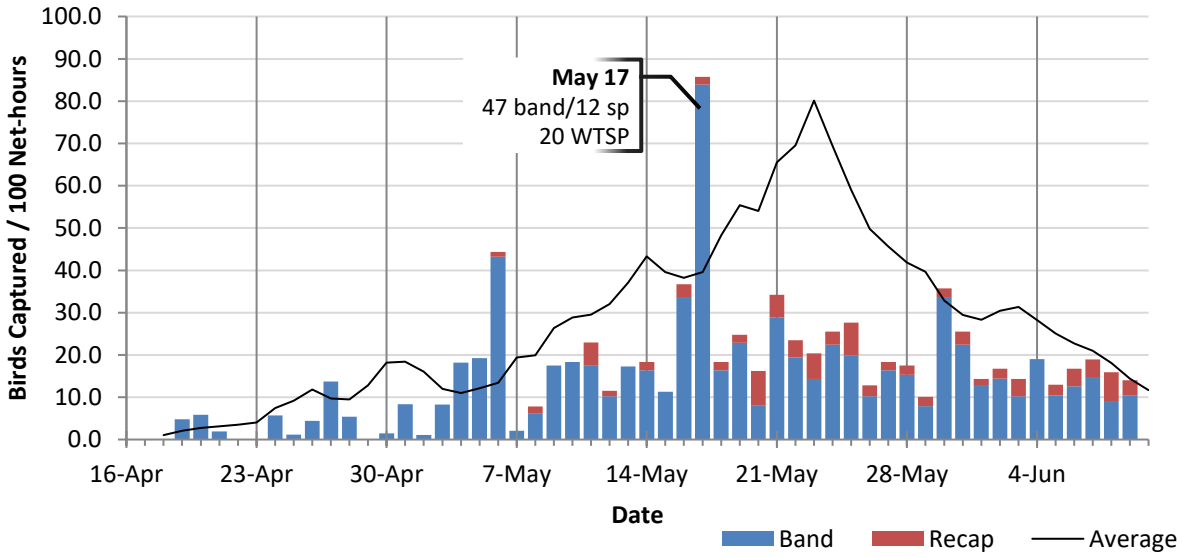

Figure 2. Daily capture rates standardized to 100 net-hours during spring migration monitoring for standard and non-standard banding, 2018. Daily average capture rates from 2000-2018 shown with a moving average of three day periods. *Codes: White-throated Sparrow (WTSP)*

Spring Migration Net-Lane Productivity

The LSLBO operates 12 standard and 2 non-standard (aerial) nets during migration monitoring. Standard nets are labeled 1 to 12 and have been operated since 1995, with 7 hour monitoring periods being standardized in 2000. In 2011, two aerial nets (11X and 12X) were set-up alongside nets 11 and 12 for their first spring season. Being situated close to the shoreline, nets 6, 11, and 11X accumulated the fewest net-hours due to exposure to wind (Table 3). Nets 5 and 12X similarly lost net-hours by being moderately exposed.

Across all nets, the capture rate for spring migration monitoring was 18.0 birds per 100 net-hours, which is well below the season average of 33.5 birds per 100 net-hours (Table 3). Indeed, all individual nets saw below average capture rates. Net 6, located in relatively short willow, achieved the highest capture rate of 54.7 birds per 100 net-hours and the greatest species diversity (27 species). Moreover, the net with the lowest capture rate and species diversity, net 10 (2.5 birds/100 net-hours; 4 species) is in mature deciduous forest with a thinning understory. The aerial nets were productive again this year with these two nets capturing 17% of all birds captured during spring monitoring.

Table 3. Net-hours, banding totals, and capture rates per 100 net-hours for each net-lane during spring migration, 2018. Capture rates from 1994 and 2011 omitted from averages.

Net-lane	Net-hours	New Captures	Returns & Repeats	Total Captures of Total Species	Capture Rate (1995-2018 Average)
1	316.0	24	9	33 of 14	10.4 (25.4)
2	316.0	16	6	22 of 6	7.0 (18.2)
3	312.5	17	2	19 of 11	6.1 (21.5)
4	303.0	22	7	29 of 9	9.6 (23.0)
5	289.0	83	13	96 of 25	33.2 (32.3)
6	248.5	123	13	136 of 27	54.7 (83.9)
7	319.0	29	5	34 of 12	10.7 (20.3)
8	319.0	24	2	26 of 14	8.2 (17.6)
9	320.0	15	0	15 of 10	4.7 (15.6)
10	320.0	7	1	8 of 4	2.5 (16.5)
11	248.5	84	6	90 of 30	36.2 (60.1)
12	308.5	53	9	62 of 20	20.1 (36.5)
Total standard	3619.4	497	73	570 of 47	16.9 (30.9)
11X	213.5	56	6	62 of 20	29.0 (64.0)
12X	264.5	49	4	53 of 17	20.0 (33.8)
Total non-standard	478.0	105	10	115 of 23	24.5 (48.9)
Grand total	**4097.4**	**602**	**83**	**685 of 48**	**18.0 (33.5)**

Spring Migration Weekly Summary

April 16 - April 22 (Week 1)

Spring migration monitoring started on April 16th since the preceding week had been relatively warm. Regrettably, the weather did not continue cooperating and the first week was snowy becoming windy and rainy. As a result, mist-netting could only be attempted for three days with reduced hours due to cold starts turning into windy afternoons. Only 8 birds of 4 species were banded. Bird activity was low overall, but large flocks of Common Redpoll moved through the area peaking at 800 redpolls counted on April 20th. Other activity consisted of a few groups of American Robin, American Tree Sparrow, White-crowned Sparrow, and Dark-eyed Junco. A few Northern Harriers, Rough-legged Hawks, Eastern Phoebes, and Gray Jays were also observed.

April 23 - April 29 (Week 2)

The wind and cool temperatures conspired again to keep the nets closed. Although mist-netting could be performed for a shortened period daily, only 26 birds of 5 species were banded. Half of these bands were Slate-coloured Juncos (13 banded), with a few Sharp-shinned Hawks. The banding highlight was four Common Redpolls - a new species for the LSLBO's banding programs. The busiest day of songbird migration was April 24th with large flocks of Common Redpoll (2,000) and American Robin (1,000). The 26th similarly saw high numbers of redpolls (1,250) and robins (800), while the 27th was a busy day for waterfowl migration with flocks of Greater White-fronted Geese (1,550), Canada Geese (850), and Tundra Swans (300). There was steady Northern Harrier movement for much of the week (46 recorded) and the first Sandhill Cranes, Tree Swallows, Ruby-crowned Kinglets, American Pipits, Lapland Longspurs, blackbirds, and Purple Finches were seen.

April 30 - May 6 (Week 3)

Each day of this period was slightly warmer than the last with a wind picking up mid-morning. Despite no day achieving full net hours, 86 birds of 14 species were banded. Many of these bands were on May 6th with 38 birds of 11 species, mostly Slate-coloured Junco (9), American Robin (7), and Myrtle Warbler (7). Despite few flocks stopping to forage resulting in relatively slow banding, this was the busiest period for overhead migration with approximately 33,000 birds of 94 species recorded. Large flocks of American Robins were joined by a diversity of species later in the week, although the migration of Common Redpolls turned into a trickle. The busiest day of songbird migration (May 4th) recorded over 8,000 birds, including American Robins (3,300), Myrtle Warblers (900), Red-winged Blackbirds (400), and Slate-coloured Juncos (300). The busiest day of migration overall (May 6th) was predominantly due to the movement of Greater White-fronted Geese (6,700) and American Robins (2,800). Although the volume of birds on these days was too high to positively identify many individuals to their species, a flood of 46 new species were observed, including the first Least Flycatcher, Say's Phoebe, Warbling Vireo, Hermit Thrush, Black-and-white Warbler, Orange-crowned Warbler, Western Palm Warbler, Black-throated Green Warbler, Chipping Sparrow, Song Sparrow, Lincoln's Sparrow, White-throated Sparrow, Western Tanager, and Pine Siskin.

May 7 - May 13 (Week 4)
The weather was warm and windy with a cold stretch midweek that caused some reverse migration. Banding became more consistent despite limited net-hours and 61 birds were banded. Compared to week 3, overhead migration was slow with less than half the number of individuals counted (13,000) as the peak of American Robin and waterfowl migration passed with May 7th as the last big day for Greater White-fronted Geese (2,900) and Lesser Snow Geese (3,300) migration. This was the most diverse period with 113 species encountered and 25 species banded. Many of the new encounters were species taking advantage of the shrinking ice cover on the lake such as Gadwall, Blue-winged Teal, Northern Pintail, White-winged Scoter, Long-tailed Duck, Bufflehead, Solitary Sandpiper and, excitingly, Whimbrel. The first songbird encounters included Bank Swallow, Cliff Swallow, Winter Wren, Gray-cheecked Thrush, Swainson's Thrush, Ovenbird, Northern Waterthrush, Clay-coloured Sparrow, and Yellow-headed Blackbird.

May 14 - May 20 (Week 5)
Visible migration was quiet overall with only 4,400 encounters of 104 species observed, 12.5% of which were local breeders. Most encounters were of small foraging flocks of warblers and sparrows. First encounters included Alder Flycatcher, Philadelphia Vireo, Red-eyed Vireo, Marsh Wren, Tennessee Warbler, Common Yellowthroat, American Redstart, Blackpoll Warbler, Rose-breasted Grosbeak, and Baltimore Oriole. Despite low bird activity and early morning rain reducing net-hours to 57% of possible, May 17th became the busiest day of banding for spring migration with 47 birds of 12 species, 20 of which were White-throated Sparrows.

May 21 – May 27 (Week 6)
The weather was hot becoming warm and windy by the end of the week to hamper banding activities during Songbird Festival. Mist-netting was accomplished for full or close to full net-hours most days with 124 birds of 20 species banded. Overhead migration began steady, slowed, then peaked again by the end of the week with mostly Bank Swallow, American Redstart, and various other warblers and sparrows moving. The first House Wren, Cedar Waxwing, Mourning Warbler, Magnolia Warbler, Canada Warbler, and American Goldfinch were spotted.

May 28 - June 3 (Week 7)
It was cooler this week with windy and rainy periods. Three days achieved full net-hours and a total of 107 of 22 species were banded as a trickle of foraging migrants moved through peaking on May 30th with 22 birds banded of 9 species, predominantly Alder Flycatcher (12 banded). Firsts for the week included Connecticut Warbler and a vagrant Gray Catbird. Roughly 50% of encounters were of local birds setting up to breed. Early in the week several disturbances in the net lanes puzzled field staff, including half of the nets being found pushed to the ground (but mostly undamaged) and signs torn from poles. Although initially unclear if curious wildlife or vandals were the source of these irregularities, it was later concluded that a bear had had some fun, although it was never spotted directly and did not produce any other disturbances in the nets.

June 4 - June 10 (Week 8)
The last week of spring migration monitoring was breezy, hot, and humid for the most part. Migration was very slow but for groups of Common Merganser and Cedar Waxwing. Only 53 birds were banded, with most showing characteristics of active breeding. Excitingly, the LSLBO banded our first ever Brown Thrasher and our second American Three-toed Woodpecker. The mosquitoes were out in full force for most of the week, foreshadowing the mosquito-plagued 'fun' that would be the rest of the summer.

Fall Migration Monitoring

Fall migration monitoring normally takes place for 12 weeks from mid-July to late September – a period that covers the migration window for most songbird species anticipated at the LSLBO as they move south for the winter. Unfortunately, the same species that receive poor coverage with spring migration monitoring also receive poor coverage in the fall as they often migrate through the area in October. Abundance of individuals increases through July as more migrants are observed alongside local breeders. Come August, most encounters are of migrants, which slowly turn into a trickle until late September when generally only winter resident species remain. Extremely busy days for banding can happen any day late July to mid-September and are remarkably difficult to predict.

Fall migration monitoring occurred July 12th to September 30th for 81 days (Table 4). The number of days monitored and the number of days with banding, census, and visual migration monitoring activity were all above average. Census was performed daily and 62 days achieved the 8 visual migration counts desired in a day. Wind and rain completely prevented the nets from opening on 9 days, while cold starts and late morning winds prevented full net-hours on 47 days. As a result, lower than average daily net-hours were accumulated. Volunteer activity and increased staff hours during early September allowed the number of person days accumulated throughout the season to be above average (see Staff and Volunteers, p. 23). Overall, monitoring efforts for fall migration were similar to past years.

Table 4. Summary of effort during fall migration monitoring. Averages based on 1995 to 2018 data, except visual migration effort (2000-2018; standard observation time reduced from 10 to 5 minutes).

	2018	Average	Max (Year)	Min (Year)
Daily Coverage				
First day	July 12	July 13	Aug 5 (1997)	July 7 (2000)
Last day	Sept 30	Sept 28	Oct 6 (2000)	Sept 22 (2001)
Number of days	81	74	91 (2000)	35 (1997)
Person days	155	142	207 (2000)	45 (1997)
Average daily coverage code	3.74	3.75	3.90 (2001)	3.48 (2003)
Banding				
Number of days	72	70	89 (2000)	33 (1997)
Standard nets average daily net-hours	61.6	65.4	76.3 (2008)	34.3 (1996)
Aerial nets (2010-2017) average daily net-hours	8.1	9.4	10.3 (2012)	8.1 (2018)
Census				
Number of days	81	67	90 (2000)	8 (1997)
Visual Migration Counts				
Number of days	81	79	91 (2000)	69 (2001)
Average daily vis. migs.	7.5	7.6	7.8 (2001)	7.3 (2011)

Fall Migration Daily Totals

A total of 57,473 birds of 151 species were recorded during fall migration monitoring between counting methods. Census accounted for 18% of all encounters with 101 species recorded, including the only Solitary Sandpiper, Bonaparte's Gull, Varied Thrush, and Brown-headed Cowbird recorded during fall migration monitoring. Visual migration counts contributed 8% of encounters, recording 62 species including the only Barn Swallow for the season. Banding contributed the fewest encounters (6%), but provided more to total observations during fall than during spring migration monitoring (< 1%). There were 62 species banded, including the only Fox Sparrow encountered. Incidental observations recorded the majority of birds (68%) and the highest species diversity (141 species) with 23 species only recorded incidentally. These species included: Double-crested Cormorant, Osprey, Upland Sandpiper, Olive-sided Flycatcher, Western Wood-Pewee, Connecticut Warbler, Vesper Sparrow, Yellow-headed Blackbird, Rusty Blackbird, Red Crossbill, and American Goldfinch.

Overall, songbird migration was erratic, possibly because of persistent heavy winds and poor weather much of the season (Figure 3). Heavy smoke from the forest fires in British Columbia sometimes hampered identification efforts and might have influenced migration patterns. Snow came early September 12th to 14th, grounding some foraging groups and seemed to spur songbird and waterfowl migration. Most songbird observations were of Myrtle Warblers, which migrate through in two rushes: this year, the first rush was August 22nd to 24th, and the second was September 4th to 17th. The busiest day of songbird migration was September 16th, in the heart of the second peak of Myrtle Warbler migration. For a more detailed summary of each week, see Fall Migration Weekly Summary (p. 15). For a detailed break-down of each species' abundance, as well as arrival, peak, and departure timing, see Appendix I. 2018 Migration Occurrence Records (p. 29).

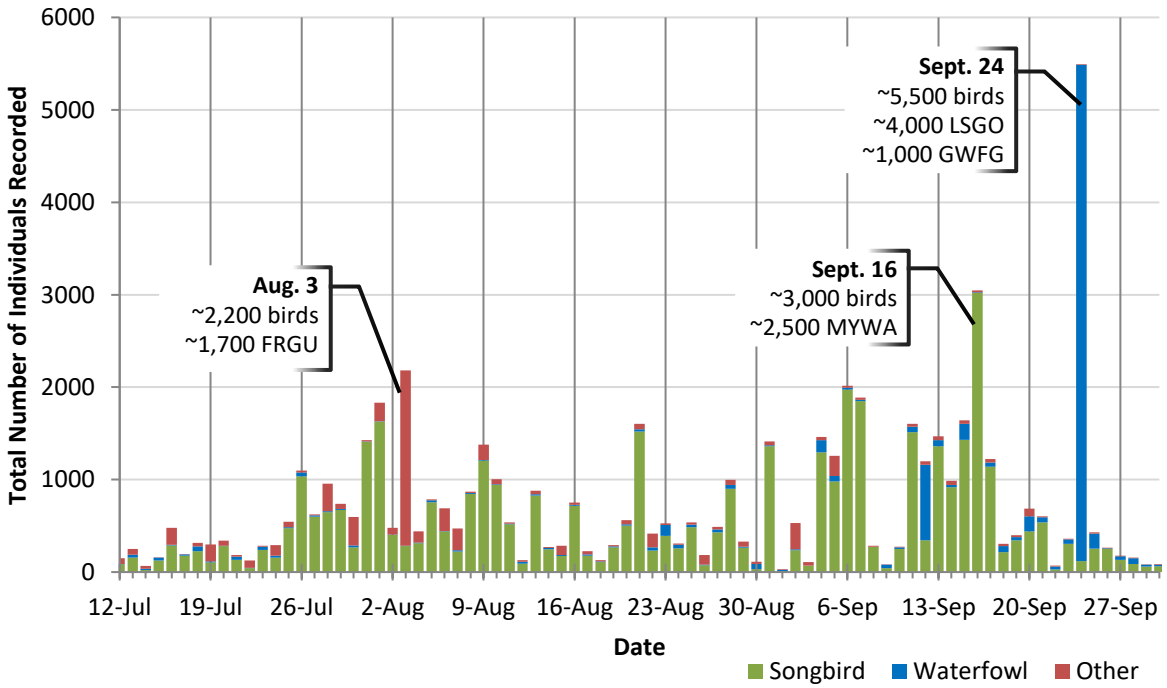

Figure 3. Total number of individuals detected each day during fall migration, 2018. *Codes: Franklin's Gull (FRGU), Myrtle Warbler (MYWA), Lesser Snow Goose (LSGO), Greater White-fronted Goose (GWFG)*

Fall Migration Banding

Fourteen mist-nets were set for a total of 5,646.6 net-hours, achieving 71.1% of 7,938 possible net-hours. Twelve standard nets were set for 4,992.0 net-hours (73.4% of 6,804.0 net-hours possible), which is below the season average of 5,482.3 net-hours (2000-2018). Non-standard netting was also below average (755.7 net-hours; 2010-2018) with 654.6 net-hours (57.7 % of 1,134.0 possible net-hours). Despite more days of fall migration monitored than average, inclement weather often prevented mist-netting this season.

A total of 3,387 birds were banded during fall migration monitoring with an additional 353 recapture records. The banding total was above the season average of 1,940 birds (1994-2018) and was the second busiest fall season since operations started. Banding began relatively slow in July to hit a first peak in capture rates on August 1st when 195 birds were banded (Figure 4). Banding then gradually slowed down again mid-August until a second peak occurred in early September when Myrtle Warblers and Orange-crowned Warblers began steadily moving through.

The diversity of species was high with 62 species banded (average 57 species; 1994-2018). The five most frequently banded species accounted for 58% of all birds banded. These species were: Myrtle Warbler (795), Swainson's Thrush (362), White-throated Sparrow (350), Tennessee Warbler (288), and Canada Warbler (163). Other species' totals are listed in Appendix II. 2018 & To-date Banding Totals (p. 60).

Although there were no firsts for this fall season, many species broke their previous banding records. These included: Winter Wren (with 3 banded; previous record 2 set in 2005), Gray-cheecked Thrush (17; 7 in 2014), Swainson's Thrush (362; 262 in 2015), Mourning Warbler (124; 105 in 2016), Common Yellowthroat (69; 39 in 1995), Canada Warbler (163; 114 in 1999), Savannah Sparrow (17; 13 in 1998), Song Sparrow (36; 17 in 2013), Lincoln's Sparrow (93; 51 in 2015), and White-throated Sparrow (350; 159 in 2016).

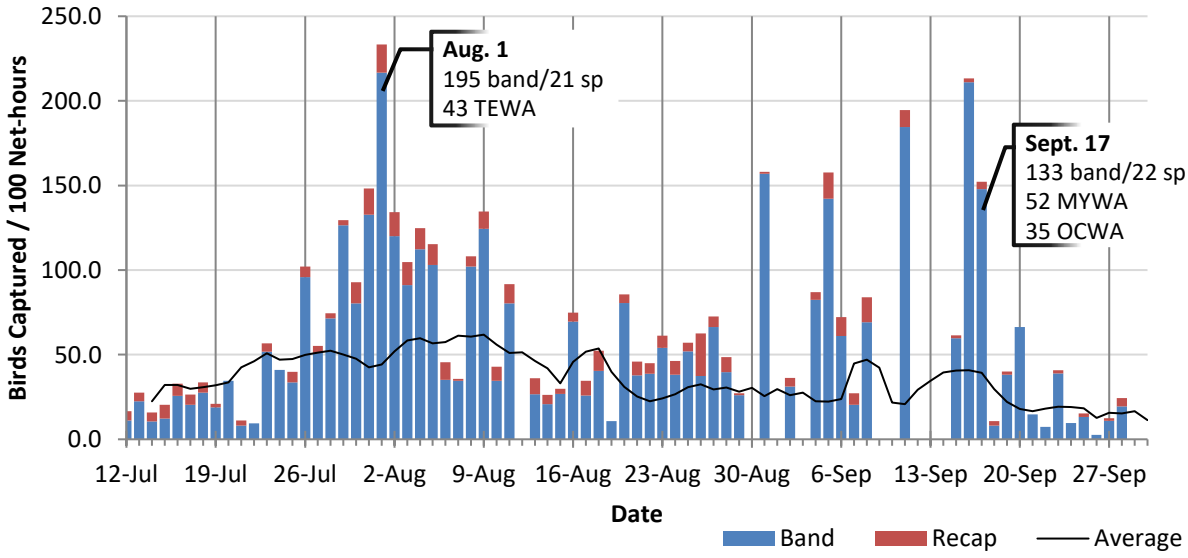

Figure 4. Daily capture rates standardized to 100 net-hours during fall migration monitoring for standard and non-standard banding, 2018. Daily average capture rates from 2000-2018 shown with a moving average of three day periods. *Codes: Tennessee Warbler (TEWA), Myrtle Warbler (MYWA), Orange-crowned Warbler (OCWA)*

Fall Migration Net-Lane Productivity

The same nets are used for fall migration monitoring as in the spring with 12 standard nets (coded 1 to 12) and two non-standard aerial nets (11X and 12X). Standard net-lanes were established in 1994 and 1995 with 7 hour standard monitoring periods beginning in 2000. Non-standard nets have been operated since fall 2010. Due to their high exposure to weather along the less vegetated shoreline, nets 6, 11, 11X, and 12X accumulated the fewest net-hours again this year (Table 5).

Across all nets, the capture rate for fall migration monitoring was well above the spring capture rate (as expected) with 70.7 birds per 100 net-hours (average 44.7 birds per 100 net-hours; 1995-2018; Table 5). All nets experienced a higher capture rate than average except for nets 1, 2, and 3 tucked away deep into mature mixed forest. Nets 5 and 6 did particularly well and both doubled their averages at 106 birds per 100 net-hours and 264 birds per 100 net-hours respectively. Net 6 captured the highest species diversity species at 46 species. It is likely, however, that these values are inflated by the shoreline nets only being operational in near-perfect weather. Similar to spring migration, the aerials captured 17% of all birds captured.

Table 5. Net-hours, banding totals, and capture rates per 100 net-hours for each net lane during fall migration, 2018. Capture rates from 1994 omitted from averages.

Net-lane	Net hours	New Captures	Returns & Repeats	Total Captures of Total Species	Capture Rate (1995-2018 Average)
1	431.7	169	26	195 of 32	45.2 (53.7)
2	431.7	89	17	106 of 14	24.6 (28.7)
3	436.2	74	16	90 of 12	20.6 (28.2)
4	425.7	145	24	169 of 21	39.7 (20.2)
5	427.7	401	54	455 of 36	106.4 (45.5)
6	341.0	845	56	901 of 46	264.3 (137.0)
7	436.2	169	12	181 of 25	41.5 (17.9)
8	436.2	195	18	213 of 31	48.8 (18.6)
9	430.7	58	14	72 of 13	16.7 (13.9)
10	430.7	80	20	100 of 23	23.2 (18.2)
11	335.9	276	20	296 of 36	88.1 (61.0)
12	428.7	307	31	338 of 32	78.8 (40.0)
Total Standard	4992.0	2808	308	3116 of 61	66.5 (40.2)
11X	291.9	277	11	288 of 31	98.7 (94.5)
12X	362.7	302	34	336 of 35	92.6 (48.3)
Total Non-standard	654.6	579	45	624 of 41	95.7 (71.4)
Grand Total	**5646.6**	**3387**	**353**	**3740 of 62**	**70.7 (44.7)**

Fall Migration Weekly Summary

July 12 - July 18 (Week 1)
Fall migration monitoring began very hot with sporadic breezy periods. Despite most days achieving full net-hours, only 118 birds of 27 species were banded with only a trickle of migration. Indeed, bird activity consisted mainly of foraging family groups and circling White-winged Crossbill and Ring-billed Gull flocks with a few Tennessee and Myrtle Warblers migrating through. Of the birds encountered, 32% were known local breeders.

July 19 - July 25 (Week 2)
Migration started to pick up with 76 species encountered, including plenty of Tennessee Warblers, Myrtle Warblers, Yellow Warblers, Canada Warblers, Black-and-white Warblers, American Redstarts, and Swainson's Thrush. Possibly as a result of the storm in June, signs of late songbird breeding were observed, including one Song Sparrow captured heavy with egg. Waterfowl breeding seemed to be on-track with Canada Geese and Common Mergansers spotted along the shores with young chicks. July 23rd was a busy day of banding despite staffing constraints preventing the aerials from opening with 43 birds of 19 species banded. In total, 176 birds of 28 species would be banded with the top species being White-throated Sparrows (29 banded) and Canada Warblers (22 banded).

July 26 - August 1 (Week 3)
Light smoke drifted in from the large forest fires in British Columbia and the warm weather persisted with most days achieving full net-hours. The number of birds banded each day steadily increased and peaked on August 1st when 195 birds of 21 species were banded despite reduced net-hours due to a storm looming nearby. In total, 739 birds of 30 species would be banded this week, making it the busiest week of banding for fall migration monitoring this year. Overhead migration came in surges of mostly Myrtle Warblers and Tennessee Warblers, but also saw good numbers of Yellow Warblers, Black-and-white Warblers, Canada Warblers, American Redstarts, Ovenbirds, White-throated Sparrows, Tree Swallows, and Western Tanagers. A couple Western Grebes, Ruby-throated Hummingbirds, Cape May Warblers, Bay-breasted Warblers, and Blackpoll Warblers were also spotted. Migration was in full swing with only 6% of 7,000 encounters being local birds.

August 2 - August 8 (Week 4)
Several days this week suffered periods of rain and high winds preventing full coverage with the smoke from the B.C. fires reaching stifling levels. August 3rd and 8th saw reverse migration with birds flying back north, although it was unclear why. The busiest day for observations was August 3rd when high winds encouraged nearly 2,000 gulls to circle. Other days experienced low overhead migration sometimes supplemented with foraging groups. A total of 71 species were recorded with Tennessee Warblers and Myrtle Warblers again making up the majority of migrants, joined by the same warbler species as last week plus relatively high numbers of Mourning Warblers, Cape May Warblers, Magnolia Warblers, and Bay-breasted Warblers. In total, 506 birds from 29 species were banded with 3 days banding around 100 birds each.

August 9 - August 15 (Week 5)
The warm, smoky conditions continued. Although rain on the 12th gave a brief respite from the smoke, visibility was reduced to completely hide the far shore again by the 15th. It became a challenge to positively identify some individuals of the 83 species observed and a quarter of encounters were recorded as "unknown warbler". Tennessee Warblers and Myrtle Warblers were again the most prominent migrants along with moderate numbers of a diversity of warblers, Swainson's Thrush, White-throated Sparrow, and Red-eyed Vireo. The Cedar Waxwings began foraging with their young in large flocks and an Upland Sandpiper was seen. Most days received close to full coverage, banding 298 birds of 30 species total. The busiest day was the 9th with 41% of bands (122 birds).

August 16 - August 22 (Week 6)
The smoke began to let up with cool mornings turning warm and breezy. Overhead migration was moderate, except for the 21st, when over 1,000 Myrtle Warblers were recorded. Indeed, Myrtle Warblers would account of over a quarter of encounters this week along with relatively high numbers of Eastern Kingbirds, Common Yellowthroat, Cape May Warblers, Purple Finch, and circling Cedar Waxwings and Pine Siskins. Raptors also began migrating in earnest with plenty of Sharp-shinned Hawks and Northern Harriers recorded. With good netting coverage, 270 birds of 21 species were banded, including 62 Swainson's Thrush and 52 Myrtle Warblers.

August 23 - August 29 (Week 7)
The smoke was back again with windy afternoons supressing overhead migration and mist-netting coverage. However, banding was steady with 367 individuals of the highest diversity of birds banded for the fall (33 species), including a Blue-headed Vireo and LeConte's Sparrow. Harbingers of fall arrived with the first observations of Ruby-crowned Kinglet, Gray-cheeked Thrush, American Pipit, and White-crowned Sparrow. There were also high numbers of Sharp-shinned Hawk, Merlin, Myrtle Warbler (naturally), Wilson's Warbler, and Savannah Sparrow. A Common Nighthawk was briefly mistaken for a clump of dirt early in the morning of the 25th as it rested in the parking lot.

August 30 - September 5 (Week 8)
The tyranny of the smoke was over and replaced by very windy and rainy conditions, keeping the nets closed on August 30th and September 1st and 3rd. Later in the week, we suffered the first big dip in temperatures (down to 3 °C) bringing yellow leaves. The 31st had steady migration of Myrtle Warblers with large flocks of Canada Geese, Common Merganser, American Crow, Cedar Waxwing, and Pine Siskin. Banding was similarly busy on the 31st with 142 birds banded of 18 species, the majority being Myrtle Warblers (94 banded). After a three day lull (with a day of reverse migration on the 2nd), migration would pick up again with mid-morning rushes of birds foraging, moving overhead, and getting captured. The inconsistent mist-netting, would produce a total of 367 birds of 23 species. The first Greater White-fronted Goose, Lapland Longspur, and Orange-crowned Warbler were seen. There was high diversity of raptors overhead with Osprey, Bald Eagle, Northern Harrier, Sharp-shinned Hawk, Cooper's Hawk, Red-tailed Hawk, American Kestrel, Merlin, and Peregrine Falcon.

September 6 - September 12 (Week 9)
The weather turned cold, wet, and windy this week, creating a lull in migration from the 8th to 10th. Moreover, heavy snow blanketed the area on the 12th. Due to these poor conditions, mist-netting was not attempted on three days and three days barely achieved half coverage. The only day (11th) to achieve full net-hours was busy, banding 168 birds of the 246 total banded. The second round of Myrtle Warbler migration began and this species accounted for nearly 60% of all observations. Many American Crow, American Pipit, Western Palm Warbler, and a high diversity of thrush and raptors were also recorded. The snow spurred movements of geese with 600 Lesser Snow Geese and 200 Greater White-fronted Geese spotted. The last Alder Flycatcher, Tennessee Warbler, Mourning Warbler, Song Sparrow, and Rose-breasted Grosbeak for fall was seen. Meanwhile the first Golden-crowned Kinglet and Fox Sparrow were recorded.

September 13 - September 19 (Week 10)
The snow from late last week persisted and the cold sunk in, delaying opening, while afternoon winds often closed the nets early. A total of 289 birds of 28 species were banded, most on the 17th (133 bands) and 16th (95 bands). There were large rushes of overhead migration and foraging for much of the week with 5,700 Myrtle Warblers migrating, making this the busiest week in total numbers for fall monitoring (9,100 encounters), including the busiest single day for songbirds (16th). Large flocks of American Pipit, Horned Lark, and Lapland Longspur toured the shore on the 13th with smaller flocks moving through the rest of the week. There were also high numbers of raptors, especially Sharp-shinned Hawks (108 recorded). This was the most diverse week for observations with 89 species encountered, including the last observed Blue-winged Teal, Western Grebe, American White Pelican, Least Flycatcher, Magnolia Warbler, and Purple Finch. The first American Tree Sparrow and Dark-eyed Junco arrived.

September 20 - September 26 (Week 11)
Cold mornings become warm and windy afternoons. The nets suffered with only one day obtaining full hours, catching more leaves than birds. A total of 104 birds were banded, one of which was a Townsend's Solitaire. Songbird migration slowed considerably with a trickle of Myrtle Warbler, American Robin, Slate-coloured Junco, and blackbird flocks. Other songbird activity involved large groups of Pine Siskin and Common Raven circling. The 20th was a good raptor day with 18 Sharp-shinned Hawks, 22 Broad-winged Hawks, 25 Red-tailed Hawks, and a few individuals of several other species recorded. Most notable was the 24th, which experienced heavy goose migration with 4,000 Lesser Snow Geese and 1,000 Greater White-fronted Geese moving through late morning. Geese would make up 70% of total encounters this week.

September 27 - September 30 (Week 12)
The weather did not cooperate for the last four days of monitoring with cold starts freezing the nets closed. Two days of mist-netting were attempted and 15 birds of 9 species were banded, one of which was a Harris's Sparrow. Migration was also very slow with a handful of Bufflehead, Ruby-crowned Kinglet, and Slate-coloured Junco identified. Other sparrow species could be heard continually moving through the underbrush, but could rarely be seen to identify to species. Only 46 species were identified and 24.8% of encounters were of wintering residents.

Monitoring Avian Productivity and Survivorship (MAPS)

Coordinated by the Institute for Bird Populations (IBP), Monitoring Avian Productivity and Survivorship (MAPS) is a continent-wide program that aims to understand population declines in order to conserve birds and their habitats. By banding during the breeding season, population parameters such as productivity (young produced), recruitment (young returning to breed), and survival (adults returning to breed) may be estimated. Conservation efforts can then better address factors causing populations declines, for example, poor breeding success.

The LSLBO has contributed to MAPS since 1994, with this year marking the 25th year of participation. Four MAPS stations are operated: Far and Away (FAWA), Fern Gully (FEGU), Residential (RESI), and Roadside (ROAD). FAWA, FEGU, and ROAD are located in the mature deciduous forest near the migration station, while RESI is in a more diverse set of habitats near the Boreal Centre for Bird Conservation. FAWA and ROAD have operated yearly since 1994 (25 years). FEGU has operated from 1994 to 2000, then 2003 to 2018 (22 years), while RESI has operated since 2000 (18 years).

Each station is visited six times, once in each 10-day period (Table 6). Standardized mist-netting and observations are combined to determine species breeding status (Table 8). The LSLBO follows protocol for station activities outlined in the MAPS Manual (IBP, 2015).

Table 6. Dates of operation and net-hours completed within the intended periods for each MAPS site.

	Station (Net-hours operated)			
MAPS Period	**FAWA (314.5)**	**FEGU (345.5)**	**ROAD (318.5)**	**RESI (347.5)**
5 (June 10 – 19)	June 17 (48)	June 15 (48)	June 16 (54)	June 10 (48)
6 (June 20 – 29)	June 23 (45)	June 21 (59)	June 22 (54)	June 20 (60)
7 (June 30 – July 9)	June 30 (54)	July 1 (58.5)	July 1 (46.5)	June 30 (60)
8 (July 10 - 19)	July 13 (53.5)	July 12 (60)	July 12 (54)	July 10 (59.5)
9 (July 20 – 29)	July 20 (54)	July 21 (60)	July 24 (60)	July 23 (60)
10 (July 30 – Aug. 8)	July 31 (60)	August 1 (60)	August 2 (50)	July 30 (60)

Each station operates 10 nets within a six hour period for a maximum of 60 net-hours in a period and 360 possible net-hours in a summer. No station achieved maximum net-hours this year (Table 6). All sites closed early in at least one period due to unfavourable weather conditions. ROAD had one net that could not be set in the early periods due to heavy blowdown from a large storm and FEGU and FAWA had two nets each that could not be set until the sites were cleaned.

Banding was above the average of 232 birds per season with a total of 380 birds banded (Table 7). FEGU banded the most birds with 159 individuals of 19 species, of which 108 birds were banded in the last period of operation (August 8th). Most individuals banded in this session were probably migrating birds as August 8th was also a busy day for the adjacent migration monitoring station. RESI banded the highest diversity of birds with 93 individuals of 23 species, while FAWA banded 76 birds of 13 species and ROAD banded 52 birds of 12 species. Record numbers of Mourning Warblers (44) within our MAPS program were banded. Interesting captures came from FEGU: an American Three-toed Woodpecker (the second banded in FEGU, but only the third banded by the LSLBO) and a Rufous Hummingbird (released unbanded).

There were an additional 158 recaptures of 16 species recorded by the MAPS program with FEGU recording the most recaptures (69 records; Table 7). From these recapture records, the oldest estimated age bird from the LSLBO's MAPS program was a White-throated Sparrow recaptured in FAWA estimated to be 8 years old or older (see Recaptures, p. 22).

Table 7. Number of birds banded and recaptured at the four MAPS stations, 2018.

	FAWA		FEGU		ROAD		RESI		TOTAL	
Species	Band	Recap	Band	Recap	Band	Recap	Band	Recap	Band	Recap
Sharp-shinned Hawk	0	0	1	0	0	0	1	0	2	0
Yellow-bellied Sapsucker	0	0	0	0	0	0	1	0	1	0
Downy Woodpecker	0	1	0	0	0	0	0	0	0	1
Hairy Woodpecker	1	0	0	0	0	0	0	0	1	0
American Three-toed Woodpecker	0	0	1	0	0	0	0	0	1	0
Least Flycatcher	1	0	0	0	0	0	1	0	2	0
Red-eyed Vireo	2	0	2	0	1	0	2	0	7	0
Black-capped Chickadee	0	0	0	0	0	0	4	0	4	0
Winter Wren	0	0	1	0	0	1	2	0	3	1
Swainson's Thrush	0	1	5	3	9	5	8	0	22	9
Hermit Thrush	1	1	0	0	0	0	0	0	1	1
American Robin	0	0	1	0	0	0	1	0	2	0
Cedar Waxwing	0	0	0	0	0	0	3	0	3	0
Tennessee Warbler	0	0	21	2	0	1	6	1	27	4
Yellow Warbler	3	0	2	0	1	0	4	0	10	0
Magnolia Warbler	3	3	2	2	2	1	3	2	10	8
Cape May Warbler	0	0	0	0	0	0	1	0	1	0
Myrtle Warbler	1	0	10	1	2	7	2	2	15	10
Black-throated Green Warbler	0	0	0	0	0	0	1	0	1	0
Bay-breasted Warbler	0	0	1	0	0	0	0	0	1	0
Black-and-white Warbler	0	0	3	0	2	1	1	0	6	1
American Redstart	11	2	28	15	6	4	4	3	49	24
Ovenbird	5	1	8	1	6	8	1	0	20	10
Mourning Warbler	17	9	11	4	5	1	11	1	44	15
Common Yellowthroat	0	0	0	0	1	1	0	0	1	1
Canada Warbler	6	3	19	13	5	4	3	1	33	21
Western Tanager	0	0	1	0	0	0	0	0	1	0
Song Sparrow	0	0	0	1	0	0	0	0	0	1
Lincoln's Sparrow	2	0	2	1	0	0	14	2	18	3
Swamp Sparrow	0	0	0	0	0	0	1	0	1	0
White-throated Sparrow	23	8	40	26	12	6	18	8	93	48
Total (31 species)	**76**	**29**	**159**	**69**	**52**	**40**	**93**	**20**	**380**	**158**
							Grand Total		**538**	

MAPS Breeding Status

To assess the summer residency status of all species observed during MAPS, each of the 65 species detected was given a breeding status code (Table 8). Observations were recorded within the station's boundaries during banding operations (Table 6). Confirmed breeding species (B) are those with at least one individual observed with an active nest or very young fledglings, carrying food or nesting material, performing a distraction display, or by persistent territorial singing throughout the breeding season. If a species is encountered singing infrequently across MAPS periods, then it is often coded a likely breeder (L). Transient species (T) are those which breed in the wider area, but are only observed moving through the site.

Table 8. Breeding status of MAPS species in 2018. "B" indicates a breeding species, "L" a likely breeding species, and "T" a transient species for each site.

Species	FAWA	FEGU	ROAD	RESI	Species	FAWA	FEGU	ROAD	RESI
Canada Goose				T	Hermit Thrush	T	T	T	L
Mallard	T				American Robin	L	T	T	T
Common Merganser	T				Cedar Waxwing	T	T	T	T
Ruffed Grouse		T	T	B	Ovenbird	B	B	B	B
Common Loon	T	T	T	T	Black-and-white Warbler	B	B	B	B
American White Pelican			T		Tennessee Warbler	B	B	L	B
Bald Eagle			T		Mourning Warbler	B	B	B	B
Sharp-shinned Hawk		T		T	Common Yellowthroat		B	T	B
Ring-billed Gull	T				American Redstart	B	B	B	B
Rufous Hummingbird		T			Cape May Warbler				T
Yellow-bellied Sapsucker	T	T	T	L	Magnolia Warbler	B	B	B	B
Downy Woodpecker	T	T		L	Bay-breasted Warbler		T		T
Hairy Woodpecker	T	L		L	Yellow Warbler	B	L	T	L
Pileated Woodpecker	T	T		L	Myrtle Warbler	B	B	B	B
American Three-toed Wood.		T			Black-throated Green W.			T	B
Western Wood-Pewee			T		Canada Warbler	B	B	B	B
Alder Flycatcher	T	B	L	L	Chipping Sparrow				B
Least Flycatcher	B	T	T	B	Clay-colored Sparrow				T
Blue-headed Vireo		T		T	Song Sparrow	L	B		
Warbling Vireo		T			Lincoln's Sparrow	B	T	T	B
Philadelphia Vireo	T			T	Swamp Sparrow				T
Red-eyed Vireo	B	B	B	B	White-throated Sparrow	B	B	B	B
Gray Jay				T	Western Tanager	B	B	B	B
Blue Jay		T			Rose-breasted Grosbeak		T	T	B
Black-billed Magpie		T			Brown-headed Cowbird				T
American Crow	B	B	T	T	Purple Finch	T	T	T	T
Common Raven	T			T	White-winged Crossbill	T	T	T	T
Black-capped Chickadee	B	L	L	L	Pine Siskin	T	T	T	T
Boreal Chickadee				T	American Goldfinch				T
Red-breasted Nuthatch	T	T		L	Evening Grosbeak		T		T
White-breasted Nuthatch	T	T			**TOTALS**	**FAWA**	**FEGU**	**ROAD**	**RESI**
Brown Creeper				L	Breeding species (B)	16	17	10	20
Winter Wren		B	T	B	Likely breeding sp. (L)	3	4	5	12
Ruby-crowned Kinglet		T		L	Transient species (T)	19	26	20	21
Swainson's Thrush	L	L	L	B	**Total species detected**	**38**	**47**	**35**	**53**

Northern Saw-whet Owl & Boreal Owl Monitoring

The LSLBO contributes to Project Owlnet, a continent-wide network of Northern Saw-whet Owl banding stations. Targeted owl banding was performed when possible September 1st to October 31st to monitor the populations of migratory Northern Saw-whet Owls and potentially migratory Boreal Owls. Along with understanding these owl populations' trends, habitat quality of mature forests and population trends of small mammal species may be inferred.

Two net arrays were operated during favourable weather conditions. The Saw-whet Owl net array consists of a line of four nets near the Boreal Centre for Bird Conservation in mature deciduous forest (since 2004). Another two nets in a nearby stand of conifers makes up the Boreal Owl net array (since 2016). Nets are opened one hour after sunset with standardized call playbacks specific to each species used to attract owls. This year was the 15th year of fall owl migration monitoring.

Owl banding was carried out on 48 out of 61 possible nights – the most of any year. The Saw-whet array accumulated 762 net-hours, while the Boreal array accumulated 374 net-hours to an average of 18.6 net-hours per night between the two arrays (6 nets). Due to increased banding capacity since 2004 (number of nets and nights operated), this year was the second busiest year for owl banding with 186 Saw-whet Owls and 3 Boreal Owls banded for a total of 189 owls (busiest year: 200 Northern Saw-whet Owls in 2006). Of these owls, 172 Saw-whets Owls were captured in the Saw-whet array with 17 Saw-whets and 3 Boreal Owls captured in the Boreal Owl array. The capture rate per 100 net-hours was close to average with 15.7 owls per 100 net-hours (15.9 owls/100 net-hours average; 2004-2018). The busiest night of owl banding, October 4th, was later in the season than the normal peak of owl migration (Figure 5).

Three owls were recaptured this year: two Saw-whet Owls and a Barred Owl (Figure 5). The Barred Owl was originally banded in 2009 and is estimated to be over 11 years old (Table 9). All recaptured individuals were originally banded by the LSLBO.

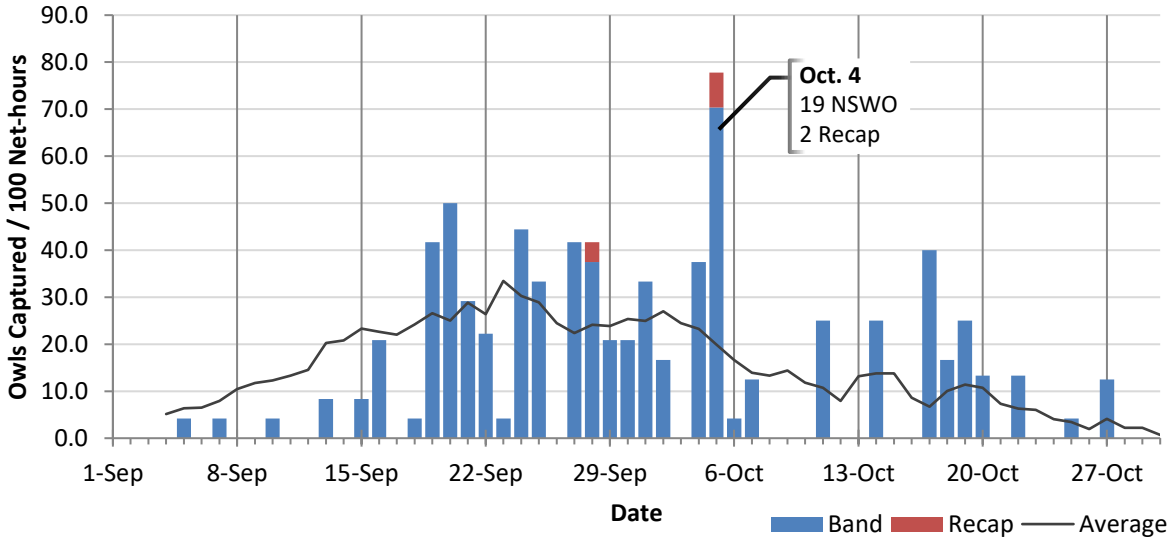

Figure 5. Capture rates standardized to 100 net-hours during owl monitoring sessions including both owl net arrays Sept. 1 to Oct. 30, 2018. Nightly average capture rates from 2004-2018 shown with a moving average of three day periods. *Codes: Northern Saw-whet Owl (NSWO)*

Recaptures

Adult birds often cannot be given an exact age when banded. However, when the same bird is recaptured years later, we can better estimate its age. The LSLBO recorded 597 recaptures: 83 during spring migration, 353 during fall migration, 158 during MAPS, and 3 during owl monitoring. Local breeders are often recaptured multiple times in a year; thus, these 597 records represent 372 individuals of 28 species. Of which, 294 were originally banded this year and 43 were banded last year. There were 35 recaptured birds banded in 2016 or earlier (Table 9).

Table 9. Location (migration monitoring [MM], owl monitoring [OWL], MAPS sites [FAWA, FEGU, ROAD, RESI]) and approximate age of recaptured birds originally banded before 2016.

Species	Band Number	Original Banding			Recapture		Age (Years)
		Date	Site	Age	Date (2018)	Site	
Canada Warbler	2740-83571	Aug. 3, 2016	MM	HY	Aug. 8	MM	2
Canada Warbler	2740-83567	Aug. 3, 2016	MM	HY	Aug. 16	MM	2
Black-and-white Warbler	2740-83511	July 28, 2016	MM	HY	May 21	MM	2
Canada Warbler	2740-83430	July 18, 2016	MM	HY	Aug. 5	MM	2
Swainson's Thrush	2661-72992	June 21, 2016	ROAD	SY	May 21	MM	3
White-throated Sparrow	2661-72976	June 13, 2016	ROAD	SY	May 20	MM	3
Canada Warbler	2740-83272	June 4, 2016	MM	SY	June 8	MM	3
Ovenbird	2591-91947	June 1, 2016	MM	SY	May 22	MM	3
Northern Saw-whet Owl	0924-53316	Sept. 7, 2015	OWL	HY	Oct. 4	OWL	3
Pileated Woodpecker	0924-53306	Aug. 30, 2015	MM	HY	Aug. 8	MM	3
Canada Warbler	2710-93393	July 29, 2015	MM	HY	June 22	ROAD	3
Black-capped Chickadee	2740-83767	Aug. 14, 2016	MM	AHY	Sept. 25	MM	3+
Canada Warbler	2740-83545	Aug. 1, 2016	MM	AHY	June 15	FEGU	3+
American Redstart	2550-83188	July 3, 2016	FEGU	AHY	Aug. 1	FEGU	3+
White-throated Sparrow	2661-72974	June 13, 2016	FEGU	AHY	June 21	FEGU	3+
American Redstart	2550-83183	July 3, 2016	FEGU	ASY	June 15	FEGU	4+
American Redstart	2550-83171	June 13, 2016	FEGU	ASY	June 17	FAWA	4+
American Redstart	2550-83170	June 13, 2016	FEGU	ASY	June 15	FEGU	4+
Canada Warbler	2740-83241	May 31, 2016	MM	ASY	June 15	FEGU	4+
White-throated Sparrow	2661-72563	May 21, 2016	MM	ASY	June 23	FAWA	4+
Red-eyed Vireo	2591-91603	Aug. 6, 2015	MM	AHY	Aug. 17	MM	4+
Canada Warbler	2710-93365	July 24, 2015	MM	AHY	July 21	FEGU	4+
American Redstart	2530-53718	June 22, 2014	RESI	SY	June 30	RESI	5
Song Sparrow	2431-88132	July 29, 2013	MM	HY	June 15	FEGU	5
Swainson's Thrush	2341-94186	July 3, 2015	ROAD	ASY	June 17	FAWA	5+
Mourning Warbler	2710-92952	July 1, 2015	FAWA	ASY	June 23	FAWA	5+
White-throated Sparrow	2341-94161	June 21, 2015	FAWA	ASY	June 17	FAWA	5+
White-throated Sparrow	2341-94145	June 11, 2015	RESI	ASY	June 20	RESI	5+
Red-eyed Vireo	2511-95198	June 7, 2015	MM	ASY	Aug. 11	MM	5+
American Redstart	2530-53712	June 13, 2014	FEGU	ASY	July 15	MM	6+
Black-capped Chickadee	2730-93082	May 7, 2014	MM	ASY	Sept. 28	MM	6+
White-throated Sparrow	2431-87581	June 10, 2012	MM	ASY	June 17	FAWA	8+
Barred Owl	1177-56404	Oct. 1, 2009	OWL	ASY	Sept. 27	OWL	11+

Although no birds banded outside of the LSLBO were encountered during our programs this year, two Northern Saw-whet Owls we banded in previous years were recaptured at other stations (Table 10), with one crossing the Rocky Mountains. For help understanding the age codes, please see Appendix III. Banding Age Codes (p. 63).

Table 10. Recoveries at other locations of birds originally banded by the LSLBO, 2018.

Species	Band Number	Original Banding			Recapture		Age (Years)
		Date	Site	Age	Date (2018)	Site	
Northern Saw-whet Owl	0924-51586	Sept. 12, 2017	OWL	SY	Sept. 19	AB*	2
Northern Saw-whet Owl	0924-53457	Sept. 13, 2016	OWL	HY	Oct. 8	BC**	2

***** 5 km SW of Warrensville, AB at Cardinal Point NSWO Station during an owl banding program

****** Near Victoria, BC at the Rocky Point Bird Observatory during an owl banding program

Habitat Assessment

A large storm in June blew down several mature trees in our monitoring sites. Luckily, the migration monitoring station, the owl monitoring station, and the MAPS station, RESI, experienced low levels of blowdown that could be cleaned before site operation was impaired. Two other MAPS stations, FEGU and ROAD, experienced moderate levels of blowdown that prevented the set-up of some nets and blocked sections of the trail between nets, making travel difficult. FAWA, however, experienced very high levels of blowdown with a large pocket of mature trembling aspen and balsam poplar being flattened in the back half of the site, likewise preventing net set-up and impairing travel. Since such a large area was affected by this wind disturbance, a new habitat type was created that might influence the breeding and therefore the capture rates of several species in the future. A Habitat Structure Assessment was performed on August 29th using MAPS vegetation monitoring protocols to document this change in habitat structure for future consideration. We would like to thank Alberta Agriculture and Forestry and the High Prairie Junior Forest Rangers, who lent us their manpower and did much of the cleanup so we could get our stations running smoothly again.

Staff and Volunteers

Throughout all monitoring projects, the LSLBO accumulated 339 person-days between staff and volunteers (Table 11). Three full-time licenced field staff operated the LSLBO. Robyn Perkins returned for her third season, while Nicole Krikun completed her tenth season and Richard Krikun completed his fifteenth season. Sadly, both Nicole and Richard are leaving the LSLBO to seek opportunities closer to their friends and family. Robyn Perkins has now taken over as the bander-in-charge.

Volunteer activity was again low in 2018 with ten volunteers accumulating 51 person-days (13.9% of all person-days; Table 11). The majority of these days were contributed by our Boreal Educator, Michelle MacMillan, who spent many mornings scribing on busy days and many more nights

helping operate our owl monitoring program (contributing 32.5% of all owl person-days). Unfortunately, Michelle has also finished her time with us to move closer to her family in Ontario. Brianna Lorentz, our Forest Educator, similarly spent many mornings scribing for our busiest days of fall migration monitoring. Eight other volunteers came for short visits to the LSLBO from a variety of backgrounds.

Table 11. Staff and volunteer person-days during operation of the LSLBO's main monitoring projects.

	Spring	MAPS	Fall	Owls	Total
Staff person-days (% T)	96 (93.2 %)	30 (96.8 %)	139 (89.7 %)	50 (64.9 %)	315 (86.1 %)
Volunteer person-days (% T)	7 (6.8 %)	1 (3.2 %)	16 (10.3 %)	27 (35.1 %)	51 (13.9 %)
Total person-days (T)	**103**	**31**	**155**	**77**	**366**
Days operated	56	24	81	48	209

Visitors and Education

Educating the public about bird conservation and the importance of research and monitoring is vital to gathering support for conservation initiatives. Visitors to banding operations gain a unique opportunity to see birds in the hand, reinforcing connections between the visitor and local wildlife. Through our education partnerships with Alberta Parks at the Boreal Centre for Bird Conservation (BCBC) and the Lesser Slave Forest Education Society, we gain access to educators and interpreters who support our education initiatives, providing positive experiences for visitors while field staff maintain high standards for bird safety and data collection. In addition to many other programs, education staff lead school tours of the migration monitoring station, manage visitors at weekly drop-in programs, and run two major annual events for the LSLBO (Songbird Festival and Family Owl Night).

Table 12. Visitors to the bird observatory during spring migration (spring), fall migration monitoring (fall), and owl banding (owl), 2018. "Other" includes tours not associated with schools and unscheduled drop-ins.

	Program	Adults	Children	Total
SPRING	Songbird Festival Tours	52	19	71
	School programs	53	169	222
	Other	69	6	75
	Total	**174**	**194**	**368**
FALL	Bird observatory tours	124	89	213
	Other	65	79	144
	Total	**189**	**168**	**357**
OWL	Family Owl Night	40	19	59
	Other	29	0	29
	Total	**69**	**19**	**88**
	TOTAL	**432**	**381**	**813**
		Average (2001-18)		**801**

In total, the LSLBO received over 800 visitors to observe banding operations (Table 12). Songbird Festival Tours (May 26th) attracted 71 visitors, with many more participating in other nature-related programing at the BCBC. Similarly, Family Owl Night (Sept. 15th) attracted 59 visitors. A total of 222 people were associated with 8 school groups ranging from grades 1 to 12. Other tours included summer camps, the Junior Forest Rangers, Slave Lake Tourism, the local Kinettes chapter, and a quilting retreat. During fall migration monitoring, visitors are encouraged to see the bird observatory on Wednesdays and Saturdays with education staff present. During these scheduled drop-ins, we hosted 213 visitors. Most people were Alberta residents, but a few joined us from as far away as Ontario,

Minnesota, Germany, New Zealand, and Australia.

Publications

The LSLBO co-authored two peer-reviewed articles in 2018. Wilson et al. (2018) used field data from the LSLBO's MAPS program, and Krikun et al. (2019) used data collected in 2010 through the Canada Warbler Research Project; a collaborative project with the University of Alberta:

Wilson S, Saracco JF, Krikun R, Flockhart DTT, Godwin CM, Foster KR. 2018. *Drivers of demographic decline across the annual cycle of a threatened migratory bird.* Scientific Reports. 8(1): 1–11. doi: 10.1038/s41598-018-25633-z

Krikun R, McCune JL, Bayne EM, Flockhart DTT. 2018. *Breeding habitat characteristics of Canada Warblers in central Alberta.* The Forestry Chronicle. 94(3): 230-239. doi: 10.5558/tfc2018-036

Collaborative Projects

West Fraser Breeding Bird Surveys
West Fraser Timber Co. Ltd. contracted the LSLBO to perform breeding bird surveys as part of a long-term wildlife monitoring program on Slave Lake Pulp Forest Management Agreement areas. Field work was subcontracted and the LSLBO will be completing the data analysis and project report this winter.

Vanderwell Breeding Bird Surveys
The LSLBO was approached by Vanderwell Contractors (1971) Ltd. to perform breeding bird surveys in post-harvest forests of various ages and cover types and in a collaborative research project to determine species diversity and distributions. This year was the first of three anticipated years for this project. Unfortunately a large storm from June 10th to 12th prevented access to many sites as some bridges became unpassable. As a result, fewer sites than anticipated were surveyed this year.

High-tech American Robin Stalking

For the third and final year, Nicole Krikun and Ruthie Oliver captured American Robins in the early spring to affix extremely small GPS units to their backs. Ruthie joins us from Columbia University in New York and her project contributes to NASA's Arctic-Boreal Vulnerability Experiment (ABoVE), which examines the effects of climate change in northern environments. Specifically, our "space robins" are exploring whether climate change is altering the migration patterns and habits of avian species migrating to and through the boreal forest. For more information, click here or visit www.earthobservatory.nasa.gov and search for "Migration Mystery".

Acknowledgements

The LSLBO would like to thank the following people for their continued dedication and support, which made 2018 yet another successful year.

LSLBO Board of Directors:
Bob Deacon (Chair)
Terry Kristoff (Vice-chair)
Ronda Groom (Fund Raising Director)
Brandy Walters (Treasurer)
Tyler Flockhart (Director of Field Research)
Nelson Lutz (Director at Large)
Neal Knoot (Director at Large)
Allan Bell (Director at Large)

LSLBO Executive Director: Patti Campsall

LSLBO Field Staff: Richard Krikun, Nicole Krikun, Robyn Perkins

Boreal Centre Staff and Educators: Michelle MacMillan (Boreal Educator), Brianna Lorentz (Forest Educator), Kimberly Johnston (Boreal Interpreter), Kourtnee Burnett (Information Officer), and Donna Arseneau (Contract Educator)

Alberta Parks Staff: Reg Arbuckle, Ceiridwen Robbins, Michelle Holland, Katelynn Cook, and Dan Manca

Banding Lab Volunteers: Myles Greives, Michelle MacMillan, Briana Lorentz, Javan Green, Sachi Snively, Kat Reynolds, Jono Dobbs, Kimberly Johnston, Denise Dawe, and Ashley Eby

Site Cleaning Crew: Mike Turcotte (Alberta Agriculture and Forestry), HAC Crews, and High Prairie Junior Forest Rangers

Our Good Friends: Aaron Lehman, Wayne Bowles, and every friendly face we see yearly!

Information about Migration Monitoring, MAPS, and Project Owlnet can be found at:
Canadian Migration Monitoring Network - www.bsc.org/cmmn.html
Nature Counts - www.naturecounts.ca
Institute for Bird Populations - www.birdpop.org
Project Owlnet - www.projectowlnet.org

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& viewers like you!

Appendix I. 2018 Migration Occurrence Records

The following summarizes (in taxonomical order) the weekly occurrences of 168 species identified throughout spring (S) and fall (F) migration monitoring in 2018. Average numbers of individuals recorded daily over each week are followed by the daily average over spring (56 days) and fall (81 days). "Days observed" indicates the number of days with at least one encounter. "Processed" summarizes captures in the format *band-return-repeat*. *Band* indicates an individual banded, *return* indicates an individual banded in a previous year and recaptured this year, while *repeat* indicates an individual previously banded or recaptured within 2018. The first, last, and peak encounter date is included with the number of individuals recorded in brackets. The peak is often the date with the maximum number of records, but is sometimes instead a date preceded by increasing numbers and followed by a steady decrease, rather than a busy outlier around the normal distribution of migration. The peak date may also represent a dispersal event for resident species. Finally, the total numbers of encounters recorded are shown in black.

Greater White-fronted Goose ***Anser albifrons***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	232.9	1366.1	457.7	0.0	0.0	0.0	0.0	257.1
Days observed	0	3	6	3	0	0	0	0	12
	First date: April 24 (70)			Peak date: May 6 (6725)			Last date: May 13 (80)		14397

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.7	29.6	30.6	155.4	0.0	18.4
Days observed	0	0	0	0	0	0	0	1	2	6	7	0	16
	First date: September 5 (40)				Peak date: September 24 (953)				Last date: September 26 (2)				1549

Lesser Snow Goose ***Anser caerulescens caerulescens***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	11.6	195.3	484.9	0.0	0.0	0.0	0.0	86.5
Days observed	0	1	4	3	0	0	0	0	8
	First date: April 27 (81)			Peak date: May 7 (3300)			Last date: May 13 (3)		4842

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	92.4	0.7	594.6	0.0	57.3
Days observed	0	0	0	0	0	0	0	0	3	1	3	0	7
	First date: September 9 (27)				Peak date: September 24 (4052)				Last date: September 25 (50)				4814

Canada Goose ***Branta canadensis***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	13.6	212.3	33.1	41.1	4.0	3.6	10.3	7.7	40.7
Days observed	7	7	7	7	7	6	7	4	52
	First date: April 16 (2)			Peak date: April 27 (855)			Last date: June 9 (18)		2280

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	3.6	6.4	0.3	0.0	0.6	0.1	22.3	22.4	6.9	2.0	19.1	0.9	7.0
Days observed	1	2	1	0	1	1	6	5	5	4	4	2	32
	First date: July 18 (25)				Peak date: September 24 (115)				Last date: September 30 (2)				592

Trumpeter Swan ***Cygnus buccinator***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.6	0.0	0.0	0.0	0.3	0.0	0.1
Days observed	0	0	1	0	0	0	2	0	3
	First date: May 5 (4)			Peak date: May 5 (4)			Last date: June 3 (1)		6

Tundra Swan ***Cygnus columbianus***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	96.9	61.6	1.6	0.3	0.1	0.0	0.1	20.1
Days observed	0	6	6	2	1	1	0	1	17
	First date: April 23 (7)		Peak date: April 27 (286)			Last date: June 10 (1)			1124

Gadwall ***Anas strepera***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	1.3	0.1	0.0	0.0	0.0	0.2
Days observed	0	0	0	2	1	0	0	0	3
	First date: May 8 (5)		Peak date: May 8 (5)			Last date: May 19 (1)			10

American Wigeon ***Anas americana***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	12.6	9.4	2.9	0.1	0.0	0.0	3.1
Days observed	0	0	4	4	1	1	0	0	10
	First date: May 2 (2)		Peak date: January 9 (0)			Last date: May 24 (1)			175

Blue-winged Teal ***Anas discors***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	3.6	8.0	2.0	2.0	0.4	0.0	2.0
Days observed	0	0	2	1	2	3	2	0	10
	First date: May 4 (21)		Peak date: May 8 (56)			Last date: June 2 (2)			112

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Days observed	0	0	0	0	0	0	0	0	0	1	0	0	1
	First date: September 14 (1)			Peak date: September 14 (1)				Last date: September 14 (1)					1

Northern Shoveler ***Anas clypeata***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	3.0	5.3	1.7	0.1	0.0	0.0	1.3
Days observed	0	0	1	4	2	1	0	0	8
	First date: May 6 (21)		Peak date: May 6 (21)			Last date: May 23 (1)			71

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Days observed	0	0	0	0	1	0	0	0	0	0	0	0	1
	First date: August 11 (1)			Peak date: August 11 (1)				Last date: August 11 (1)					1

Northern Pintail ***Anas acuta***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Days observed	0	0	0	1	0	0	0	0	1
	First date: May 8 (1)		Peak date: May 8 (1)			Last date: May 8 (1)			1

Green-winged (American) Teal ***Anas crecca carolinensis***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	1.1	0.3	0.0	0.0	0.0	0.2
Days observed	0	0	0	2	1	0	0	0	3
	First date: May 11 (4)		Peak date: May 12 (4)			Last date: May 18 (2)			10

Mallard ***Anas platyrhynchos***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	1.4	5.1	8.7	6.3	4.9	3.4	3.9	2.3	4.5
Days observed	1	7	7	7	7	7	6	7	49
	First date: April 19 (10)		Peak date: May 6 (22)			Last date: June 10 (1)			252

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.1	2.7	1.4	0.4	0.6	0.3	1.9	0.4	0.3	1.0	0.4	1.0	0.9
Days observed	1	6	3	1	4	1	1	2	2	3	2	1	27
	First date: July 16 (1)			Peak date: August 23 (13)				Last date: September 30 (7)					74

Ring-necked Duck ***Aythya collaris***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.2
Days observed	0	0	0	0	2	0	0	0	2
	First date: May 17 (10)		Peak date: May 17 (10)			Last date: May 18 (1)			11

Lesser Scaup ***Aythya affinis***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.1
Days observed	0	0	0	0	0	1	0	0	1
	First date: May 22 (6)		Peak date: May 22 (6)			Last date: May 22 (6)			6

Surf Scoter ***Melanitta perspicillata***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	2.0	12.7	9.4	3.3	0.0	3.4
Days observed	0	0	0	1	3	3	2	0	9
	First date: May 11 (14)		Peak date: May 23 (37)			Last date: May 30 (20)			192

White-winged Scoter ***Melanitta fusca***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.3	0.0	0.7	0.0	0.0	0.1
Days observed	0	0	0	1	0	1	0	0	2
	First date: May 12 (2)		Peak date: May 21 (5)			Last date: May 21 (5)			7

Long-tailed Duck ***Clangula hyemalis***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	7.1	20.9	11.7	0.0	0.0	5.0
Days observed	0	0	0	1	4	3	0	0	8
	First date: May 11 (50)		Peak date: May 17 (80)			Last date: May 23 (15)			278

Bufflehead ***Bucephala albeola***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	1.3	0.6	1.3	0.0	0.0	0.4
Days observed	0	0	0	2	1	5	0	0	8
	First date: May 8 (4)		Peak date: May 10 (5)			Last date: May 27 (2)			22

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.7	10.1	25.9	10.7	4.0
Days observed	0	0	0	0	0	0	0	1	1	3	7	4	16
	First date: September 5 (3)			Peak date: September 24 (49)				Last date: September 30 (4)					335

Common Goldeneye ***Bucephala clangula***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.6	1.4	8.1	19.4	19.6	11.3	15.9	3.3	9.9
Days observed	2	3	7	7	7	7	7	6	46
	First date: April 19 (2)		Peak date: May 18 (47)			Last date: June 10 (1)			557

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	1.3	0.1	0.0	0.0	0.7	2.1	0.4	0.0	0.4	6.3	6.6	4.1	1.8
Days observed	6	1	0	0	4	6	2	0	2	6	7	3	37
	First date: July 12 (2)			Peak date: September 17 (26)				Last date: September 29 (9)					155

Hooded Merganser ***Lophodytes cucullatus***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Days observed	0	0	0	1	0	0	0	0	1
	First date: May 10 (1)		Peak date: May 10 (1)			Last date: May 10 (1)			1

Common Merganser ***Mergus merganser***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	1.7	9.7	13.0	16.3	15.9	37.3	17.4	13.9
Days observed	0	3	6	7	7	7	7	6	43
	First date: April 25 (2)		Peak date: May 30 (102)			Last date: June 9 (44)			779

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	9.1	2.9	2.4	2.0	2.3	5.9	7.1	6.9	5.1	4.7	0.3	0.7	4.1
Days observed	6	4	5	5	5	7	6	6	6	7	2	2	61
	First date: July 13 (26)			Peak date: September 4 (28)				Last date: September 30 (3)					346

Red-breasted Merganser ***Mergus serrator***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	1.0	5.7	2.1	0.3	0.0	0.0	1.1
Days observed	0	0	2	7	2	1	0	0	12
	First date: May 5 (3)		Peak date: May 18 (13)			Last date: May 21 (2)			64

Ruffed Grouse ***Bonasa umbellus***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.4	1.0	1.0	0.9	0.9	0.6	1.6	0.6	0.9
Days observed	2	7	7	6	6	4	7	4	43
	First date: April 19 (2)		Peak date: May 30 (2)			Last date: June 8 (1)			48

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.3	0.0	0.0	0.6	0.0	0.4	1.0	1.3	0.7	0.4
Days observed	0	0	0	1	0	0	2	0	2	4	6	4	19
	First date: August 2 (2)			Peak date: August 27 (3)				Last date: September 30 (1)					30

Common Loon ***Gavia immer***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.1	1.0	1.6	2.6	2.6	1.7	1.2
Days observed	0	0	1	4	5	7	7	7	31
	First date: May 5 (1)		Peak date: May 18 (6)			Last date: June 10 (1)			67

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	3.6	3.1	6.9	3.3	1.7	3.3	3.7	1.4	1.7	0.9	0.9	1.0	2.6
Days observed	5	7	7	7	7	7	7	3	5	4	2	2	63
	First date: July 13 (3)			Peak date: July 26 (31)				Last date: September 28 (5)					220

Pied-billed Grebe ***Podilymbus podiceps***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.1
Days observed	0	0	0	0	1	0	0	0	1
	First date: May 18 (4)		Peak date: May 18 (4)			Last date: May 18 (4)			4

Red-necked Grebe ***Podiceps grisegena***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.3	1.3	0.4	0.7	0.3
Days observed	0	0	0	0	2	5	2	3	12
	First date: May 18 (1)		Peak date: May 26 (2)			Last date: June 9 (1)			19

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	1.1	0.9	1.4	1.3	4.3	3.4	3.0	1.3	1.1	2.3	1.7	1.3	1.9
Days observed	4	4	6	4	7	6	6	4	5	7	6	4	63
	First date: July 13 (1)			Peak date: August 12 (14)				Last date: September 30 (2)					162

Western Grebe ***Aechmophorus occidentalis***

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.4	0.0	0.0	0.1
Days observed	0	0	1	0	0	1	0	0	0	1	0	0	3
	First date: July 30 (2)			Peak date: September 14 (3)				Last date: September 14 (3)					6

American White Pelican ***Pelecanus erythrorhynchos***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Days observed	0	0	0	0	0	0	1	0	1
	First date: May 31 (1)		Peak date: May 31 (1)			Last date: May 31 (1)			1

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.7	0.3	1.3	0.7	0.1	0.9	0.6	0.6	0.0	0.1	0.0	0.0	0.4
Days observed	2	1	3	4	1	3	2	3	0	1	0	0	20
	First date: July 12 (1)			Peak date: July 27 (4)				Last date: September 15 (1)					37

Double-crested Cormorant ***Phalacrocorax auritus***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.3	0.6	0.0	0.0	0.0	0.0	0.1
Days observed	0	0	1	2	0	0	0	0	3
	First date: April 30 (2)		Peak date: May 7 (2)			Last date: May 9 (2)			6

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Days observed	1	1	0	0	0	0	0	0	0	0	0	0	2
	First date: July 15 (2)			Peak date: July 15 (2)				Last date: July 19 (2)					4

Great Blue Heron ***Ardea herodias***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
Days observed	0	0	0	0	0	1	1	0	2
	First date: May 21 (1)		Peak date: May 21 (1)			Last date: May 30 (1)			2

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Days observed	0	1	0	0	0	0	1	0	0	0	0	0	2
	First date: July 24 (1)			Peak date: July 24 (1)				Last date: August 28 (1)					2

Osprey — *Pandion haliaetus*

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.4	0.1	0.3	0.0	0.1	0.1
Days observed	0	0	0	2	1	1	0	1	5
	First date: May 7 (2)			Peak date: May 25 (2)			Last date: June 5 (1)		7

	JULY			AUGUST				SEPTEMBER				
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.6	0.1	0.3	0.0	0.1	0.0	0.3	0.0	0.1	0.0	0.0	0.1
Days observed	0	4	1	2	0	1	0	1	0	1	0	0	10
	First date: July 19 (1)				Peak date: September 4 (2)				Last date: September 15 (1)				11

Bald Eagle — *Haliaeetus leucocephalus*

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	1.1	2.1	2.3	2.0	2.0	1.1	2.4	1.6	1.8
Days observed	6	7	7	7	7	6	7	5	52
	First date: April 16 (2)			Peak date: June 1 (4)			Last date: June 10 (2)		103

	JULY			AUGUST				SEPTEMBER				
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	1.3	1.0	1.3	0.7	1.3	1.0	1.9	2.7	1.3	1.4	1.3	0.7	1.3
Days observed	4	4	5	4	5	4	6	7	6	5	6	3	59
	First date: July 12 (3)				Peak date: August 31 (5)				Last date: September 30 (1)				111

Northern Harrier — *Circus cyaneus*

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.6	6.6	3.3	1.1	0.6	0.7	0.0	0.0	1.6
Days observed	2	6	7	4	3	4	0	0	26
	First date: April 20 (2)			Peak date: April 24 (23)			Last date: May 27 (1)		90

	JULY			AUGUST				SEPTEMBER				
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.1	0.0	0.0	0.0	1.0	0.9	0.9	0.6	3.1	2.6	0.7	0.1	0.8
Days observed	1	0	0	0	4	3	2	3	5	6	4	1	29
	First date: July 17 (1)				Peak date: September 12 (18)				Last date: September 27 (1)				70

Sharp-shinned Hawk — *Accipiter striatus*

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.7	2.4	0.4	0.4	0.4	0.1	0.0	0.6
Days observed	0	5	4	3	3	2	1	0	18
Processed	0	3-0-0	4-0-0	0	1-0-0	1-0-0	0	0	9-0-0
	First date: April 24 (1)			Peak date: May 3 (7)			Last date: June 1 (1)		32

	JULY			AUGUST				SEPTEMBER				
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.3	0.0	0.4	2.9	10.0	11.4	11.0	5.7	15.4	4.1	0.6	5.2
Days observed	0	2	0	2	5	7	7	6	5	7	6	3	50
Processed	0	2-0-0	0	0	3-0-0	8-0-0	4-0-0	8-0-0	5-0-0	3-0-0	1-0-0	0	34-0-0
	First date: July 19 (1)				Peak date: August 29 (30)				Last date: September 30 (1)				433

Cooper's Hawk — *Accipiter cooperii*

	JULY			AUGUST				SEPTEMBER				
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0
Days observed	0	0	0	0	0	0	0	1	0	1	0	0	2
	First date: September 5 (1)				Peak date: September 5 (1)				Last date: September 17 (1)				2

Northern Goshawk — *Accipiter gentilis*

	JULY			AUGUST				SEPTEMBER				
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.1	0.1	0.0	0.1	0.3	0.3	0.0	0.1	0.6	0.0	0.0	0.1
Days observed	0	1	1	0	1	2	2	0	1	2	0	0	10
	First date: July 25 (1)				Peak date: September 13 (2)				Last date: September 15 (2)				12

Broad-winged Hawk ***Buteo platypterus***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.1	0.1	0.3	0.3	0.0	0.1	0.1
Days observed	0	0	1	1	1	1	0	1	5
	First date: May 3 (1)			Peak date: May 20 (2)			Last date: June 5 (1)		7

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.6	3.9	0.0	0.4
Days observed	0	0	0	0	0	1	0	0	0	3	4	0	8
	First date: August 20 (2)				Peak date: September 20 (22)				Last date: September 26 (1)				33

Red-tailed Hawk ***Buteo jamaicensis***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.1	0.3	0.6	0.0	0.1	0.0	0.1
Days observed	0	0	1	1	3	0	1	0	6
	First date: May 5 (1)			Peak date: May 16 (2)			Last date: May 29 (1)		8

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.3	0.4	0.3	3.7	0.1	0.4
Days observed	0	0	1	0	0	1	0	1	1	2	2	1	9
	First date: July 30 (1)				Peak date: September 20 (25)				Last date: September 27 (1)				36

Rough-legged Hawk ***Buteo lagopus***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.3	0.3	0.0	0.1	0.0	0.0	0.0	0.0	0.1
Days observed	2	2	0	1	0	0	0	0	5
	First date: April 17 (1)			Peak date: April 23 (1)			Last date: May 7 (1)		5

American Kestrel ***Falco sparverius***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Days observed	0	0	1	0	0	0	0	0	1
	First date: May 2 (1)			Peak date: May 2 (1)			Last date: May 2 (1)		1

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	1.3	0.3	0.0	0.0	0.2
Days observed	0	0	0	0	0	0	1	2	3	2	0	0	8
	First date: August 29 (1)				Peak date: September 6 (7)				Last date: September 19 (1)				15

Merlin ***Falco columbarius***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.1	1.4	0.6	0.4	0.4	0.4	0.1	0.3	0.5
Days observed	1	4	4	3	2	3	1	2	20
	First date: April 21 (1)			Peak date: April 24 (4)			Last date: June 10 (1)		27

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.1	0.3	0.3	1.3	0.9	2.1	1.6	1.0	0.0	0.6	0.0	0.7
Days observed	0	1	1	2	5	4	6	6	4	0	3	0	32
	First date: July 24 (1)				Peak date: August 29 (9)				Last date: September 25 (1)				57

Peregrine Falcon ***Falco peregrinus***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.1	0.0	0.0	0.0	0.3	0.0	0.1
Days observed	0	0	1	0	0	0	2	0	3
	First date: May 6 (1)			Peak date: May 28 (1)			Last date: May 29 (1)		3

Peregrine Falcon ***Falco peregrinus***

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.3	0.0	0.0	0.0	0.0
Days observed	0	0	0	0	0	1	0	1	2	0	0	0	4
	First date: August 19 (1)				Peak date: September 6 (1)				Last date: September 7 (1)				4

Sandhill Crane ***Grus canadensis***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	11.4	13.9	13.6	2.4	0.0	0.0	0.0	5.2
Days observed	0	1	3	3	3	0	0	0	10
	First date: April 26 (80)			Peak date: May 7 (70)			Last date: May 19 (6)		289

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.7	1.0	0.0	0.2
Days observed	0	0	0	0	0	0	0	0	1	1	2	0	4
	First date: September 12 (3)				Peak date: September 20 (6)				Last date: September 24 (1)				15

Killdeer ***Charadrius vociferus***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.3	0.6	0.1	0.1	0.0	0.0	0.0	0.1
Days observed	0	2	3	1	1	0	0	0	7
	First date: April 28 (1)			Peak date: May 4 (2)			Last date: May 16 (1)		8

Spotted Sandpiper ***Actitis macularius***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	1.4	1.6	1.4	2.0	1.4	1.4	1.2
Days observed	0	0	3	3	5	7	6	6	30
	First date: May 4 (2)			Peak date: May 6 (7)			Last date: June 9 (2)		65

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.6	0.9	1.7	0.7	1.4	1.6	0.7	0.4	0.0	0.1	0.0	0.0	0.7
Days observed	1	5	5	4	4	6	3	3	0	1	0	0	32
	First date: July 16 (4)				Peak date: July 26 (5)				Last date: September 14 (1)				57

Solitary Sandpiper ***Tringa solitaria***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.6	1.7	0.0	0.0	0.0	0.0	0.3
Days observed	0	0	1	2	0	0	0	0	3
	First date: May 5 (4)			Peak date: May 12 (10)			Last date: May 13 (2)		16

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Days observed	0	0	1	0	0	0	0	0	0	0	0	0	1
	First date: July 30 (1)				Peak date: July 30 (1)				Last date: July 30 (1)				1

Greater Yellowlegs ***Tringa melanoleuca***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.1	4.9	0.4	0.3	0.1	0.0	0.0	0.7
Days observed	0	1	3	2	1	1	0	0	8
	First date: April 27 (1)			Peak date: May 6 (27)			Last date: May 21 (1)		41

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.6	1.1	0.0	0.0	0.0	0.0	0.4	0.0	0.2
Days observed	0	0	0	0	3	3	0	0	0	0	1	0	7
	First date: August 12 (1)				Peak date: August 20 (6)				Last date: September 25 (3)				15

Lesser Yellowlegs *Tringa flavipes*

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	5.7	0.4	0.0	0.0	0.0	0.0	0.8
Days observed	0	0	4	3	0	0	0	0	7
	First date: May 2 (1)		Peak date: May 6 (24)			Last date: May 12 (1)			43

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.4	0.4	0.3	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.1
Days observed	0	0	2	3	2	1	1	0	0	0	0	0	9
	First date: July 31 (2)			Peak date: August 28 (2)				Last date: August 28 (2)					11

Upland Sandpiper *Bartramia longicauda*

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Days observed	0	0	0	0	1	0	0	0	0	0	0	0	1
	First date: August 12 (1)			Peak date: August 12 (1)				Last date: August 12 (1)					1

Whimbrel *Numenius phaeopus*

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	7.1	0.0	0.0	0.0	0.0	0.9
Days observed	0	0	0	1	0	0	0	0	1
	First date: May 12 (50)		Peak date: May 12 (50)			Last date: May 12 (50)			50

Long-billed Dowitcher *Limnodromus scolopaceus*

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	5.7	0.0	0.0	0.0	0.7
Days observed	0	0	0	0	1	0	0	0	1
	First date: May 15 (40)		Peak date: May 15 (40)			Last date: May 15 (40)			40

Common Snipe *Gallinago gallinago*

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.1
Days observed	0	1	2	0	0	0	0	0	3
	First date: April 28 (1)		Peak date: May 4 (1)			Last date: May 5 (1)			3

Franklin's Gull *Larus pipixcan*

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	110.4	74.3	9.6	13.3	16.1	0.0	28.0
Days observed	0	0	7	5	3	3	5	0	23
	First date: April 30 (82)		Peak date: May 4 (234)			Last date: June 3 (14)			1566

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	3.3	21.4	60.0	299.3	34.1	21.6	3.1	27.4	0.0	0.0	0.0	0.0	39.2
Days observed	4	4	6	6	4	3	2	3	0	0	0	0	32
	First date: July 12 (5)			Peak date: August 3 (1669)				Last date: September 5 (186)					3292

Bonaparte's Gull *Larus philadelphia*

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.1	0.9	0.0	0.0	0.0	0.0	0.1
Days observed	0	0	1	3	0	0	0	0	4
	First date: April 30 (1)		Peak date: May 13 (3)			Last date: May 13 (3)			7

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Days observed	0	0	0	0	0	1	0	0	0	0	0	0	1
	First date: August 17 (8)			Peak date: August 17 (8)				Last date: August 17 (8)					8

Mew Gull ***Larus canus***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	2.4	6.6	0.0	0.0	0.0	0.0	1.1
Days observed	0	0	2	2	0	0	0	0	4
	First date: May 5 (13)			Peak date: May 11 (39)			Last date: May 11 (39)		63

Ring-billed Gull ***Larus delawarensis***

	APRIL			MAY				JUNE				
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)				TOTAL
Avg. per day	19.4	9.9	16.6	12.6	2.0	5.1	2.1	2.1				8.7
Days observed	2	5	6	7	5	3	4	2				34
	First date: April 19 (1)			Peak date: May 5 (74)			Last date: June 10 (5)					489
	JULY			AUGUST				SEPTEMBER				
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	39.7	39.4	53.7	58.7	8.9	3.4	17.6	46.4	1.7	2.0	0.3	0.0	22.7
Days observed	4	5	6	5	5	5	5	7	5	5	1	0	53
	First date: July 12 (55)				Peak date: September 2 (266)				Last date: September 26 (2)				1903

California Gull ***Larus californicus***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Days observed	0	0	0	1	0	0	0	0	1
	First date: May 10 (2)			Peak date: May 10 (2)			Last date: May 10 (2)		2

	JULY			AUGUST				SEPTEMBER				
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Days observed	0	0	0	1	0	0	0	0	0	0	0	0	1
	First date: August 2 (10)				Peak date: August 2 (10)				Last date: August 2 (10)				10

Herring Gull ***Larus argentatus***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.1	2.7	3.9	0.4	0.7	0.7	0.3	1.1
Days observed	0	1	5	5	1	1	3	1	17
	First date: April 28 (1)			Peak date: May 7 (7)			Last date: June 10 (2)		62

Common Tern ***Sterna hirundo***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.1	0.4	2.0	2.9	1.9	1.0	1.0
Days observed	0	0	1	1	4	4	5	3	18
	First date: May 5 (1)			Peak date: May 19 (10)			Last date: June 7 (2)		58

	JULY			AUGUST				SEPTEMBER				
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.1	1.0	1.4	3.1	3.1	1.0	0.9	0.1	0.0	0.0	0.0	0.0	0.9
Days observed	1	6	6	7	7	4	4	1	0	0	0	0	36
	First date: July 17 (1)				Peak date: August 5 (6)				Last date: September 5 (1)				76

Forster's Tern ***Sterna forsteri***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	1.0	1.3	0.4	0.0	0.3
Days observed	0	0	0	0	2	2	3	0	7
	First date: May 18 (6)			Peak date: May 18 (6)			Last date: June 2 (1)		19

Mourning Dove ***Zenaida macroura***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0
Days observed	0	0	1	0	0	1	0	0	2
	First date: May 6 (1)			Peak date: May 6 (1)			Last date: May 21 (1)		2

Barred Owl ***Strix varia***

	APRIL			MAY			JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0
Days observed	0	0	0	1	0	1	0	0	2
	First date: May 12 (1)			Peak date: May 12 (1)			Last date: May 24 (1)		2

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Days observed	0	0	1	1	0	0	0	0	1	0	0	0	3
	First date: July 30 (2)				Peak date: July 30 (2)				Last date: September 10 (1)				4

Common Nighthawk ***Chordeiles minor***

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.3	0.0	0.0	0.0	0.0
Days observed	0	0	0	0	0	1	1	0	1	0	0	0	3
	First date: August 18 (1)				Peak date: September 11 (2)				Last date: September 11 (2)				4

Ruby-throated Hummingbird ***Archilochus colubris***

	APRIL			MAY			JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
Days observed	0	0	0	0	0	1	1	0	2
	First date: May 27 (1)			Peak date: May 27 (1)			Last date: May 28 (1)		2

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Days observed	0	0	1	0	0	0	0	0	0	0	0	0	1
	First date: August 1 (1)				Peak date: August 1 (1)				Last date: August 1 (1)				1

Belted Kingfisher ***Ceryle alcyon***

	APRIL			MAY			JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.3	1.4	0.4	0.1	0.3	0.1	0.3
Days observed	0	0	2	5	3	1	1	1	13
	First date: May 2 (1)			Peak date: May 9 (3)			Last date: June 7 (1)		19

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.1	0.4	0.3	0.0	0.3	0.6	0.1	0.0	0.3	0.4	0.0	0.1	0.2
Days observed	1	3	2	0	2	4	1	0	2	2	0	1	18
	First date: July 16 (1)				Peak date: September 14 (2)				Last date: September 27 (1)				19

Yellow-bellied Sapsucker ***Sphyrapicus varius***

	APRIL			MAY			JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	3.0	3.3	2.1	2.0	1.3	0.4	1.5
Days observed	0	0	5	7	7	7	5	2	33
Processed	0	0	0	1-1-0	1-0-0	0	0	0-0-1	2-1-1
	First date: May 2 (1)			Peak date: May 6 (14)			Last date: June 9 (2)		85

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Days observed	1	0	1	1	1	0	0	0	0	0	0	0	4
	First date: July 18 (1)				Peak date: August 6 (1)				Last date: August 11 (1)				4

Downy Woodpecker ***Picoides pubescens***

	APRIL			MAY			JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Days observed	0	0	0	1	0	0	0	0	1
	First date: May 7 (1)			Peak date: May 7 (1)			Last date: May 7 (1)		1

Downy Woodpecker ***Picoides pubescens***

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.1	0.3	0.0	0.1	0.1	0.4	0.3	0.0	0.0	0.1	0.4	0.4	0.2
Days observed	1	2	0	1	1	2	2	0	0	1	2	3	15
Processed	0	0	0	0	0	0	1-0-0	0	0	0	1-0-0	0-0-1	2-0-1
	First date: July 15 (1)				Peak date: August 16 (2)				Last date: September 30 (1)				17

Hairy Woodpecker ***Picoides villosus***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.4	0.3	0.9	0.4	0.7	0.3	0.0	0.0	0.4
Days observed	2	1	2	3	4	2	0	0	14
Processed	0	0	0	0	1-0-0	0	0	0	1-0-0
	First date: April 17 (2)		Peak date: May 4 (5)			Last date: May 27 (1)			21

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.9	1.1	1.3	0.6	0.3	0.6	0.3	0.3	0.1	0.9	1.4	0.4	0.7
Days observed	3	4	6	4	2	3	2	2	1	5	6	3	41
Processed	1-0-0	2-0-0	1-0-0	0-0-1	0	0	0	0	0	0	0-0-1	0	4-0-2
	First date: July 16 (3)				Peak date: July 23 (4)				Last date: September 30 (1)				57

American Three-toed Woodpecker ***Picoides dorsalis***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Days observed	0	0	0	0	0	0	0	1	1
Processed	0	0	0	0	0	0	0	1-0-0	1-0-0
	First date: June 5 (1)		Peak date: June 5 (1)			Last date: June 5 (1)			1

Yellow-shafted Flicker ***Colaptes auratus auratus***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	7.4	16.3	0.9	0.3	0.3	0.0	3.1
Days observed	0	0	2	7	5	2	2	0	18
Processed	0	0	0	1-0-0	0	0	0	0	1-0-0
	First date: May 5 (8)		Peak date: May 8 (61)			Last date: June 3 (1)			176

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.7	4.6	0.3	0.0	0.5
Days observed	0	0	0	0	1	1	0	1	3	7	1	0	14
Processed	0	0	0	0	0	0	0	0	0	2-0-0	1-0-0	0	3-0-0
	First date: August 13 (1)				Peak date: September 13 (10)				Last date: September 23 (2)				42

Pileated Woodpecker ***Dryocopus pileatus***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.7	1.1	0.9	0.9	1.0	0.7	1.0	1.0	0.9
Days observed	3	7	6	4	7	5	6	6	44
	First date: April 16 (1)		Peak date: April 26 (2)			Last date: June 10 (1)			51

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	1.0	0.7	0.9	1.1	0.3	0.4	0.3	0.4	0.0	0.4	0.5
Days observed	0	0	7	4	5	6	2	2	1	3	0	2	32
Processed	0	0	0	0-1-0	0	0	1-0-0	0	0	0	0	0	1-1-0
	First date: July 26 (1)				Peak date: August 9 (2)				Last date: September 30 (2)				39

Olive-sided Flycatcher ***Contopus cooperi***

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Days observed	0	1	0	0	0	0	0	0	0	0	0	0	1
	First date: July 25 (1)				Peak date: July 25 (1)				Last date: July 25 (1)				1

Western Wood-Pewee ***Contopus sordidulus***

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Days observed	0	0	2	0	0	0	0	0	0	0	0	0	2
	First date: July 29 (1)				Peak date: July 29 (1)				Last date: July 31 (1)				2

Yellow-bellied Flycatcher ***Empidonax flaviventris***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.1	0.1
Days observed	0	0	0	0	0	0	2	1	3
Processed	0	0	0	0	0	0	1-0-0	1-0-0	2-0-0
	First date: May 31 (1)		Peak date: June 2 (1)			Last date: June 8 (1)			3

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Days observed	1	1	0	0	0	1	0	1	0	0	0	0	4
Processed	1-0-0	1-0-0	0	0	0	1-0-0	0	0	0	0	0	0	3-0-0
	First date: July 16 (1)				Peak date: July 23 (1)				Last date: September 4 (1)				4

Alder Flycatcher ***Empidonax alnorum***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.1	0.9	6.1	5.9	1.6
Days observed	0	0	0	0	1	3	7	7	18
Processed	0	0	0	0	0	4-0-0	23-0-0	18-0-1	45-0-1
	First date: May 20 (1)		Peak date: May 30 (14)			Last date: June 10 (2)			91

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	1.3	2.4	3.4	2.4	2.1	1.0	3.3	0.4	0.3	0.0	0.0	0.0	1.4
Days observed	5	6	6	6	6	5	6	3	2	0	0	0	45
Processed	2-0-2	6-0-1	3-0-0	8-0-2	11-0-0	6-0-0	21-0-0	3-0-0	2-0-0	0	0	0	62-0-5
	First date: July 12 (3)				Peak date: August 27 (8)				Last date: September 11 (1)				117

Least Flycatcher ***Empidonax minimus***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.1	2.6	6.3	4.0	1.0	0.1	1.8
Days observed	0	0	1	5	7	6	4	1	24
Processed	0	0	0	1-0-0	7-0-0	6-0-0	0	0	14-0-0
	First date: May 6 (1)		Peak date: May 17 (16)			Last date: June 4 (1)			99

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.7	1.3	7.3	3.0	3.1	1.4	1.1	0.4	0.4	0.4	0.0	0.0	1.6
Days observed	4	3	7	7	6	6	4	2	3	2	0	0	44
Processed	3-0-0	5-0-0	14-0-0	4-0-0	3-0-0	2-0-0	3-0-0	0	1-0-0	0	0	0	35-0-0
	First date: July 13 (1)				Peak date: July 31 (13)				Last date: September 19 (2)				135

Eastern Phoebe ***Sayornis phoebe***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.1	0.1	2.3	1.1	1.4	0.0	0.0	0.1	0.7
Days observed	1	1	5	5	4	0	0	1	17
Processed	0	0	2-0-0	0	1-0-0	0	0	0	3-0-0
	First date: April 19 (1)		Peak date: May 6 (6)			Last date: June 7 (1)			37

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.7	0.3	0.3	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Days observed	3	2	2	0	2	1	0	0	0	0	0	0	10
Processed	2-0-0	0	0	0	0	0	0	0	0	0	0	0	2-0-0
	First date: July 14 (1)				Peak date: July 18 (3)				Last date: August 21 (1)				12

Say's Phoebe ***Sayornis saya***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.4	0.3	0.0	0.0	0.0	0.0	0.1
Days observed	0	0	2	1	0	0	0	0	3
	First date: May 4 (1)		Peak date: May 5 (2)			Last date: May 12 (2)			5

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.4	0.0	0.0	0.0	0.0
Days observed	0	0	0	0	0	0	1	0	1	0	0	0	2
	First date: August 28 (1)			Peak date: September 6 (3)				Last date: September 6 (3)					4

Eastern Kingbird ***Tyrannus tyrannus***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.1	0.3	1.6	0.1	0.6	0.3
Days observed	0	0	0	1	1	4	1	1	8
	First date: May 7 (1)		Peak date: May 27 (5)			Last date: June 5 (4)			19

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.3	0.0	0.9	2.3	0.1	0.7	0.1	0.0	0.0	0.0	0.4
Days observed	0	0	2	0	3	3	1	1	1	0	0	0	11
	First date: July 26 (1)			Peak date: August 16 (11)				Last date: September 6 (1)					31

Northern Shrike ***Lanius excubitor***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Days observed	0	1	0	0	0	0	0	0	1
	First date: April 24 (1)		Peak date: April 24 (1)			Last date: April 24 (1)			1

Blue-headed Vireo ***Vireo solitarius***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.7	0.6	0.0	0.0	0.2
Days observed	0	0	0	0	3	2	0	0	5
	First date: May 16 (2)		Peak date: May 17 (2)			Last date: May 24 (2)			9

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.1	0.3	0.0	0.3	0.0	0.1	0.0	0.0	0.0	0.1
Days observed	0	0	0	1	1	0	1	0	1	0	0	0	4
Processed	0	0	0	0	0	0	2-0-0	0	0	0	0	0	2-0-0
	First date: August 8 (1)			Peak date: August 13 (2)				Last date: September 11 (1)					6

Warbling Vireo ***Vireo gilvus***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Days observed	0	0	1	1	0	0	0	0	2
	First date: May 5 (1)		Peak date: May 5 (1)			Last date: May 13 (1)			2

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Days observed	0	1	0	0	0	0	0	0	1	0	0	0	2
Processed	0	0	0	0	0	0	0	0	2-0-0	0	0	0	2-0-0
	First date: July 25 (1)			Peak date: September 11 (2)				Last date: September 11 (2)					3

Philadelphia Vireo ***Vireo philadelphicus***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.1	0.3	0.0	0.0	0.1
Days observed	0	0	0	0	1	2	0	0	3
	First date: May 20 (1)		Peak date: May 22 (1)			Last date: May 27 (1)			3

Philadelphia Vireo ***Vireo philadelphicus***

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.1	0.1	0.7	0.1	0.6	0.3	0.3	0.4	0.0	0.0	0.0	0.0	0.2
Days observed	1	1	4	1	2	2	2	2	0	0	0	0	15
Processed	1-0-0	0	1-0-0	1-0-0	1-0-0	1-0-0	1-0-0	3-0-0	0	0	0	0	9-0-0
	First date: July 13 (1)			Peak date: September 4 (2)				Last date: September 4 (2)					19

Red-eyed Vireo ***Vireo olivaceus***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.1	2.0	3.9	3.7	1.2
Days observed	0	0	0	0	1	7	7	7	22
Processed	0	0	0	0	0	1-0-0	2-0-0	3-0-0	6-0-0
	First date: May 20 (1)		Peak date: May 31 (7)			Last date: June 10 (2)			68

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	4.7	4.3	7.3	5.3	4.3	1.4	2.6	0.0	0.0	0.0	0.0	0.0	2.5
Days observed	7	6	7	7	7	5	5	0	0	0	0	0	44
Processed	4-0-1	3-0-0	7-0-0	5-0-0	5-1-0	1-1-0	2-0-0	0	0	0	0	0	27-2-1
	First date: July 12 (2)			Peak date: August 1 (13)				Last date: August 28 (3)					209

Gray Jay ***Perisoreus canadensis***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Days observed	1	0	0	0	0	0	0	0	1
	First date: April 18 (1)		Peak date: April 18 (1)			Last date: April 18 (1)			1

Blue Jay ***Cyanocitta cristata***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.1	0.3	1.1	0.7	0.0	0.1	0.0	0.3
Days observed	0	1	1	5	3	0	1	0	11
	First date: April 24 (1)		Peak date: May 8 (3)			Last date: June 3 (1)			17

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.3	0.0	0.3	0.7	1.6	2.1	1.6	1.7	1.0	0.6	0.8
Days observed	0	0	2	0	1	3	7	4	6	6	5	3	37
Processed	0	0	0	0	0	0	0	0	0	1-0-0	0	0	1-0-0
	First date: July 29 (1)			Peak date: August 31 (5)				Last date: September 30 (1)					69

Black-billed Magpie ***Pica hudsonia***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.6	0.9	1.9	1.3	0.9	0.1	0.3	0.4	0.8
Days observed	3	5	3	4	2	1	2	3	23
	First date: April 16 (1)		Peak date: May 1 (6)			Last date: June 8 (1)			44

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.3	0.7	0.2
Days observed	0	0	1	0	0	0	0	0	0	3	6	4	14
	First date: August 1 (2)			Peak date: September 24 (2)				Last date: September 30 (1)					20

American Crow ***Corvus brachyrhynchos***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	11.1	10.6	8.7	8.1	6.6	7.7	4.4	4.1	7.7
Days observed	7	7	7	7	7	7	7	7	56
	First date: April 16 (5)		Peak date: April 23 (22)			Last date: June 10 (4)			430

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	5.9	5.6	4.4	2.9	3.3	7.6	5.0	10.3	9.3	6.4	1.9	1.4	5.3
Days observed	7	7	7	7	7	7	6	7	7	7	6	4	79
	First date: July 12 (5)			Peak date: August 31 (34)				Last date: September 30 (3)					447

Common Raven ***Corvus corax***

	APRIL			MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)		TOTAL
Avg. per day	0.1	0.3	1.1	1.1	0.7	0.7	0.4	0.9		0.7
Days observed	1	2	4	4	2	4	2	4		23
	First date: April 17 (1)			Peak date: May 16 (4)			Last date: June 7 (3)			38

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.7	2.1	1.1	2.1	1.6	1.3	3.3	3.3	1.9	9.1	10.6	2.1	3.3
Days observed	3	6	5	7	6	4	7	7	7	7	7	4	70
	First date: July 13 (2)				Peak date: September 21 (47)				Last date: September 30 (3)				275

Horned Lark ***Eremophila alpestris***

	APRIL			MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)		TOTAL
Avg. per day	0.0	0.0	0.0	0.0	8.1	3.6	0.0	0.1		1.5
Days observed	0	0	0	0	1	2	0	1		4
	First date: May 20 (57)			Peak date: May 20 (57)			Last date: June 5 (1)			83

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.6	0.4	0.1	2.4
Days observed	0	0	0	0	0	0	0	0	0	1	1	1	3
	First date: September 13 (200)				Peak date: September 13 (200)				Last date: September 28 (1)				204

Tree Swallow ***Tachycineta bicolor***

	APRIL			MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)		TOTAL
Avg. per day	0.0	1.9	7.7	6.1	9.0	1.0	0.3	0.0		3.3
Days observed	0	2	6	5	5	1	2	0		21
	First date: April 26 (6)			Peak date: May 15 (58)			Last date: May 31 (1)			182

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	3.0	15.7	7.0	4.1	0.1	0.4	0.0	0.0	0.0	0.0	0.0	2.5
Days observed	0	4	6	3	4	1	2	0	0	0	0	0	20
	First date: July 20 (1)				Peak date: August 4 (40)				Last date: August 27 (2)				213

Bank Swallow ***Riparia riparia***

	APRIL			MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)		TOTAL
Avg. per day	0.0	0.0	0.0	5.4	8.4	52.9	0.1	0.0		8.4
Days observed	0	0	0	2	1	4	1	0		8
	First date: May 12 (12)			Peak date: May 27 (212)			Last date: May 28 (1)			468

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	5.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
Days observed	0	0	3	0	0	0	0	0	0	0	0	0	3
	First date: July 26 (9)				Peak date: August 1 (30)				Last date: August 1 (30)				40

Cliff Swallow ***Petrochelidon pyrrhonota***

	APRIL			MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)		TOTAL
Avg. per day	0.0	0.0	0.0	0.4	0.6	2.6	0.0	0.0		0.4
Days observed	0	0	0	2	1	3	0	0		6
	First date: May 12 (1)			Peak date: May 21 (16)			Last date: May 27 (1)			25

Barn Swallow ***Hirundo rustica***

	APRIL			MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)		TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0		0.0
Days observed	0	0	0	0	0	2	0	0		2
	First date: May 21 (1)			Peak date: May 21 (1)			Last date: May 22 (1)			2

Barn Swallow ***Hirundo rustica***

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Days observed	0	0	0	0	0	1	0	0	0	0	0	0	1
	First date: August 16 (1)				Peak date: August 16 (1)				Last date: August 16 (1)				1

Black-capped Chickadee ***Poecile atricapillus***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	1.4	0.7	1.0	0.9	0.7	0.9	0.6	0.7	0.9
Days observed	4	5	6	5	3	5	3	4	35
	First date: April 16 (2)			Peak date: May 17 (2)			Last date: June 9 (2)		48

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	4.3	3.0	2.1	2.9	3.6	3.1	2.7	1.9	3.0	5.0	5.4	4.7	3.5
Days observed	7	7	6	7	7	7	5	5	4	7	7	4	73
Processed	2-0-0	0	1-0-0	0	2-0-0	0	0	0	1-0-0	3-0-0	7-1-0	3-1-1	19-2-1
	First date: July 12 (4)				Peak date: September 19 (18)				Last date: September 30 (11)				292

Boreal Chickadee ***Poecile hudsonicus***

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0
Days observed	0	0	0	0	0	0	0	1	0	1	0	0	2
	First date: September 5 (1)				Peak date: September 5 (1)				Last date: September 19 (1)				2

Red-breasted Nuthatch ***Sitta canadensis***

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.4	0.6	0.9	0.4	0.7	0.9	1.9	1.0	2.1	3.6	2.7	0.7	1.3
Days observed	2	4	5	3	3	4	6	3	5	7	6	3	51
Processed	0	0	0	0	0	1-0-0	0	1-0-0	2-0-0	1-0-0	1-0-0	0	6-0-0
	First date: July 17 (1)				Peak date: September 15 (10)				Last date: September 30 (1)				111

White-breasted Nuthatch ***Sitta carolinensis***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.4	0.1	0.0	0.0	0.0	0.1
Days observed	0	0	0	3	1	0	0	0	4
	First date: May 9 (1)			Peak date: May 13 (1)			Last date: May 14 (1)		4

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0
Days observed	0	0	0	0	0	0	0	0	0	2	0	0	2
	First date: September 14 (1)				Peak date: September 14 (1)				Last date: September 19 (1)				2

Brown Creeper ***Certhia americana***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Days observed	0	1	0	1	0	0	0	0	2
	First date: April 29 (1)			Peak date: April 29 (1)			Last date: May 9 (1)		2

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.3	0.0	0.9	0.1
Days observed	0	0	0	0	0	0	0	1	0	2	0	2	5
Processed	0	0	0	0	0	0	0	0	0	0	0	3-0-0	3-0-0
	First date: September 3 (1)				Peak date: September 28 (5)				Last date: September 30 (1)				9

House Wren ***Troglodytes aedon***

	APRIL		MAY			JUNE			
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.1
Days observed	0	0	0	0	0	3	0	0	3
Processed	0	0	0	0	0	2-0-0	0	0	2-0-0
	First date: May 21 (1)			Peak date: May 22 (1)			Last date: May 24 (1)		3

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.1	0.0	0.0	0.0
Days observed	0	0	0	0	0	0	0	1	2	1	0	0	4
Processed	0	0	0	0	0	0	0	0	1-0-0	0	0	0	1-0-0
	First date: September 5 (1)				Peak date: September 8 (1)				Last date: September 17 (1)				4

Winter Wren ***Troglodytes hiemalis***

	APRIL		MAY			JUNE			
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	1.1	0.7	0.3	0.1	0.0	0.3
Days observed	0	0	0	6	5	2	1	0	14
Processed	0	0	0	1-0-0	0	0	0	0	1-0-0
	First date: May 7 (1)			Peak date: May 11 (2)			Last date: May 31 (1)		16

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Days observed	0	0	1	2	0	0	0	0	0	1	0	0	4
Processed	0	0	0	2-0-0	0	0	0	0	0	1-0-0	0	0	3-0-0
	First date: July 31 (1)				Peak date: August 2 (1)				Last date: September 17 (1)				4

Marsh Wren ***Cistothorus palustris***

	APRIL		MAY			JUNE			
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Days observed	0	0	0	0	1	0	0	0	1
	First date: May 15 (1)			Peak date: May 15 (1)			Last date: May 15 (1)		1

Golden-crowned Kinglet ***Regulus satrapa***

	APRIL		MAY			JUNE			
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Days observed	0	0	1	0	0	0	0	0	1
	First date: May 4 (1)			Peak date: May 4 (1)			Last date: May 4 (1)		1

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	4.6	1.0	0.5
Days observed	0	0	0	0	0	0	0	0	2	2	5	2	11
Processed	0	0	0	0	0	0	0	0	0	0	10-0-1	0	10-0-1
	First date: September 8 (1)				Peak date: September 23 (14)				Last date: September 28 (5)				43

Ruby-crowned Kinglet ***Regulus calendula***

	APRIL		MAY			JUNE			
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.3	0.9	1.4	0.4	0.3	0.1	0.0	0.4
Days observed	0	1	4	6	2	2	1	0	16
Processed	0	0	0	2-0-0	2-0-0	0	1-0-0	0	5-0-0
	First date: April 29 (2)			Peak date: May 10 (3)			Last date: May 28 (1)		24

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.1	0.0	0.0	0.0	0.3	0.1	3.4	6.1	2.6	1.6	1.2
Days observed	0	0	1	0	0	0	1	1	6	7	4	4	24
Processed	0	0	0	0	0	0	0	0	0	5-0-0	3-0-0	1-0-0	9-0-0
	First date: July 29 (1)				Peak date: September 11 (15)				Last date: September 30 (3)				100

Townsend's Solitaire *Myadestes townsendi*

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
Days observed	0	0	0	0	0	0	0	0	0	1	1	0	2
Processed	0	0	0	0	0	0	0	0	0	0	1-0-0	0	1-0-0
	First date: September 13 (1)				Peak date: September 13 (1)				Last date: September 24 (1)				2

Gray-cheeked Thrush *Catharus minimus*

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.3	0.4	0.0	0.0	0.0	0.1
Days observed	0	0	0	1	1	0	0	0	2
Processed	0	0	0	2-0-0	3-0-0	0	0	0	5-0-0
	First date: May 13 (2)			Peak date: May 17 (3)			Last date: May 17 (3)		5

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.4	3.9	0.6	0.3	0.4
Days observed	0	0	0	0	0	0	1	0	3	6	2	1	13
Processed	0	0	0	0	0	0	1-0-0	0	2-0-0	11-0-0	3-0-0	0	17-0-0
	First date: August 27 (1)				Peak date: September 13 (10)				Last date: September 28 (2)				37

Swainson's Thrush *Catharus ustulatus*

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	1.0	5.4	6.0	2.4	1.7	2.1
Days observed	0	0	0	3	5	7	7	7	29
Processed	0	0	0	5-0-0	12-0-0	23-1-0	9-0-0	1-0-0	50-1-0
	First date: May 9 (1)			Peak date: May 17 (17)			Last date: June 10 (1)		116

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	5.3	7.1	16.1	10.7	10.6	15.4	18.1	6.1	5.9	9.6	1.6	0.0	8.9
Days observed	7	7	7	7	7	7	7	6	6	7	4	0	72
Processed	20-0-0	17-0-0	51-0-5	37-0-9	30-0-8	65-0-4	77-0-9	20-0-8	18-0-5	21-0-1	6-0-0	0	362-0-49
	First date: July 12 (2)				Peak date: August 27 (34)				Last date: September 24 (1)				746

Hermit Thrush *Catharus guttatus*

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.1	1.7	0.7	0.7	0.9	0.6	0.6
Days observed	0	0	1	6	2	4	4	4	21
Processed	0	0	1-0-0	4-0-0	2-0-0	0	1-0-2	0	8-0-2
	First date: May 5 (1)			Peak date: May 8 (4)			Last date: June 8 (1)		33

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.4	0.7	2.0	0.3	0.7	0.7	0.7	0.0	0.3	0.6	0.6	0.0	0.6
Days observed	2	2	6	2	4	4	4	0	1	3	2	0	30
Processed	0	0	5-0-1	0-0-1	1-0-4	1-0-3	1-0-2	0	2-0-0	4-0-0	3-0-0	0	17-0-11
	First date: July 17 (1)				Peak date: July 26 (7)				Last date: September 23 (1)				49

American Robin *Turdus migratorius*

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	64.7	311.0	1502.7	51.3	5.0	3.9	3.1	3.4	243.1
Days observed	3	7	7	7	7	7	7	7	52
Processed	3-0-0	0	10-0-0	4-0-0	0	2-0-0	2-0-0	2-0-1	23-0-1
	First date: April 19 (2)			Peak date: May 4 (3346)			Last date: June 10 (3)		13616

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	1.0	0.7	3.6	1.7	1.7	2.6	1.4	0.9	3.0	22.4	29.1	1.4	5.8
Days observed	6	3	7	6	5	6	5	3	4	7	4	4	60
Processed	0	0	0	0	1-0-0	3-0-0	1-0-0	0	0	0	1-0-0	2-0-0	8-0-0
	First date: July 12 (2)				Peak date: September 23 (194)				Last date: September 30 (2)				487

Varied Thrush ***Ixoreus naevius***

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Days observed	0	0	0	0	0	0	0	0	0	0	1	0	1
	First date: September 25 (1)				Peak date: September 25 (1)				Last date: September 25 (1)				1

Gray Catbird ***Dumetella carolinensis***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Days observed	0	0	0	0	0	0	1	0	1
Processed	0	0	0	0	0	0	1-0-0	0	1-0-0
	First date: May 28 (1)			Peak date: May 28 (1)			Last date: May 28 (1)		1

Brown Thrasher ***Toxostoma rufum***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Days observed	0	0	0	0	0	0	0	1	1
Processed	0	0	0	0	0	0	0	1-0-0	1-0-0
	First date: June 8 (1)			Peak date: June 8 (1)			Last date: June 8 (1)		1

European Starling ***Sturnus vulgaris***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.3	6.0	7.9	0.4	2.6	0.3	0.0	0.0	2.2
Days observed	1	3	7	1	4	2	0	0	18
	First date: April 21 (2)			Peak date: April 27 (7)			Last date: May 25 (1)		122

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.1
Days observed	0	0	0	0	0	0	0	0	0	1	0	0	1
	First date: September 16 (6)				Peak date: September 16 (6)				Last date: September 16 (6)				6

American Pipit ***Anthus rubescens***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	3.4	93.6	42.6	0.1	0.1	0.0	0.0	17.5
Days observed	0	4	5	5	1	1	0	0	16
	First date: April 25 (2)			Peak date: May 6 (315)			Last date: May 21 (1)		979

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.0	5.1	9.9	19.1	34.4	6.3	0.7	6.3
Days observed	0	0	0	0	0	0	4	5	7	7	4	2	29
	First date: August 25 (9)				Peak date: September 13 (99)				Last date: September 28 (1)				529

Cedar Waxwing ***Bombycilla cedrorum***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	6.4	19.3	93.4	14.9
Days observed	0	0	0	0	0	5	6	6	17
Processed	0	0	0	0	0	0	0	1-0-0	1-0-0
	First date: May 21 (2)			Peak date: June 4 (362)			Last date: June 9 (10)		834

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	9.7	11.6	10.7	16.6	41.6	61.9	82.4	41.7	29.9	19.1	0.6	0.4	27.2
Days observed	7	7	7	7	7	7	7	6	5	6	3	3	72
Processed	2-0-0	4-0-0	0	0	0	0	1-0-0	0	0	0	0	0	7-0-0
	First date: July 12 (9)				Peak date: August 28 (245)				Last date: September 30 (1)				2283

Tennessee Warbler ***Oreothlypis peregrina***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	1.1	11.7	6.1	3.3	2.8
Days observed	0	0	0	0	2	7	7	7	23
Processed	0	0	0	0	0	7-0-2	8-0-0	1-0-3	16-0-5
	First date: May 19 (2)			Peak date: May 22 (19)			Last date: June 10 (2)		156

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	6.3	8.6	121.7	134.9	122.1	10.9	1.6	0.9	0.1	0.0	0.0	0.0	33.9
Days observed	5	6	7	7	7	7	4	3	1	0	0	0	47
Processed	4-0-2	2-0-1	81-0-0	139-0-0	49-0-0	7-0-1	2-0-0	3-0-0	1-0-0	0	0	0	288-0-4
	First date: July 13 (2)			Peak date: August 8 (337)				Last date: September 11 (1)					2849

Orange-crowned Warbler ***Oreothlypis celata***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.9	2.0	1.1	0.0	0.0	0.0	0.5
Days observed	0	0	1	6	4	0	0	0	11
Processed	0	0	2-0-0	1-0-0	0	0	0	0	3-0-0
	First date: May 6 (6)			Peak date: May 6 (6)			Last date: May 17 (1)		28

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.7	12.6	22.1	5.3	1.7	4.0
Days observed	0	0	0	0	0	0	0	3	6	7	6	3	25
Processed	0	0	0	0	0	0	0	9-0-0	15-0-0	44-0-0	11-0-0	2-0-0	81-0-0
	First date: September 2 (1)			Peak date: September 16 (59)				Last date: September 30 (4)					332

Yellow Warbler ***Dendroica petechia***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	3.6	5.7	5.7	1.6	1.1	2.2
Days observed	0	0	0	5	7	6	6	5	29
Processed	0	0	0	1-0-0	0	0	0	0	1-0-0
	First date: May 8 (2)			Peak date: May 21 (22)			Last date: June 9 (1)		124

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	1.6	2.0	23.3	7.4	2.6	1.6	2.3	0.7	0.3	0.4	0.0	0.0	3.5
Days observed	6	4	7	6	5	5	5	3	1	3	0	0	45
Processed	1-0-0	4-0-0	36-0-2	17-0-1	9-0-0	3-0-0	7-0-0	2-0-0	2-0-0	1-0-0	0	0	82-0-3
	First date: July 12 (3)			Peak date: August 1 (42)				Last date: September 17 (1)					295

Chestnut-sided Warbler ***Dendroica pensylvanica***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Days observed	0	0	0	0	0	0	0	1	1
	First date: June 4 (1)			Peak date: June 4 (1)			Last date: June 4 (1)		1

Magnolia Warbler ***Dendroica magnolia***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	2.4	0.9	1.3	0.6
Days observed	0	0	0	0	0	6	4	5	15
Processed	0	0	0	0	0	0	0	1-0-0	1-0-0
	First date: May 21 (1)			Peak date: May 27 (7)			Last date: June 10 (1)		32

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	1.7	1.7	4.7	4.0	0.7	1.0	0.4	0.7	0.3	0.1	0.0	0.0	1.3
Days observed	6	6	6	7	3	5	3	2	2	1	0	0	41
Processed	1-0-0	5-0-0	12-0-1	12-0-1	3-0-0	4-0-0	2-0-0	3-0-0	2-0-0	1-0-0	0	0	45-0-2
	First date: July 12 (1)			Peak date: July 31 (12)				Last date: September 17 (1)					108

Cape May Warbler — *Dendroica tigrina*

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Days observed	0	0	0	0	0	1	0	0	1
	First date: May 21 (1)			Peak date: May 21 (1)			Last date: May 21 (1)		1

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.1	0.7	0.4	0.1	1.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2
Days observed	0	1	4	2	1	2	1	0	0	0	0	0	11
Processed	0	0	3-0-0	2-0-0	1-0-0	6-0-0	1-0-0	0	0	0	0	0	13-0-0
	First date: July 25 (1)			Peak date: August 16 (6)				Last date: August 25 (1)					18

Myrtle Warbler — *Dendroica coronata coronata*

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.1	2.6	277.0	172.6	125.1	21.3	2.7	1.1	75.3
Days observed	1	5	7	7	7	7	6	4	44
Processed	0	0	8-0-0	3-0-0	15-1-3	2-0-0	1-1-1	0-0-1	29-2-5
	First date: April 21 (1)			Peak date: May 4 (889)			Last date: June 8 (1)		4218

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	10.4	24.1	135.1	49.6	90.4	232.3	115.3	354.1	602.1	809.0	71.1	1.1	207.9
Days observed	6	6	7	7	7	7	7	6	7	7	7	2	76
Processed	8-1-0	12-0-0	72-0-0	53-0-0	40-0-0	52-0-0	13-0-0	249-0-0	130-0-0	139-0-2	27-0-0	0	795-1-2
	First date: July 12 (7)			Peak date: September 16 (2495)				Last date: September 28 (1)					17464

Black-throated Green Warbler — *Dendroica virens*

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Days observed	0	0	1	0	0	0	0	0	1
	First date: May 6 (1)			Peak date: May 6 (1)			Last date: May 6 (1)		1

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.1	0.0	0.1	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Days observed	0	1	0	1	1	2	0	0	0	0	0	0	5
Processed	0	1-0-0	0	1-0-0	0	0	0	0	0	0	0	0	2-0-0
	First date: July 23 (1)			Peak date: August 9 (1)				Last date: August 19 (1)					5

Western Palm Warbler — *Dendroica palmarum palmarum*

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.1	1.3	2.9	0.0	0.0	0.0	0.5
Days observed	0	0	1	3	5	0	0	0	9
Processed	0	0	1-0-0	2-0-0	4-0-0	0	0	0	7-0-0
	First date: May 6 (1)			Peak date: May 16 (10)			Last date: May 18 (1)		30

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.1	0.0	1.9	0.9	0.0	1.0	2.4	5.4	2.9	0.0	1.2
Days observed	0	0	1	0	5	2	0	3	5	6	4	0	26
Processed	0	0	1-0-0	0	0	0	0	4-0-0	2-0-0	11-0-0	0	0	18-0-0
	First date: August 1 (1)			Peak date: September 20 (13)				Last date: September 25 (1)					102

Bay-breasted Warbler — *Dendroica castanea*

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.3	1.0	0.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Days observed	0	0	2	4	1	3	0	0	0	0	0	0	10
Processed	0	0	0	4-0-0	0	3-0-0	0	0	0	0	0	0	7-0-0
	First date: July 30 (1)			Peak date: August 5 (2)				Last date: August 22 (1)					13

Blackpoll Warbler ***Dendroica striata***

	APRIL			MAY			JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.1
Days observed	0	0	0	0	1	0	0	0	1
Processed	0	0	0	0	1-0-0	0	0	0	1-0-0
	First date: May 16 (3)			Peak date: May 16 (3)			Last date: May 16 (3)		3

	JULY			AUGUST				SEPTEMBER				
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.1	0.3	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.1
Days observed	0	1	2	1	1	0	0	1	0	1	0	0	7
Processed	0	1-0-0	0	0	1-0-0	0	0	0	0	1-0-0	0	0	3-0-0
	First date: July 19 (1)			Peak date: July 30 (1)				Last date: September 16 (1)					7

Black-and-white Warbler ***Mniotilta varia***

	APRIL			MAY			JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.1	3.7	4.7	5.3	3.9	3.6	2.7
Days observed	0	0	1	7	7	7	7	7	36
Processed	0	0	0	3-1-0	6-0-0	6-1-0	3-0-1	0-0-1	18-2-2
	First date: May 6 (1)			Peak date: May 22 (7)			Last date: June 10 (4)		149

	JULY			AUGUST				SEPTEMBER				
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	4.7	3.3	15.1	9.9	6.9	2.9	0.4	0.0	0.0	0.0	0.0	0.0	3.6
Days observed	6	6	7	7	6	6	2	0	0	0	0	0	40
Processed	10-0-1	7-0-0	29-0-1	22-0-0	13-0-0	6-0-0	0	0	0	0	0	0	87-0-2
	First date: July 12 (4)			Peak date: July 27 (24)				Last date: August 28 (1)					302

American Redstart ***Setophaga ruticilla***

	APRIL			MAY			JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	4.9	37.3	7.0	5.6	6.8
Days observed	0	0	0	0	5	7	7	7	26
Processed	0	0	0	0	3-0-0	10-0-0	5-1-1	6-1-1	24-2-2
	First date: May 16 (2)			Peak date: May 27 (117)			Last date: June 10 (3)		383

	JULY			AUGUST				SEPTEMBER				
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	3.7	6.1	21.3	15.3	11.7	6.0	3.3	0.3	0.6	1.4	0.3	0.0	5.8
Days observed	6	6	7	7	7	7	6	2	2	4	1	0	55
Processed	6-1-2	9-0-0	45-0-2	42-0-1	23-0-0	16-0-0	9-0-0	1-0-0	1-0-0	8-0-0	1-0-0	0	161-1-5
	First date: July 12 (3)			Peak date: August 1 (56)				Last date: September 23 (2)					490

Ovenbird ***Seiurus aurocapilla***

	APRIL			MAY			JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.9	3.6	4.3	4.1	3.7	2.1
Days observed	0	0	0	3	5	7	7	7	29
Processed	0	0	0	2-0-0	6-0-0	6-1-1	2-0-0	2-0-1	18-1-2
	First date: May 10 (2)			Peak date: May 17 (11)			Last date: June 10 (4)		116

	JULY			AUGUST				SEPTEMBER				
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	4.0	3.7	9.1	4.9	5.0	3.9	2.4	1.1	0.3	0.1	0.0	0.0	2.9
Days observed	7	7	7	6	6	6	6	3	1	1	0	0	50
Processed	14-0-6	12-0-3	39-0-13	21-0-6	24-0-4	15-0-4	16-0-1	6-0-0	2-0-0	1-0-0	0	0	150-0-37
	First date: July 12 (1)			Peak date: August 1 (15)				Last date: September 17 (1)					242

Northern Waterthrush ***Parkesia noveboracensis***

	APRIL			MAY			JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.1	0.6	1.0	0.9	0.0	0.3
Days observed	0	0	0	1	1	6	6	0	14
Processed	0	0	0	1-0-0	0	1-0-0	0	0	2-0-0
	First date: May 8 (1)			Peak date: May 17 (4)			Last date: June 2 (1)		18

Northern Waterthrush *Parkesia noveboracensis*

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.4	0.6	0.1	0.6	0.7	0.1	0.4	0.6	0.0	0.1	0.0	0.0	0.3
Days observed	3	3	1	3	3	1	3	3	0	1	0	0	21
Processed	2-0-0	4-0-0	1-0-0	4-0-0	3-0-0	1-0-0	2-0-1	3-0-0	0	1-0-0	0	0	21-0-1
	First date: July 13 (1)				Peak date: August 9 (2)				Last date: September 17 (1)				26

Connecticut Warbler *Oporornis agilis*

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Days observed	0	0	0	0	0	0	1	0	1
Processed	0	0	0	0	0	0	1-0-0	0	1-0-0
	First date: May 30 (1)			Peak date: May 30 (1)			Last date: May 30 (1)		1

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Days observed	1	0	0	0	0	0	0	0	0	0	0	0	1
	First date: July 16 (1)				Peak date: July 26 (0)				Last date: July 16 (1)				1

Mourning Warbler *Oporornis philadelphia*

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	1.7	5.0	3.7	1.3
Days observed	0	0	0	0	0	4	7	7	18
Processed	0	0	0	0	0	6-0-0	15-3-0	7-1-2	28-4-2
	First date: May 23 (2)			Peak date: May 30 (7)			Last date: June 10 (2)		73

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	1.6	1.0	7.1	7.3	4.7	1.4	1.7	0.7	0.1	0.0	0.0	0.0	2.1
Days observed	5	4	7	7	7	4	5	3	1	0	0	0	43
Processed	5-0-2	4-0-1	36-0-3	38-0-3	19-0-1	9-0-0	7-0-1	5-0-0	1-0-0	0	0	0	124-0-11
	First date: July 12 (3)				Peak date: August 3 (14)				Last date: September 6 (1)				180

Common Yellowthroat *Geothlypis trichas*

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.3	1.3	2.9	1.4	0.7
Days observed	0	0	0	0	2	5	7	6	20
Processed	0	0	0	0	0	3-0-0	9-0-0	2-0-0	14-0-0
	First date: May 18 (1)			Peak date: May 31 (4)			Last date: June 10 (1)		41

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	2.3	2.0	4.4	2.7	1.6	3.7	2.9	2.1	1.1	1.9	0.3	0.0	2.1
Days observed	6	7	6	5	5	6	6	3	4	6	1	0	55
Processed	2-0-0	2-0-0	18-0-3	9-0-1	5-0-2	12-0-0	7-0-0	5-0-1	3-0-0	6-0-1	0	0	69-0-8
	First date: July 12 (2)				Peak date: August 22 (12)				Last date: September 23 (2)				175

Wilson's Warbler *Wilsonia pusilla*

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.1	0.0	1.0	0.0	0.0	0.1
Days observed	0	0	0	1	0	2	0	0	3
	First date: May 13 (1)			Peak date: May 27 (4)			Last date: May 27 (4)		8

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.3	0.3	0.4	0.0	3.1	1.3	0.1	0.6	0.1	0.0	0.5
Days observed	0	0	1	2	3	0	5	3	1	4	1	0	20
Processed	0	0	1-0-0	1-0-0	1-0-0	0	11-0-0	4-0-0	1-0-0	2-0-0	1-0-0	0	22-0-0
	First date: July 31 (2)				Peak date: August 23 (7)				Last date: September 20 (1)				44

Canada Warbler ***Wilsonia canadensis***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	5.9	7.3	6.1	2.4
Days observed	0	0	0	0	0	7	7	7	21
Processed	0	0	0	0	0	7-1-0	15-1-1	4-2-1	26-4-2
	First date: May 21 (1)			Peak date: May 27 (13)			Last date: June 10 (5)		135

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	5.0	7.9	22.4	13.7	8.6	2.1	0.4	0.0	0.0	0.0	0.0	0.0	5.0
Days observed	6	7	7	7	7	5	2	0	0	0	0	0	41
Processed	9-0-5	22-0-0	71-0-4	37-2-2	17-1-6	6-1-4	1-0-1	0	0	0	0	0	163-4-22
	First date: July 12 (4)				Peak date: July 31 (33)				Last date: August 24 (2)				421

Western Tanager ***Piranga ludoviciana***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.7	0.7	2.3	1.0	0.6	0.6	0.7
Days observed	0	0	2	4	6	5	4	4	25
Processed	0	0	0	0	0	0	0	0	0
	First date: May 3 (1)			Peak date: May 18 (8)			Last date: June 9 (1)		41

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.4	0.6	8.6	4.3	4.3	2.9	1.0	0.1	0.0	0.0	0.0	0.0	1.8
Days observed	2	4	7	7	6	6	4	1	0	0	0	0	37
Processed	0	0	8-0-0	1-0-0	2-0-0	1-0-0	0	0	0	0	0	0	12-0-0
	First date: July 15 (1)				Peak date: July 31 (19)				Last date: September 4 (1)				155

American Tree Sparrow ***Spizella arborea***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	4.1	4.6	3.7	0.4	0.0	0.0	0.0	0.0	1.6
Days observed	4	6	4	2	0	0	0	0	16
Processed	1-0-0	4-0-0	7-0-0	0	0	0	0	0	12-0-0
	First date: April 19 (9)			Peak date: April 21 (18)			Last date: May 8 (1)		90

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.7	0.1	0.1
Days observed	0	0	0	0	0	0	0	0	0	1	4	1	6
Processed	0	0	0	0	0	0	0	0	0	1-0-0	3-0-0	0	4-0-0
	First date: September 17 (1)				Peak date: September 26 (2)				Last date: September 27 (1)				7

Chipping Sparrow ***Spizella passerina***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.4	5.7	4.3	5.1	0.6	1.0	2.1
Days observed	0	0	1	4	7	4	3	7	26
Processed	0	0	0	1-0-0	2-0-0	0	1-0-0	0	4-0-0
	First date: May 6 (3)			Peak date: May 22 (26)			Last date: June 10 (1)		120

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.1	0.1	0.4	0.6	0.0	0.3	4.7	0.6	0.4	0.1	0.0	0.0	0.6
Days observed	1	1	3	2	0	2	4	2	1	1	0	0	17
Processed	0	1-0-0	0	0	0	1-0-0	2-0-0	1-0-0	0	0	0	0	5-0-0
	First date: July 16 (1)				Peak date: August 28 (24)				Last date: September 13 (1)				52

Clay-colored Sparrow ***Spizella pallida***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.1	6.3	6.3	1.7	0.6	1.9
Days observed	0	0	0	1	7	7	5	3	23
Processed	0	0	0	1-0-0	7-0-0	11-0-0	2-0-0	0	21-0-0
	First date: May 13 (1)			Peak date: May 22 (15)			Last date: June 9 (2)		105

Clay-colored Sparrow ***Spizella pallida***

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.1	0.4	2.4	2.1	0.4	0.1	0.3	0.1	0.0	0.9	0.4	0.0	0.6
Days observed	1	1	6	6	1	1	1	1	0	4	2	0	24
Processed	1-0-0	1-0-0	2-0-0	4-0-0	2-0-0	1-0-0	0	0	0	3-0-0	1-0-0	0	15-0-0
	First date: July 16 (1)				Peak date: August 5 (8)				Last date: September 21 (1)				52

Vesper Sparrow ***Pooecetes gramineus***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.9	0.1	0.0	0.0	0.0	0.0	0.1
Days observed	0	0	2	1	0	0	0	0	3
	First date: May 5 (3)			Peak date: May 6 (3)			Last date: May 8 (1)		7

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Days observed	0	0	0	0	0	0	0	0	0	1	0	0	1
	First date: September 15 (1)				Peak date: September 15 (1)				Last date: September 15 (1)				1

Savannah Sparrow ***Passerculus sandwichensis***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.3	0.7	3.6	1.3	0.6	0.0	0.1	0.0	0.8
Days observed	2	2	3	5	3	0	1	0	16
Processed	1-0-0	2-0-0	4-0-0	1-0-0	0	0	1-0-0	0	9-0-0
	First date: April 20 (1)			Peak date: May 6 (18)			Last date: May 30 (1)		46

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.1	0.0	0.0	0.0	0.0	0.0	1.3	1.3	1.3	2.3	0.3	0.0	0.5
Days observed	1	0	0	0	0	0	4	4	4	6	1	0	20
Processed	1-0-0	0	0	0	0	0	5-0-0	3-0-0	4-0-0	4-0-0	0	0	17-0-0
	First date: July 17 (1)				Peak date: August 31 (6)				Last date: September 26 (2)				46

Le Conte's Sparrow ***Ammodramus leconteii***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
Days observed	0	0	0	1	1	0	0	0	2
Processed	0	0	0	0	1-0-0	0	0	0	1-0-0
	First date: May 13 (1)			Peak date: May 13 (1)			Last date: May 14 (1)		2

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Days observed	0	0	0	0	0	0	2	0	0	0	0	0	2
Processed	0	0	0	0	0	0	1-0-0	0	0	0	0	0	1-0-0
	First date: August 23 (1)				Peak date: August 23 (1)				Last date: August 24 (1)				2

Fox Sparrow ***Passerella iliaca***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Days observed	0	0	1	0	0	0	0	0	1
	First date: May 4 (1)			Peak date: May 4 (1)			Last date: May 4 (1)		1

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0
Days observed	0	0	0	0	0	0	0	0	1	1	1	0	3
Processed	0	0	0	0	0	0	0	0	1-0-0	1-0-0	1-0-0	0	3-0-0
	First date: September 8 (1)				Peak date: September 16 (1)				Last date: September 20 (1)				3

Song Sparrow ***Melospiza melodia***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	4.1	5.7	4.4	3.4	3.6	3.9	3.1
Days observed	0	0	7	7	7	7	7	7	42
Processed	0	0	4-0-1	3-0-4	1-0-1	0-0-1	0	1-0-0	9-0-7
	First date: April 30 (1)		Peak date: May 6 (8)			Last date: June 10 (2)			176

	JULY			AUGUST				SEPTEMBER				
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	6.7	7.6	7.4	3.7	4.9	1.4	1.9	0.1	0.1	0.0	0.0	0.0	2.8
Days observed	7	7	7	7	7	6	6	1	1	0	0	0	49
Processed	10-0-6	8-0-4	13-0-4	2-0-3	3-0-3	0	0	0	0	0	0	0	36-0-20
	First date: July 12 (6)			Peak date: July 23 (15)				Last date: September 7 (1)					237

Lincoln's Sparrow ***Melospiza lincolnii***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.9	2.1	6.0	5.4	3.9	3.3	2.7
Days observed	0	0	2	5	7	7	7	7	35
Processed	0	0	2-0-0	2-0-0	10-0-1	4-0-9	1-0-2	1-0-2	20-0-14
	First date: May 5 (1)		Peak date: May 23 (9)			Last date: June 10 (1)			151

	JULY			AUGUST				SEPTEMBER				
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	4.9	4.4	8.3	4.1	5.1	2.9	5.7	3.0	2.4	4.6	2.9	0.0	4.0
Days observed	7	7	7	7	7	7	7	7	6	7	4	0	73
Processed	4-0-4	9-0-1	24-0-3	6-0-8	6-0-8	5-0-2	14-0-7	9-0-2	7-0-1	3-0-0	6-0-0	0	93-0-36
	First date: July 12 (3)			Peak date: July 26 (17)				Last date: September 25 (1)					338

Swamp Sparrow ***Melospiza georgiana***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.1	0.6	0.0	0.1	0.0	0.0	0.1
Days observed	0	0	1	3	0	1	0	0	5
Processed	0	0	0	1-0-0	0	1-0-0	0	0	2-0-0
	First date: May 6 (1)		Peak date: May 7 (2)			Last date: May 23 (1)			6

	JULY			AUGUST				SEPTEMBER				
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.1	0.3	0.3	0.3	0.6	0.4	0.4	0.0	0.0	0.0	0.6	0.1	0.3
Days observed	1	2	2	2	2	3	3	0	0	0	1	1	17
Processed	1-0-0	2-0-0	2-0-0	2-0-0	4-0-0	2-0-0	2-0-0	0	0	0	2-0-0	1-0-0	18-0-0
	First date: July 16 (1)			Peak date: September 20 (4)				Last date: September 27 (1)					22

White-throated Sparrow ***Zonotrichia albicollis***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.3	13.1	22.9	15.6	9.1	7.9	8.6
Days observed	0	0	1	7	7	7	7	7	36
Processed	0	0	0	15-0-0	50-2-4	21-2-10	3-1-1	0	89-5-15
	First date: May 6 (2)		Peak date: May 17 (45)			Last date: June 10 (7)			482

	JULY			AUGUST				SEPTEMBER				
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	6.7	13.4	45.0	19.9	18.6	14.6	20.7	14.4	16.6	8.9	4.1	0.3	15.3
Days observed	7	7	7	7	7	7	7	7	7	7	6	2	78
Processed	1-1-4	29-0-4	147-0-16	28-0-17	15-0-7	29-0-17	37-0-15	20-0-12	32-0-20	6-0-5	6-0-0	0	350-1-117
	First date: July 12 (7)			Peak date: July 31 (80)				Last date: September 30 (1)					1282

Harris's Sparrow ***Zonotrichia querula***

	JULY			AUGUST				SEPTEMBER				
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Days observed	0	0	0	0	0	0	0	0	0	0	1	1	2
Processed	0	0	0	0	0	0	0	0	0	0	0	1-0-0	1-0-0
	First date: September 21 (1)			Peak date: September 21 (1)				Last date: September 28 (1)					2

White-crowned Sparrow (Gambell's) ***Zonotrichia leucophrys***

	APRIL			MAY			JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	2.0	0.0	12.4	1.0	0.3	0.0	0.0	0.0	2.0
Days observed	1	0	6	4	2	0	0	0	13
Processed	0	0	7-0-0	2-0-0	1-0-0	0	0	0	10-0-0
	First date: April 22 (14)			Peak date: May 6 (75)			Last date: May 15 (1)		110

	JULY			AUGUST				SEPTEMBER				
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	1.4	2.6	2.0	0.6	0.6
Days observed	0	0	0	0	0	0	3	1	6	6	7	3	26
Processed	0	0	0	0	0	0	0	3-0-0	6-0-0	4-0-0	2-0-0	1-0-0	16-0-0
	First date: August 23 (1)				Peak date: September 13 (7)				Last date: September 28 (2)				52

Slate-colored Junco ***Junco hyemalis hyemalis***

	APRIL			MAY			JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	3.9	12.6	90.4	2.4	0.0	0.0	0.0	0.0	13.7
Days observed	5	5	7	4	0	0	0	0	21
Processed	3-0-0	13-0-0	32-0-0	1-0-0	0	0	0	0	49-0-0
	First date: April 17 (1)			Peak date: May 4 (293)			Last date: May 10 (1)		765

	JULY			AUGUST				SEPTEMBER				
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	5.1	4.3	0.8
Days observed	0	0	0	0	0	0	0	0	0	1	6	3	10
Processed	0	0	0	0	0	0	0	0	0	0	5-0-0	1-0-0	6-0-0
	First date: September 19 (4)				Peak date: September 30 (18)				Last date: September 30 (18)				70

Oregon Junco ***Junco hyemalis oreganus***

	APRIL			MAY			JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Days observed	0	0	1	0	0	0	0	0	1
Processed	0	0	2-0-0	0	0	0	0	0	2-0-0
	First date: May 3 (2)			Peak date: May 3 (2)			Last date: May 3 (2)		2

Lapland Longspur ***Calcarius lapponicus***

	APRIL			MAY			JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.6	55.6	2.7	0.0	0.0	0.0	0.0	7.4
Days observed	0	2	3	3	0	0	0	0	8
	First date: April 25 (3)			Peak date: May 6 (325)			Last date: May 13 (2)		412

	JULY			AUGUST				SEPTEMBER				
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	3.1	14.7	0.1	0.0	1.5
Days observed	0	0	0	0	0	0	2	1	4	5	1	0	13
	First date: August 23 (1)				Peak date: September 13 (67)				Last date: September 25 (1)				130

Rose-breasted Grosbeak ***Pheucticus ludovicianus***

	APRIL			MAY			JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	7.0	3.3	1.1	0.3	1.5
Days observed	0	0	0	0	7	7	7	2	23
	First date: May 14 (2)			Peak date: May 17 (13)			Last date: June 7 (1)		82

	JULY			AUGUST				SEPTEMBER				
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.9	11.0	4.6	4.7	1.0	0.9	0.3	0.1	0.0	0.0	0.0	2.0
Days observed	0	3	7	7	6	4	5	2	1	0	0	0	35
Processed	0	1-0-0	14-0-0	2-0-0	1-0-0	1-0-0	1-0-0	0	0	0	0	0	20-0-0
	First date: July 23 (1)				Peak date: August 1 (28)				Last date: September 10 (1)				164

Red-winged Blackbird ***Agelaius phoeniceus***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.1	194.6	36.0	10.4	4.3	2.3	0.6	31.0
Days observed	0	1	7	7	7	6	6	2	36
	First date: April 27 (1)		Peak date: May 5 (577)			Last date: June 7 (2)			1738

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.4	1.4	11.1	0.1	2.1	0.0	0.3	0.0	0.0	0.0	0.0	0.0	1.3
Days observed	2	3	6	1	2	0	2	0	0	0	0	0	16
	First date: July 17 (1)			Peak date: July 31 (26)				Last date: August 28 (1)					109

Yellow-headed Blackbird ***Xanthocephalus xanthocephalus***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	5.1	0.3	0.0	0.0	0.0	0.7
Days observed	0	0	0	1	1	0	0	0	2
	First date: May 12 (36)		Peak date: May 12 (36)			Last date: May 14 (2)			38

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Days observed	0	1	0	0	0	0	0	1	0	0	0	0	2
	First date: July 25 (1)			Peak date: July 25 (1)				Last date: August 31 (1)					2

Rusty Blackbird ***Euphagus carolinus***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	4.4	0.1	0.0	0.0	0.0	0.0	0.6
Days observed	0	0	3	1	0	0	0	0	4
	First date: May 1 (4)		Peak date: May 3 (17)			Last date: May 9 (1)			32

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.1
Days observed	0	1	0	0	0	0	0	0	1	0	0	0	2

Brewer's Blackbird ***Euphagus cyanocephalus***

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Days observed	0	0	1	0	0	0	0	0	0	0	0	0	1
	First date: July 30 (11)			Peak date: July 30 (11)				Last date: July 30 (11)					11

Common Grackle ***Quiscalus quiscula***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	45.9	9.1	2.3	1.0	0.1	0.1	7.3
Days observed	0	0	6	7	6	3	1	1	24
	First date: May 1 (11)		Peak date: May 2 (123)			Last date: June 7 (1)			410

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.7	0.0	1.1	5.9	0.7	0.0	1.4	4.3	2.7	0.0	1.4
Days observed	0	0	2	0	2	3	1	0	1	5	4	0	18
	First date: July 26 (4)			Peak date: August 16 (32)				Last date: September 25 (8)					118

Brown-headed Cowbird ***Molothrus ater***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	8.1	18.0	3.6	4.1	0.9	0.0	4.3
Days observed	0	0	3	7	7	6	5	0	28
	First date: May 4 (38)		Peak date: May 12 (55)			Last date: June 1 (1)			243

Brown-headed Cowbird *Molothrus ater*

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Days observed	1	0	0	0	0	0	0	0	0	0	0	0	1
	First date: July 14 (1)				Peak date: July 14 (1)				Last date: July 14 (1)				1

Baltimore Oriole *Icterus galbula*

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.3	4.0	0.0	0.0	0.5
Days observed	0	0	0	0	2	6	0	0	8
	First date: May 19 (1)			Peak date: May 22 (11)			Last date: May 27 (3)		30

Purple Finch *Carpodacus purpureus*

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.9	16.4	6.9	2.0	0.0	0.0	0.0	3.3
Days observed	0	4	6	7	4	0	0	0	21
	First date: April 26 (1)			Peak date: May 6 (64)			Last date: May 18 (1)		183

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.1	1.1	8.1	5.3	7.0	7.4	2.9	1.6	0.4	0.4	0.0	0.0	2.9
Days observed	1	3	7	6	6	6	5	3	1	2	0	0	40
Processed	0	0	0	2-0-0	0	1-0-0	3-0-0	0	0	0	0	0	6-0-0
	First date: July 17 (1)				Peak date: August 16 (19)				Last date: September 14 (1)				241

Red Crossbill *Loxia curvirostra*

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Days observed	0	0	0	0	0	1	0	0	0	0	0	0	1
	First date: August 16 (3)				Peak date: August 16 (3)				Last date: August 16 (3)				3

White-winged Crossbill *Loxia leucoptera*

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	20.3	7.6	5.1	6.9	1.9	3.1	0.3	1.1	0.0	3.9	0.3	0.4	4.2
Days observed	5	7	7	4	4	4	1	2	0	2	1	1	38

Common Redpoll *Acanthis flammea*

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	194.1	535.7	35.3	0.0	0.0	0.0	0.0	0.0	95.6
Days observed	6	7	5	0	0	0	0	0	18
Processed	0	4-0-0	0	0	0	0	0	0	4-0-0
	First date: April 16 (31)			Peak date: April 24 (2297)			Last date: May 4 (36)		5356

Pine Siskin *Spinus pinus*

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.6	4.0	8.0	22.0	13.0	6.0	6.7
Days observed	0	0	1	4	6	7	7	6	31
	First date: May 5 (4)			Peak date: May 25 (51)			Last date: June 9 (19)		375

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	10.6	12.4	11.3	13.1	10.6	20.4	14.4	38.1	12.3	62.4	74.4	16.9	24.8
Days observed	6	7	7	6	6	6	6	5	5	7	7	4	72
Processed	0	0	1-0-0	0	0	0	0	2-0-0	0	0	0	0	3-0-0
	First date: July 12 (13)				Peak date: September 26 (207)				Last date: September 30 (4)				2079

American Goldfinch ***Spinus tristis***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	0.0	0.0	0.0	0.0	0.4	2.3	1.1	0.5
Days observed	0	0	0	0	0	2	7	4	13
	First date: May 21 (1)			Peak date: May 30 (5)			Last date: June 9 (3)		27

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.1	0.0	0.1
Days observed	0	0	1	0	0	0	0	2	0	0	1	0	4
	First date: July 27 (1)				Peak date: September 4 (2)				Last date: September 20 (1)				5

Evening Grosbeak ***Coccothraustes vespertinus***

	APRIL		MAY				JUNE		
S	16-22 (1)	23-29 (2)	30-6 (3)	7-13 (4)	14-20 (5)	21-27 (6)	28-3 (7)	4-10 (8)	TOTAL
Avg. per day	0.0	1.6	3.0	0.6	0.6	0.4	0.4	0.1	0.8
Days observed	0	2	5	3	2	3	2	1	18
	First date: April 27 (7)			Peak date: May 5 (6)			Last date: June 8 (1)		47

	JULY			AUGUST				SEPTEMBER					
F	12-18 (1)	19-25 (2)	26-1 (3)	2-8 (4)	9-15 (5)	16-22 (6)	23-29 (7)	30-5 (8)	6-12 (9)	13-19 (10)	20-26 (11)	27-30 (12)	TOTAL
Avg. per day	0.1	0.4	0.6	0.0	1.3	1.4	0.6	0.4	1.6	0.7	0.0	0.0	0.6
Days observed	1	2	4	0	4	4	3	2	4	2	0	0	26
	First date: July 13 (1)				Peak date: September 10 (4)				Last date: September 14 (2)				50

Appendix II. 2018 & To-date Banding Totals

The following is an alphabetical listing by common name of all species with banding records at the LSLBO, summarizing 2018 projects and grand totals since trials started in 1993.

	Migration			Other	2018	Annual	Grand Total
Species	Spring	Fall	MAPS	Projects	Total	Average	(1993-2018)
Alder Flycatcher	45	62			107	84.4	2194
American Goldfinch					0	0.1	2
American Kestrel					0	0.1	2
American Pipit					0	0.7	18
American Redstart	24	161	49		234	292.2	7598
American Robin*	23*	8	2	1	34	21.5	558
American Three-toed Woodpecker*	1*		1		2*	0.1	3
American Tree Sparrow	12	4			16	25.7	669
Audubon's Warbler					0	0.1	2
Baltimore Oriole					0	0.2	5
Barred Owl					0	0.2	4
Bay-breasted Warbler		7	1		8	5.6	145
Belted Kingfisher					0	0.0	1
Black-and-white Warbler	18	87	6		111	87.3	2269
Black-billed Magpie					0	0.1	2
Blackburnian Warbler					0	0.1	2
Black-capped Chickadee		19	4		23	44.0	1143
Blackpoll Warbler	1	3			4	13.9	362
Black-throated Green Warbler		2	1		3	5.1	132
Blue Jay		1			1	2.5	64
Blue-headed Vireo		2			2	3.4	88
Boreal Chickadee					0	1.3	33
Boreal Owl				3	3	0.5	12
Brown Creeper		3			3	2.6	68
Brown Thrasher**	1				1	0.0	1
Brown-headed Cowbird					0	0.3	9
Canada Warbler*	26	163*	33		222*	129.7	3372
Cape May Warbler		13	1		14	6.5	168
Cedar Waxwing	1	7	3		11	7.7	199
Chestnut-sided Warbler					0	0.8	22
Chipping Sparrow	4	5			9	79.4	2064
Clay-colored Sparrow	21	15			36	41.5	1079
Common Grackle					0	0.2	6
Common Redpoll**	4				4	0.2	4
Common Yellowthroat*	14	69*	1		84*	33.2	864
Connecticut Warbler	1				1	1.1	29

Species	Migration		MAPS	Other Projects	2018 Total	Annual Average	Grand Total (1993-2018)
	Spring	Fall					
Cooper's Hawk					0	0.2	4
Downy Woodpecker		2			2	3.8	98
Eastern Kingbird					0	0.0	1
Eastern Phoebe	3	2			5	6.9	179
Evening Grosbeak					0	0.1	2
Fox Sparrow		3			3	3.3	86
Golden-crowned Kinglet		10			10	3.8	99
Gray Catbird	1				1	0.3	7
Gray Jay					0	0.1	3
Gray-cheeked Thrush*	5	17*			22	9.3	243
Hairy Woodpecker	1	4	1		6	3.4	89
Harris's Sparrow		1			1	0.3	8
Hermit Thrush	8	17	1		26	24.9	648
Hoary Redpoll					0	0.0	1
House Wren	2	1			3	1.6	42
Lapland Longspur					0	0.2	5
Lazuli Bunting					0	0.0	1
Le Conte's Sparrow	1	1			2	0.3	9
Least Flycatcher	14	35	2		51	88.4	2298
Lincoln's Sparrow*	20	93*	18		131*	46.6	1211
Long-eared Owl					0	0.0	1
MacGillivray's Warbler					0	0.1	2
Magnolia Warbler	1	45	10		56	40.7	1057
Marsh Wren					0	0.1	3
Mourning Warbler*	28	124*	44*		196*	63.8	1658
Myrtle Warbler	29	795	15		839	527.2	13708
Nashville Warbler					0	0.3	9
Northern Goshawk					0	0.0	1
Northern Mockingbird					0	0.0	1
Northern Pygmy-Owl					0	0.1	2
Northern Saw-whet Owl				186	186	62.3	1620
Northern Shrike					0	0.1	2
Northern Waterthrush	2	21			23	31.8	827
Olive-sided Flycatcher					0	0.1	2
Orange-crowned Warbler	3	81			84	57.0	1482
Oregon Junco	2				2	0.7	17
Ovenbird	18	150	20		188	178.8	4650
Philadelphia Vireo		9			9	7.6	198
Pileated Woodpecker		1			1	0.4	11
Pine Siskin		3			3	6.5	169
Purple Finch		6			6	4.2	109

Species	Migration		MAPS	Other Projects	2018 Total	Annual Average	Grand Total (1993-2018)
	Spring	Fall					
Red-breasted Nuthatch		6			6	5.4	141
Red-eyed Vireo	6	27	7		40	33.2	863
Red-winged Blackbird					0	0.3	8
Rose-breasted Grosbeak		20			20	13.7	356
Ruby-crowned Kinglet	5	9			14	16.8	436
Savannah Sparrow*	9	17*			26*	9.4	245
Sharp-shinned Hawk	9	34	2		45	27.7	720
Slate-colored Junco	49	6			55	74.5	1938
Song Sparrow*	9	36*			45*	16.0	417
Swainson's Thrush*	50	362*	22		434	255.0	6630
Swamp Sparrow	2	18	1		21	9.8	255
Tennessee Warbler	16	288	27		331	229.6	5970
Townsend's Solitaire		1			1	0.2	4
Varied Thrush					0	0.2	6
Veery					0	0.3	8
Vesper Sparrow					0	0.1	3
Warbling Vireo		2			2	2.8	72
Western Palm Warbler	7	18			25	12.2	316
Western Tanager		12	1		13	9.3	241
Western Wood-Pewee					0	0.9	23
White-breasted Nuthatch					0	0.4	11
White-crowned Sparrow (Gambell's)	10	16			26	21.1	548
White-throated Sparrow*	89	350*	93		532*	156.7	4075
White-winged Crossbill					0	0.0	1
Wilson's Warbler		22			22	22.8	594
Winter Wren*	1	3*	3		7	2.7	71
Yellow Warbler	1	82	10		93	145.2	3776
Yellow-bellied Flycatcher	2	3			5	3.2	82
Yellow-bellied Sapsucker	2		1		3	8.5	220
Yellow-shafted Flicker	1	3			4	1.8	46
Total number of birds banded	**602**	**3387**	**380**	**190**	**4559**	**3147.4**	**81832**
Total number of species banded	**48**	**62**	**29**	**3**	**71**	**61.7**	**107**

* Record breaker: the most individuals banded in a year/season

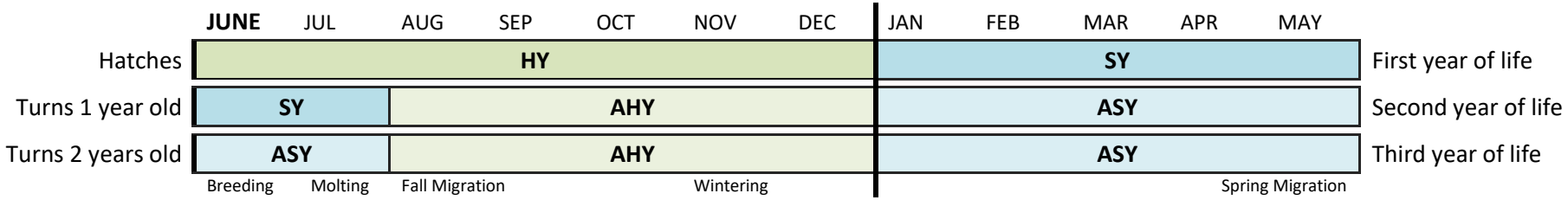
** New species for the

Appendix III. Banding Age Codes

The LSLBO uses age codes that are linked to the calendar year. This means that come January 1st, the age code given to all birds changes despite the bird itself not changing at all over the night of December 31st. These codes are:

HY	Hatching Year	Hatched during the calendar year the bird was banded.
AHY	After Hatching Year	Hatched before the calendar year of banding, but exact year of hatching unknown.
SY	Second Year	Hatched the calendar year before the year of banding. For example, a bird hatched in June 2017 and banded in March 2018 is a SY (1st calendar year = 2017, 2nd = 2018), but is only 9 months old.
ASY	After Second Year	Hatched before the calendar year of banding, but exact year of hatching unknown. In other words, a bird that did not hatch in the previous calendar year, but it is unknown what year it did hatch in.
TY	Third Year	Hatched the calendar year two years before the year of banding. Now in its third calendar year of life (1st calendar year = 2016, 2nd = 2017, 3rd = 2018).
ATY	After Third Year	Hatched prior to two years before the year of banding, now in *at least* its fourth calendar year of life, but exact age unknown.

Most songbird species molt all of the feathers on their body after they have finished breeding, and we can no longer see any juvenile feathers that would indicate a younger bird. We can now only say that said bird is an adult, but we don't know exactly how old it is, unless it has been banded previously. In this case, we use the following age codes:



For other species that have more complex molting strategies, like owls and woodpeckers, we can sometimes see more than two generations of feathers. This often allows us to use the following age codes: