



McGill Bird Observatory
Five-Year Report #1:
2005 – 2009

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Cover photo:

Yellow Warbler banded at McGill Bird Observatory (photo by Marcel Gahbauer)

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1 Executive Summary

McGill Bird Observatory (MBO) was established as a pilot migration monitoring project in 2004 at McGill University's Stoneycroft Wildlife Area in Ste-Anne-de-Bellevue, Quebec. Following a successful trial in fall 2004, plans were made over winter to commit to standardized migration monitoring during both spring and fall, starting in 2005. The primary research objective is to collect data that can be used to contribute to the understanding of bird movements and population trends, in collaboration with the Canadian Migration Monitoring Network. MBO also delivers a variety of educational programs, ranging from training in field techniques to public presentations and development of identification resources. This report summarizes results from the first five years of standardized operation at MBO, 2005-2009.

The Spring Migration Monitoring Program (SMMP) covers the ten-week period from March 28 to June 5. Between 134 and 148 species have been observed annually, with a cumulative total of 176. Over five years, 3757 birds of 90 species have been banded in spring, with the annual total ranging from 650 to 828 individuals of 60 to 66 species. The top species banded in spring are Red-winged Blackbird, Ruby-crowned Kinglet, American Goldfinch, Yellow Warbler, and Yellow-rumped Warbler. Both species richness and abundance tend to peak in the third week of May.

Summer at MBO is defined as June 6 to July 31. From 2005 to 2008, summer operations were opportunistic and did not follow a fixed protocol; beginning in 2009 the internationally recognized Monitoring Avian Productivity and Survivorship (MAPS) program was adopted as the basis for summer activities. Between 51 and 79 species have been observed annually, with a cumulative total of 94. Over five years, 266 birds of 28 species have been banded, with over half of these in 2009 following the implementation of the MAPS protocol.

The Fall Migration Monitoring Program (FMMP) covers the thirteen-week period from August 1 to October 30. Between 134 and 151 species have been observed annually, with a cumulative total of 180. Over five years, 17861 birds of 93 species have been banded in fall, with the annual total ranging between 2876 and 3390, except for an unusually high count of 5101 in 2008. The top species banded in fall are Yellow-rumped Warbler, Ruby-crowned Kinglet, White-throated Sparrow, American Robin, Song Sparrow, and Magnolia Warbler. Species richness on average hovers between 35 and 45 species present daily from early August to early October, then declines to below 30 species by the end of the season. Abundance is fairly steady throughout the first half of the season, then spikes sharply between late September and mid-October, and tapers off toward the end of October.

Winter at MBO is defined as October 31 to March 27. The winter program does not have a fixed protocol, and results are highly variable in relation to weather and volunteer availability. Between 35 and 51 species have been observed annually, with a cumulative total of 71. No banding occurred in winter 2008; over the other four years 707 birds of 21 species were banded, with the annual total ranging from 32 to 316 individuals of 6 to 18 species. Several species, including Mourning Dove and House Finch, are banded at MBO overwhelmingly during winter.

Owl migration has been actively monitored at MBO during four fall seasons. Over this period, 96 Northern Saw-whet Owls have been banded, and three foreign-banded owls have been recovered; two of the owls banded at MBO have subsequently been recaptured elsewhere. This success rate is much higher than for passerines, which to date have yielded only 13 foreign recoveries of birds banded at MBO, and 5 captures of individuals banded elsewhere.

Appendices to the report provide detailed summaries of the seasonal distribution of the 199 species observed and 22687 individuals banded at MBO during the 2005-2009 period.

Much of the research at MBO is oriented toward long-term monitoring of spring and fall migration trends, but species-specific research in collaboration with McGill University students and larger scale partnerships with researchers across Canada and beyond are also pursued. Education is largely a by-product of core research activities, but efforts are made to make the most of opportunities provided. Banding activities provide an opportunity to train students and other volunteers in research and bird-handling techniques. All results are publicly available on the MBO website, and considerable effort has been invested in developing a photo-based resource to assist with advanced identification challenges. Results of MBO research are also shared through public presentations, including visits to schools.

For the next five years, 2010-2014, the primary goals for MBO are to maintain consistent operation of existing research programs and to build organizational capacity for a stable future in terms of both personnel and funding. Specifically, a broader base of stable funding needs to be cultivated, and efforts are required to train and retain an increased number of banders-in-charge. To encourage stability and permit effort to be dedicated to the expansion of both research and education, it is desirable to aim to having a full-time year-round coordinator, who can act as the primary bander-in-charge while also overseeing other programs, including pursuit of additional funding opportunities.

The data summaries presented in this report should be seen as the starting point for much deeper exploration of the MBO database. Already from five years of migration monitoring data there are opportunities to explore seasonal and inter-annual patterns of occurrence, and the data collected from repeats and returns are likely to yield interesting insights upon further analysis. Students will be encouraged to take advantage of this resource, as well as using ongoing research programs at MBO as the starting point for supplementary studies on subjects such as timing and sequence of molt, and new ageing and sexing techniques. Both students and MBO researchers will be strongly encouraged to present results of their work at ornithological conferences and publish them in peer-reviewed journals. Meanwhile the focus for education will remain on-site training and workshops, sharing of results through the MBO website, and community presentations. Once a full-time coordinator is in place for MBO, it will be possible to develop and deliver an expanded school program, with presentations specifically targeted to the curricula of various grades. Over time, an effort will be made to make more of MBO's educational resources bilingual, especially the website and any materials developed for the school program.



Indigo Bunting, May 2005 (Photo by Marcel Gahbauer)

2 Introduction

This report summarizes the first five full years of operation of McGill Bird Observatory (MBO). Established in 2004, MBO is located in Ste-Anne-de-Bellevue, Quebec, adjacent to the Morgan Arboretum, in the 22 hectare Stoneycroft Wildlife Area (Figure 2-1). Designated as a McGill University research station, access is restricted to researchers and authorized visitors. Comprising a mix of mature deciduous forest, remnants of an apple orchard, sumac and hawthorn stands, and wetlands, the property supports a wide diversity of flora and fauna (Bardo et al. 2003).

2.1 History

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

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

Beginning in late August, one or more observers walked a standard route around the property at least twice per week, the precursor of what would become the MBO census trail. This provided further guidance as to where concentrations of birds occurred regularly, and influenced the placement of the ten mist nets used for the fall 2004 pilot season. Beginning in mid-September and continuing until the end of October, banding took place on average four mornings per week. By the end of the season, 715 birds of 45 species had been banded in just 923 net hours, and 111 species had been observed. These numbers greatly exceeded expectations, and as a result, plans were initiated to operate a full migration monitoring program beginning in 2005.

2.2 Objectives

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

Secondary objectives at MBO include training and education. Many of the volunteers at MBO are McGill students, most of them in wildlife biology or environmental biology programs. Helping out at MBO provides them an opportunity to gain practical experience in their chosen field of study, complementing classroom learning. Those who are particularly interested have an opportunity to pursue more advanced training, up to

and including qualifying for banding subpermits to pursue their own research. These opportunities are also equally available to all other volunteers. In a broader sense, education also extends to sharing MBO techniques and results with the public. This has been done through presentations to naturalists clubs, visits to elementary schools, displays at community events, banding demonstrations, and perhaps most significantly, regular updates to a detailed website that serves as an archive of all MBO activities.

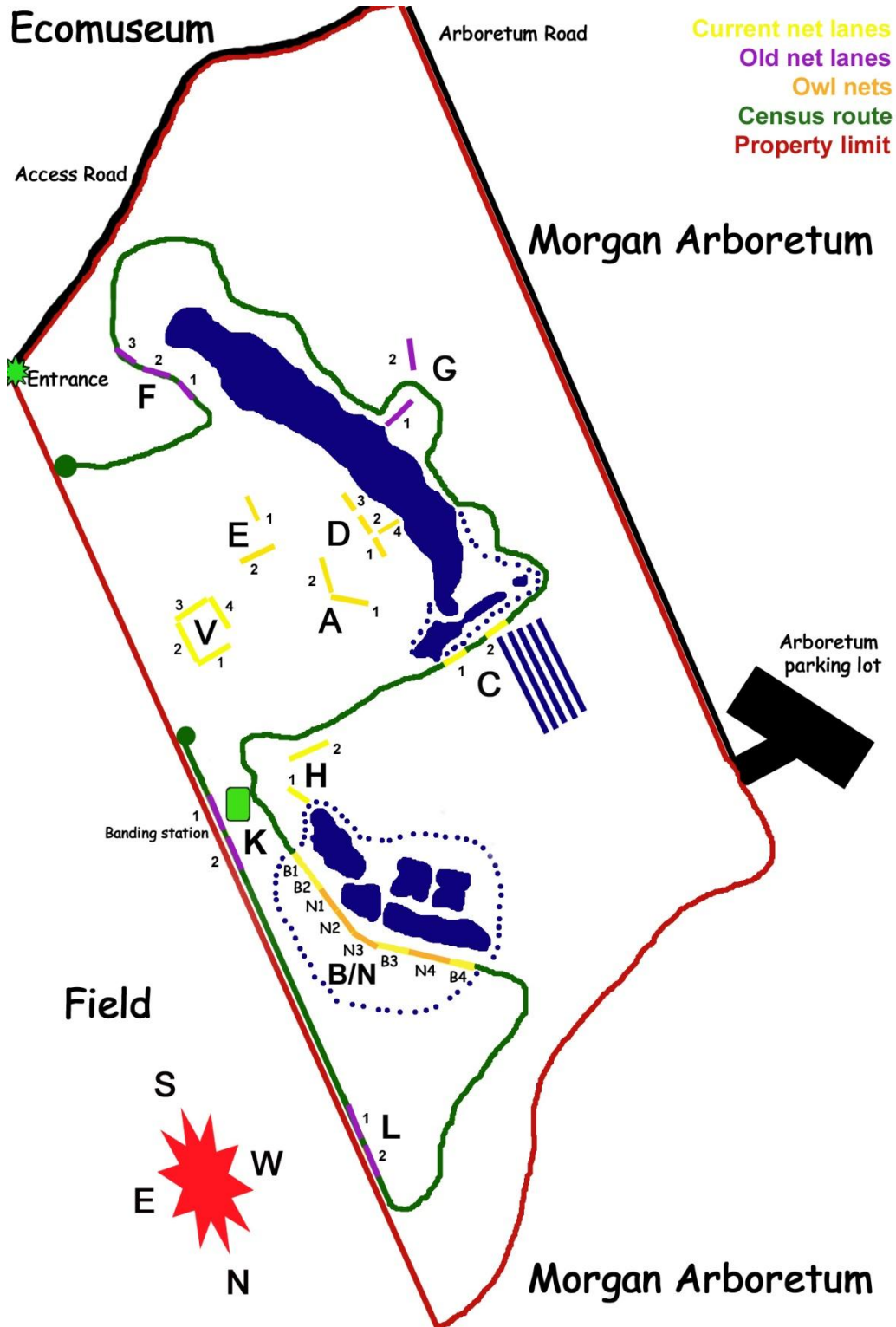


Figure 2.1: Map of McGill Bird Observatory

3 Management and operations

3.1 Management

MBO is managed entirely by volunteers. It is administrated by the Migration Research Foundation (MRF), but in practice a core of local volunteers is responsible for managing MBO according to guidelines established by MRF in partnership with the founders of MBO.

3.1.1 Board of Directors

The MRF Board of Directors is ultimately responsible for the management of MBO, including funding, operations, and policies. Until 2006, the board comprised a President, Treasurer, and Project Director; since then a fourth position of MBO Director has been added, recognizing that MBO has become MRF's largest undertaking, and demands a greater amount of attention. All board members serve as volunteers.

3.1.2 Funding

Expenses at MBO are primarily related to equipment for operating the banding program, providing a modest daily stipend for the banders-in-charge, and costs associated with publication of research. The MRF board, with the assistance of other volunteers, is responsible for raising sufficient funds annually to at a minimum maintain the standardized operation of MBO's core migration monitoring programs. Primary sources of funding are the Baillie Birdathon, grants from Environment Canada and other funding agencies, and donations from individuals (see section 8.3 for further details).

3.2 Personnel

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

3.2.1 Roles and duties

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

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

The banders-in-charge (BICs) all hold federal banding permits, and are responsible for all activities occurring at MBO, following the general guidance of the MBO Director and the MRF board (members of which commonly also serve as BICs). Typically the BICs coordinate all volunteers on site, band all birds and are responsible for data entry at the end of the day, though some of these tasks may be delegated to qualified volunteers. Some BICs are more specialized, and take on the role only for owl banding.

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

To date there have been only two interns at MBO. In both cases, they were present throughout the spring migration monitoring program. Interns follow a loose curriculum that is adjusted by the BICs depending on the background and aptitudes of the intern, but which generally progresses from practice with identification and an introduction to research methods, to hands-on practice with extraction and banding.

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

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

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

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

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

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

3.2.2 Key personnel

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

Table 3.1: Key personnel at MBO, 2004-2009

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

3.2.3 Volunteers

Except for the BICs, who are provided a modest stipend as compensation for their expertise and extra responsibilities, all other roles at MBO are performed on a volunteer basis. In total, 341 volunteers contributed at MBO over the first five years (see Appendix G for a full list of names). Table 3.2 below summarizes the effort across migration monitoring seasons.

Table 3.2: Volunteer effort at MBO during migration monitoring programs, 2005-2009

	2005		2006		2007		2008		2009	
	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall
# volunteers	31	78	54	73	40	73	61	86	69	73
# volunteer hours	1040	2160	1500	2180	1200	2400	1620	2700	1400	2200

3.3 Operations

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

3.3.1 Protocols

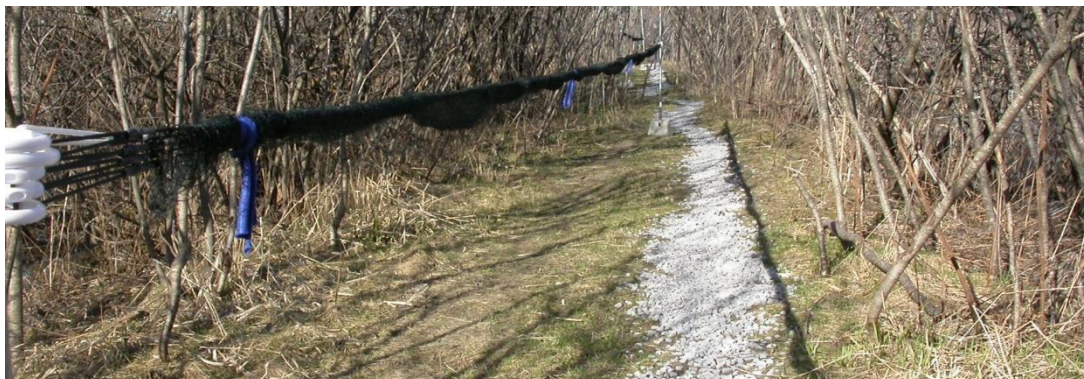
The spring and fall seasons have since 2004 been operated according to the *McGill Bird Observatory Field Protocol for Migration Monitoring Program* (Gahbauer and Hudson 2009), adapted from the protocol in use at Innis Point Bird Observatory, and consistent with approaches recommended by the Canadian Migration Monitoring Network. This document covers protocols for seasonal guidelines, daily operations, data conventions, volunteer management, and more.

Starting In 2009, the summer program was operated according to the MAPS protocol (DeSante et al. 2010), to be consistent with all other MAPS sites in North America. In previous years, summer operations were informal, with census taking place periodically along the usual route, and banding occurring opportunistically. Similarly, no formal protocol has been used for winter, with activities taking place when weather is suitable and volunteers are available.

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

3.3.2 Site management

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



Freshly laid gravel along the C nets, April 2006 (Photo by Marcel Gahbauer)

4 Research

Research is the primary objective of MBO, and as such is the focal point of all programs. This section summarizes each of the five main seasonal programs at MBO, as well as other research and publications.

4.1 Spring Migration Monitoring Program (SMMP)

The Spring Migration Monitoring Program has been operated at MBO annually since 2005. It covers the ten-week period from March 28 to June 5; the start date represents the average arrival of early migrants, while the end date reflects the average departure of the latest migrants.

4.1.1 Objectives and protocol

The SMMP is designed to be a standardized study that can be used as the basis for long-term trend analysis of bird populations. It is operated according to the MBO migration monitoring protocol (Gahbauer and Hudson 2008), which was developed to be compatible with the aims and methodology of the Canadian Migration Monitoring Network. The program involves a standardized census daily throughout the season, supplemented by banding and additional observations during the core of the season, which since 2007 has been defined as April 18 to June 1. In 2005 and 2006, banding took place throughout the season, but few birds were caught until after mid-April, and cold weather often limited net hours, causing the start of banding to be delayed until week 4 in subsequent years. By early June, migrants become a small minority of the birds captured, so to avoid unduly stressing local breeders, banding has been cut off at June 1 since 2007, with census on the remaining four days of the season used to document the passage of late migrants. The 2005 season also differed in that it started one week later than in subsequent years, and due to staffing limitations, banding took place on average every other day.

4.1.2 Results

SMMP results from 2005 to 2009 are summarized in Table 4.1, with additional detail provided in Appendix A. Despite the evolution of the protocol over the first three years, the results have been relatively consistent across all years, with the number of species observed always between 134 and 148, the number of species banded between 60 and 66, and the number of individuals banded between 650 and 828. The number of birds banded per net hours has been particularly consistent since 2006, ranging only from 25.8 to 28.6. The number of returns has increased annually, reflecting the ever greater proportion of local residents that have been banded in previous years. In total, 176 of the 199 species observed at MBO and 90 of the 105 species banded have at least one spring record.

Table 4.1: SMMP summary statistics, 2005-2009

	2005	2006	2007	2008	2009	Average	Total
# individuals (species) banded	650 (62)	759 (63)	704 (60)	828 (64)	816 (66)	751 (63)	3757 (90)
# individuals (species) repeat	209 (18)	144 (23)	103 (18)	198 (25)	250 (30)	181 (23)	904 (42)
# individuals (species) return	19 (5)	75 (19)	81 (19)	92 (17)	99 (23)	73 (17)	366 (29)
# species observed	134	148	135	139	146	140	176
# net hours	1562.9	2938.4	2460.0	2912.2	2956.5	2566.0	12830.0
# birds / 100 net hours	41.6	25.8	28.6	28.4	27.6	30.4	29.3
# days operating	59	70	70	70	69	67.6	338
# days banding	27	57	35	41	42	40.4	202
# days with full coverage	23	26	24	31	32	27.2	136

Over the full spring season, Red-winged Blackbird has consistently been among the top three species banded, with a total of 560 individuals over five years (see Appendix D). Other species in the spring top ten annually are Ruby-crowned Kinglet (total 295), American Goldfinch (282), Yellow Warbler (176), and Yellow-rumped Warbler (163). In terms of observations, Canada Goose has had the highest mean daily count of individuals each spring (average 204 per day), due to the large flocks seen almost daily over the first half of the season.

Since 2006, sizeable flocks of Snow Geese have also been seen, resulting in them taking second place from 2006 through 2009 (average 62 per day). Other species consistently among the ten most abundant species throughout spring are Red-winged Blackbird (average 42 per day), Ring-billed Gull (26), American Crow (19), and Song Sparrow (12).

The 2005 SMMP was a pilot season, largely consistent with the protocol used in subsequent years, but with somewhat less complete coverage, and a bit of experimentation with dates and net locations. The season was initially defined as 60 days, and only April 23 was skipped due to poor weather. Census was done on all but four days when high volume of birds in the nets precluded any volunteers from being available, while banding took place on 27 of the 59 days of operation. In terms of banding, the peak of migration was on May 16, with 57 birds of 22 species banded, but diversity peaked later with a high daily estimated total of 64 species on May 27. This was the only spring season in which American Goldfinch topped the list of birds banded, with 111 individuals, more than twice as many as in any other spring.

In 2006, the spring season was expanded to 70 days, with the first 8 days and final 2 days of the season reserved for census only. Banding took place on all but three of the remaining 60 days, but weather was often poor, and resulted in some limitation of banding effort on all but 26 days. The frequency of poor conditions early in the season contributed strongly to the decision to extend the initial census only period from 8 to 21 days in subsequent years. The peak day for banding this spring was May 22, with only 37 birds banded. Species diversity peaked on the same date, with 76 species observed, the highest daily total to date at MBO in any season. Red-winged Blackbird was the most frequently banded species by far, with 169 individuals, far ahead of Common Grackle in second place with 59.

Beginning in 2007, the spring season remained 70 days long, but the first 21 days and final 4 days of the season were reserved for census only, with banding scheduled for the core 45 days in between. Banding coverage was lacking due to rain on four days, and unavailability of a bander on six other days between mid-April and early May; suboptimal conditions partially restricted effort on a further 11 days, leaving only 24 days with full coverage. The busiest day of banding this year was earlier than usual, with 45 individuals caught on May 10. The ten most abundant species accounted for 60% of individuals banded this spring, with Red-winged Blackbird again atop the list by a large margin with 154 individuals, compared to Ruby-crowned Kinglet in second place with 52. The peak of diversity was also earlier than in previous years, with 65 species observed on May 18.

The 2008 season followed the standard schedule established in 2007. Coverage was somewhat better, with only four banding days lost entirely to rain, and weather limiting efforts on another ten days, leaving 31 days with full coverage, the best to date for spring. A record number of individuals (828) were banded, perhaps reflecting the expanded coverage, but also maybe influenced by persistent northwest winds in May that could have slowed down the progress of some migrants. The delay in migration was seen in the banding peak of 57 individuals not occurring until May 26, and the peak of diversity (71 species) occurring surprisingly late on May 30. Again this year the top ten species banded accounted for 60% of all individuals, and Red-winged Blackbird remained in first place for a third year in a row with 114 individuals, but this time not that far ahead of Ruby-crowned Kinglet with 92.

In 2009, weather was again generally favourable and coverage was very similar to 2008, with one fewer day lost entirely to rain, and 32 days of full coverage. The highlight was an unprecedented abundance of Tennessee Warblers. Beginning in the third-last week of the season, 82 individuals were banded, nearly three times as many as had been banded in all four previous spring seasons combined. After being the top species banded in spring for the previous three years, Red-winged Blackbirds were unusually scarce, with 50 individuals placing them third, behind Ruby-crowned Kinglet with 73. A new single-day record for spring was set on May 20, with 67 birds banded; the peak of diversity occurred two days earlier on May 18, with 75 species observed. The ten most abundant species accounted for 58% of individuals banded during this spring.

Figure 4.1 summarizes the results of the daily census throughout spring. Counts typically begin just under 20 species in late March and increase fairly steadily to near 40 by mid-May, and then near the end of the month drop back down to around 30. Census counts were above average for much of 2006, peaking near 50 species in the third week of May; in most other years the running average has stayed below 40 throughout the season.

Figure 4.2 summarizes the daily estimated total of species throughout spring. The overall pattern is similar to that shown by census, but the counts are higher, especially during the peak of the season. There appears to often be a sharp increase around April 20; to some degree this may reflect a real overlap between the early migrants that start to taper off in late April, and the arrival of later migrants that begin to arrive as May approaches, but it likely is also an artefact of banding beginning around that date in most years, resulting in more thorough daily coverage of the site. The daily count rises consistently above 40 by the beginning of May, and typically remains above 50 for most of the second half of May, then drops off abruptly in early June. Only in 2006 did the daily estimated total remain consistently above 60 species for any length of time. The peak for diversity has been remarkably consistent, between May 16 and May 19 each year, except for 2008 when it was unusually late, on May 29. Overall, diversity seems to have been above average in 2006 and 2008, below average in 2005 and 2007, and close to average in 2009.

Figure 4.3 summarizes the number of species banded daily throughout spring. Data were collected prior to April 18 only in the first two years, and the mean count was below 5 species throughout this period. The mean remains between 3 and 6 species until early May, when it rapidly increases. There is considerable variability in data from year to year, but the peak consistently occurs between May 16 and 23.

Figure 4.4 summarizes the number of individuals banded daily throughout spring. Data were collected prior to April 18 only in the first two years, and the mean count was below 10 individuals throughout this period, which strongly influenced the decision to delay the start of banding until the fourth week of the season. Although there is considerable variability from year to year, numbers on average remain close to 10 per day until an increase occurs late in the first week of May. The average then remains close to 20 individuals per day until spiking to a peak of 25-30 around the third week of May before dropping off sharply at the end of the month. The only year in which the daily count of birds banded remained above 40 for more than one day was 2009. The peak date has ranged from as early as May 16 to as late as May 27.



Song Sparrow, May 2005 (Photo by Marcel Gahbauer)

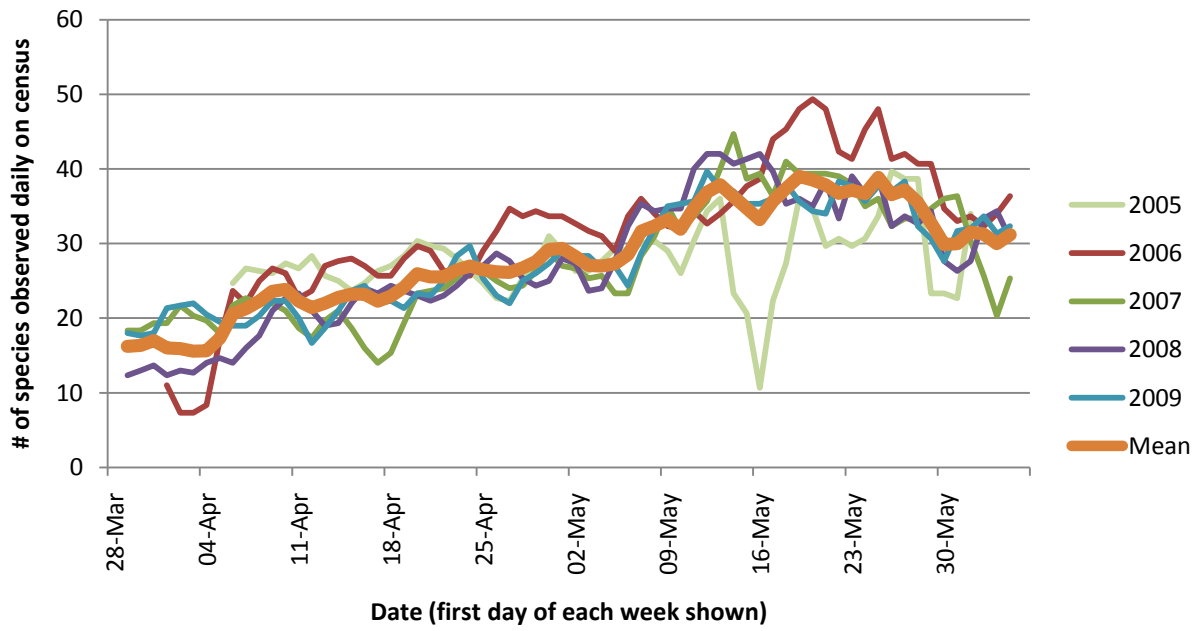


Figure 4.1: Running three-day mean of the daily species count on census throughout the spring season.

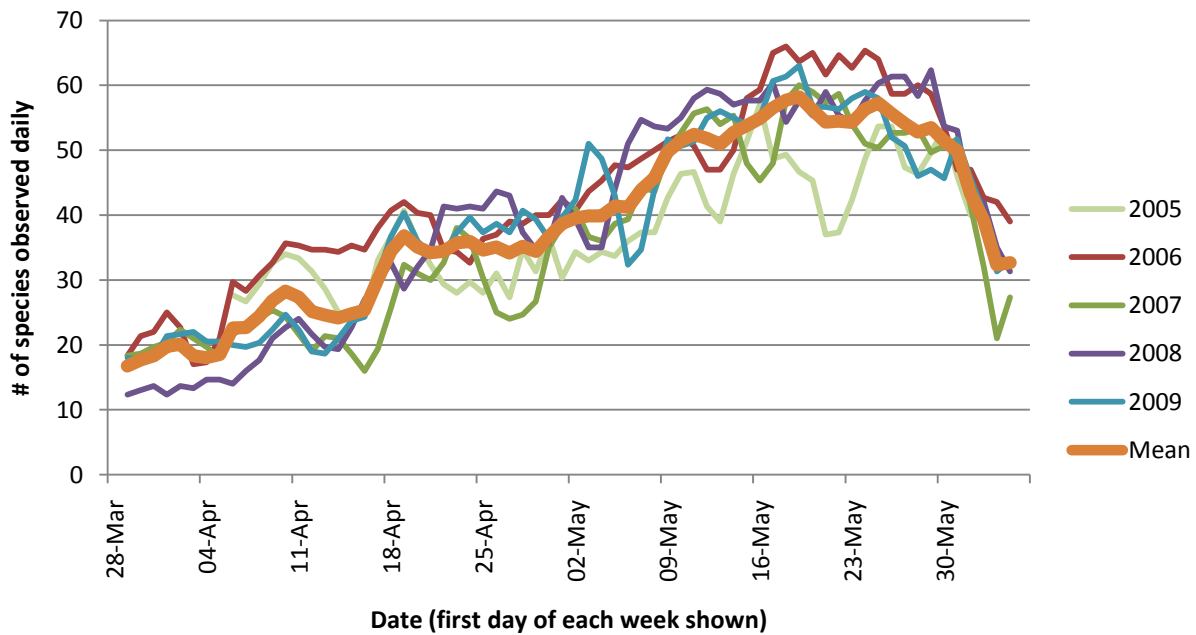


Figure 4.2: Running three-day mean of the daily estimated total number of species throughout the spring season.

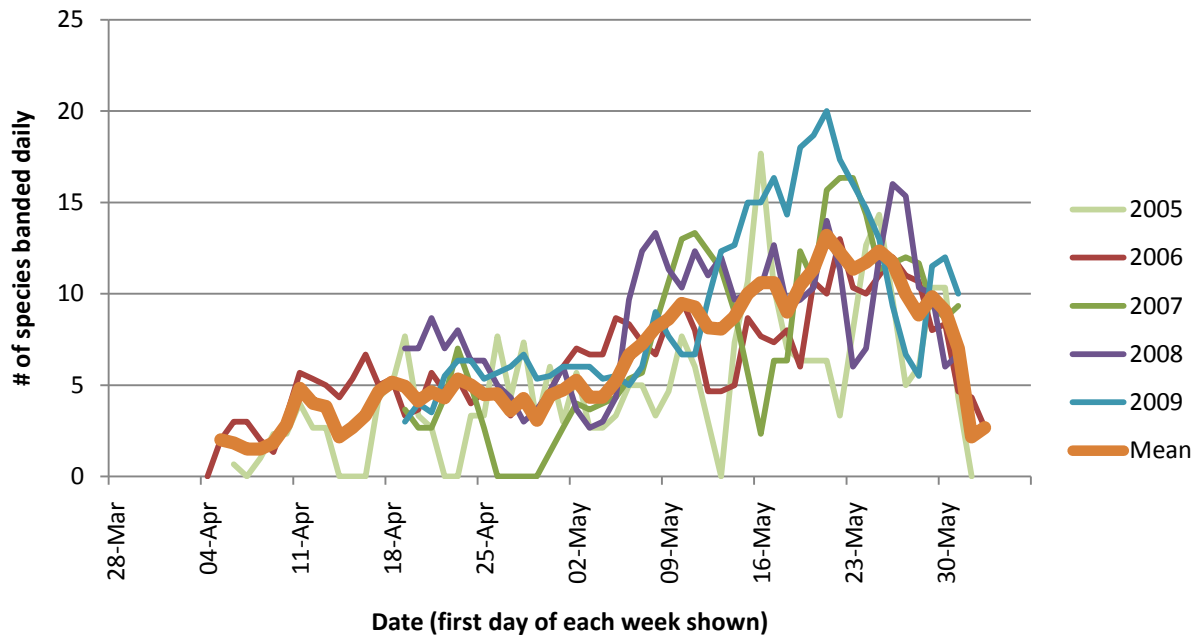


Figure 4.3: Running three-day mean of the number of species banded daily throughout the spring season.

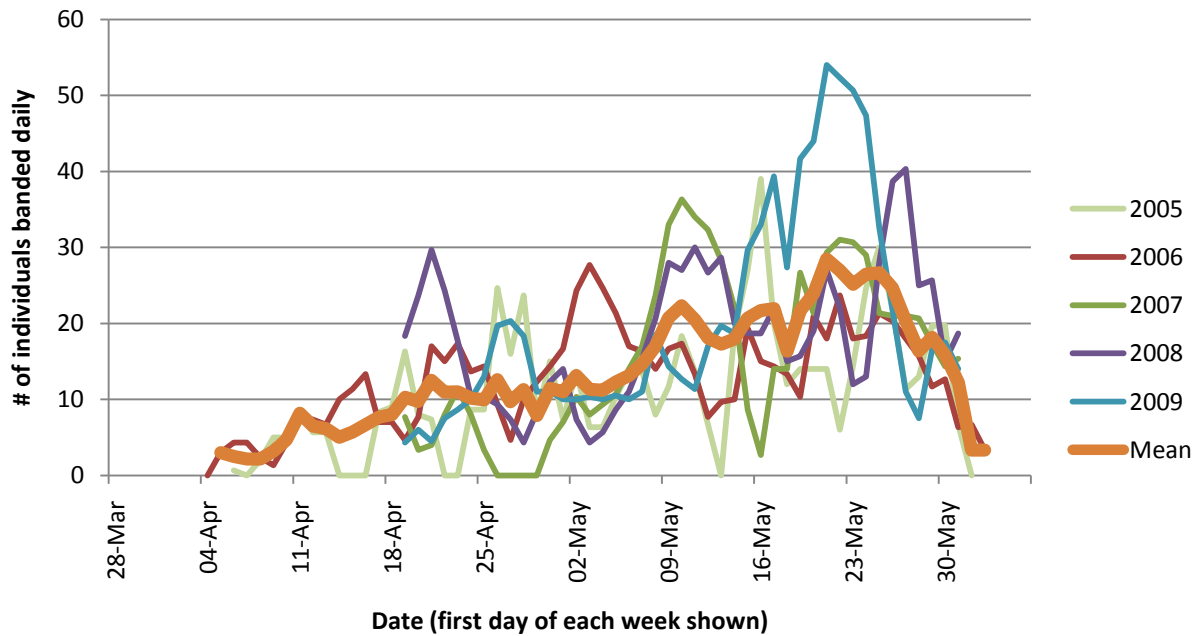


Figure 4.4: Running three-day mean of the number of individuals banded daily throughout the spring season.

4.2 Monitoring Avian Productivity and Survivorship (MAPS)

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

4.2.1 Objectives and protocol

Originally, the aims of summer monitoring were simply to document the use of MBO by breeding birds to better understand how they contribute to migration monitoring numbers, and to opportunistically band juveniles to increase the potential for documenting returns (or dispersal) in subsequent years. In an effort to standardize the summer program, a MAPS station was established in 2009 as a pilot project, mostly on the opposite side of Stoneycroft Pond from the migration monitoring nets. It was operated according to guidelines provided by the Institute for Bird Populations (DeSante et al. 2010), which coordinates a network of over 500 monitoring stations across North America, all following the same protocol.

4.2.2 Results

Summer results from 2005 to 2009 are summarized in Table 4.2. The lack of a standardized protocol is reflected in the substantial variation in all results. In particular, banding efforts and results were much higher in 2009 than previous years due to the MAPS protocol demanding seven banding sessions over the course of the season. The number of species observed has declined steadily over the years, but this may be largely because observations were much more frequent in the first two years, and a number of late spring or early fall migrants were counted. With the MAPS pilot project having been a success, future years can be compared to 2009 in a more standardized manner.

Table 4.2: Summer summary statistics, 2005-2009

	2005	2006	2007	2008	2009	Average	Total
# individuals (species) banded	24 (10)	33 (12)	39 (6)	14 (1)	156 (26)	53 (11)	266 (28)
# individuals (species) repeat	3 (3)	2 (2)	--	--	29 (11)	7 (3)	34 (11)
# individuals (species) return	1 (1)	2 (1)	--	--	13 (5)	3 (1)	16 (5)
# species observed	79	66	65	57	51	64	94
# net hours	34.0	78.3	2.8	--	378.0	98.6	493.1
# birds / 100 net hours	70.6	42.1	178.6	n/a	27.8	63.8	54.0
# days operating	33	21	12	10	14	18	90
# days banding	4	5	4	3	14	6	30
# days census only	29	16	8	7	0	12	60



Tree Swallows are monitored each summer at nest boxes throughout MBO (Photo by Marcel Gahbauer)

4.3 Fall Migration Monitoring Program (FMMP)

The Fall Migration Monitoring Program has been operated at MBO annually since 2004, but the first year was a pilot season involving considerable experimentation and limited coverage. It covers the thirteen-week period from August 1 to October 30; the start date represents the average arrival of early migrants, while the end date reflects the average departure of most of the late migrants.

4.3.1 Objectives and protocol

Like the spring program, FMMP follows the MBO migration monitoring protocol (Gahbauer and Hudson 2008), with the intention of generating data that can be used for long-term trend analysis. The dates of the fall season have remained unchanged over the years, but in 2005 banding was limited to roughly every other day in August, while since 2006 banding has taken place daily throughout the season, weather permitting. In some years, banding continued unofficially into early November to explore whether late migrants were being missed; results have been variable and therefore the end date of October 30 has remained unchanged, but further monitoring is warranted over the next five years. Also as in spring, banding data are supplemented by a daily census and incidental observations to generate the daily estimated totals for all species.

4.3.2 Results

FMMP results from 2005 to 2009 are summarized in Table 4.3, with additional detail provided in Appendix B. The number of species observed during the fall season has ranged from a low of 134 in 2006 to a high of 151 in 2005, but since 2007 has consistently been between 140 and 144. The number of species banded has been even more stable, ranging only from 75 to 78. Overall, 180 of the 199 species observed at MBO and 93 of the 105 species banded have at least one fall record. The rate of birds banded per 100 net hours was high in 2005, 2006, and 2008, and considerably lower in 2007 and 2009. Unlike in spring, the number of returns has remained fairly steady over time. Except for a sharp spike in numbers in 2008, the total number of birds banded each fall has remained within 10% of 3100 each year.

Table 4.3: FMMP summary statistics, 2005-2009

	2005	2006	2007	2008	2009	Average	Total
# individuals (species) banded	3226 (78)	3268 (76)	2876 (77)	5101 (77)	3390 (75)	3572 (77)	17861 (93)
# individuals (species) repeat	496 (33)	413 (37)	562 (45)	924 (48)	606 (39)	600 (40)	3001 (54)
# individuals (species) return	41 (10)	31 (10)	46 (12)	31 (14)	42 (18)	38 (13)	191 (27)
# species observed	151	134	144	140	143	142	180
# net hours	3726.3	4422.9	5423.3	5607.3	5837.4	5003.4	25017.2
# birds / 100 net hours	86.6	73.9	53.0	91.0	58.1	72.5	71.4
# days operating	88	91	91	91	91	90.4	452
# days banding	69	83	86	85	87	82.0	410
# days with full coverage	66	72	77	78	77	74.0	370

Over the full fall season, three different species have taken top spot for the most individuals banded in a year: White-throated Sparrow in 2005 and 2009, Yellow-rumped Warbler in 2006 and 2008, and Ruby-crowned Kinglet in 2007. These three species also have the highest cumulative totals for fall, with 2620 Yellow-rumped Warblers, 1632 Ruby-crowned Kinglets, and 1602 White-throated Sparrows over five years. Other species consistently in the top ten are American Robin (1282), Song Sparrow (1236), and Magnolia Warbler (790). Among observations, Canada Goose had the highest daily average each fall except 2006, when migrant flocks were unusually scarce and American Crow took top spot instead. Species that have been in the top ten annually are Canada Goose (average 212 individuals observed daily), American Crow (84), American Robin (82), and Common Grackle (57).

2005 marked the first full year of FMMP, and based on the previous year's pilot season, the plan was to conduct census daily from the beginning of August, but to only begin daily banding at the start of the fifth

week, on August 29. However, due to the high number of birds detected right from the start of the season, an effort was made to achieve at least partial banding coverage during the first four weeks as well. In all, full coverage was achieved on 66 days, fewer than in any subsequent year. Temperatures were generally above average in August and September, while October had much more rain than usual, which also limited banding activities. The daily banding total exceeded 100 individuals on 6 days, with the highest count of 132 occurring on October 2. The 29 species banded on September 15 was a record diversity that would stand for three years. The season total of 151 species observed remains the highest for any season at MBO, and includes a peak of 63 species on September 11, the highest of any fall day to date. Sparrows were dominant overall, taking three of the top six places among species banded.

In 2006, as in all subsequent years, full coverage was planned throughout the season. However, it was again quite a wet fall season, with August the fourth rainiest in the past 65 years, and October the third rainiest over the same period; this reduced full coverage to 72 of 91 days. Over 100 individuals were banded on four days this fall, with a peak of 157 on September 30. The total number of species observed in fall 2006 was only 134, substantially lower than in 2005, and diversity peaked at 57 on two dates. Yellow-rumped Warbler vaulted into top spot among species banded with 522 individuals, more than triple the previous year's total. Although Song Sparrow numbers increased, sparrows overall were less dominant than in 2005.

In contrast to the previous two years, the fall of 2007 was one of the driest on record, which allowed for more extensive coverage, but also caused the ponds on site to largely dry up, reducing the attractiveness of the habitat to wetland birds. All the same, the total number of species observed rebounded to 144, but the highest single day count was again 57. There were only three days with over 100 birds banded, with a relatively late peak of 138 on October 10. The number of Yellow-rumped Warblers banded plummeted to 68, just over 10% of the 2006 total, and warblers in general were scarce, with just two species squeaking into the bottom of the list of top ten species banded. However, sparrows were more prominent again, with four species in the top ten, and American Goldfinch in seventh place marked the only appearance by a finch in the top ten in fall in any year.

Weather was again favourable in 2008, resulting in a record number of days of full coverage. The defining element of this season was the remarkable influx of Yellow-rumped Warblers, with 1732 individuals banded, more than triple the previous high count for any species in fall. However, many other species were also unusually abundant, with 30 species setting new fall records, including 13 other warblers. The daily banding total exceeded 100 birds on 14 occasions, including five 200+ bird dates between September 29 and October 5, peaking at 240 on October 2. Totals could have been even higher, but on several days nets had to be shut down temporarily to control volume as there had been no reason to anticipate needing so many qualified extractors on site. Meanwhile, a couple of weeks before the peak in migrant abundance, a new single-day record for diversity was set with 30 species banded on September 7. However, the daily estimated total peaked at 53 on the same date (and two others), the lowest for any fall season to date. For the first time, warblers accounted for half the species among the ten most frequently banded during the season.

Coverage was again good in 2009, though the second half of the season was unusually wet and the first two-thirds of October were unusually cold, resulting in some lost net hours. As occurred in 2007 following the peak of Yellow-rumped Warblers in 2006, there was a dramatic decline in the number banded, from 1732 in 2008 to 106 in 2009. This alone nearly accounts for the difference in season totals between the two years. The number of days with over 100 individuals banded dropped back down to 6, peaking at 166 birds on October 8. This year the biggest surprise was the abundance of Hermit Thrushes, with 86 individuals banded (all of them hatch-year birds), more than double the total from any previous fall season. As in 2007, warblers were relatively scarce, with only three species barely cracking the 100-birds banded mark. In contrast, sparrows took all three top places for the first time, with White-throated Sparrow (428) outnumbering Slate-colored Junco (361) and Song Sparrow (322). Species diversity peaked unusually early, on August 21, at 56 species.

Figure 4.5 summarizes the results of the daily census throughout fall. Variability is high for most of the season, and the overall mean remains between 22 and 28 species from the beginning of the season until mid-October, after which it drops slightly to between 19 and 22 for the remainder of the season. Census counts were highest in 2005, at an average of 27.5 species per day throughout the season, dropped to 25.6 in 2006, and then stabilized at a lower level between 22.5 and 23.1 between 2007 and 2009.

Figure 4.6 summarizes the daily estimated total of species throughout fall. The overall pattern is similar to that shown by census, but the counts are higher, there is somewhat less variability, and the drop in numbers begins earlier in October. From the beginning of August to early October, the mean daily count of species fluctuates around 40, with three slight peaks approaching 45 in early September, mid/late September, and early October. Starting around the end of the first week of October, the count declines steadily to a mean just below 30 near the end of the month. The actual peak of diversity has varied widely, from as early as August 18 in 2007 to as late as September 19 in 2005). Similar to the census results, daily totals were on average somewhat higher in 2005 and 2006 (40.1 to 41.4 species) than from 2007 to 2009 (37.5 to 38.6). The three-day running average of daily estimated totals remained above 50 species for several days in each of 2005 and 2006, but has only done so once in the years since, in late August 2009.

Figure 4.7 summarizes the number of species banded daily throughout fall. There is considerable variability from year to year, especially in September. The average count ranges from 10 to 13 species in August, increases to 12 to 17 for September and the first week of October, then drops off sharply to between 5 and 10 for the final two weeks of the season. The peak of diversity was just after mid-September in 2005 and 2006, but more recently has been between September 26 and October 1.

Figure 4.8 summarizes the number of individuals banded daily throughout fall. There is a distinct peak from late September to almost mid-October, highlighted especially by the 2008 line, which is far greater than any other year due largely to the unprecedented number of Yellow-rumped Warblers banded during this period. Generally the mean number of individuals banded daily remains between 20 and 35 for most of the first half of the season, then begins to increase around mid-September. The busiest days are in the first week of October, with mean counts of 84 to 102 individuals banded daily; the actual peak has ranged between October 1 and 9. After the peak of migration subsides around mid-October, numbers return to around 25 to 40 individuals per day on average, though there is more variability than early in the season.



Yellow-rumped Warbler, October 2005 (Photo by Marcel Gahbauer)

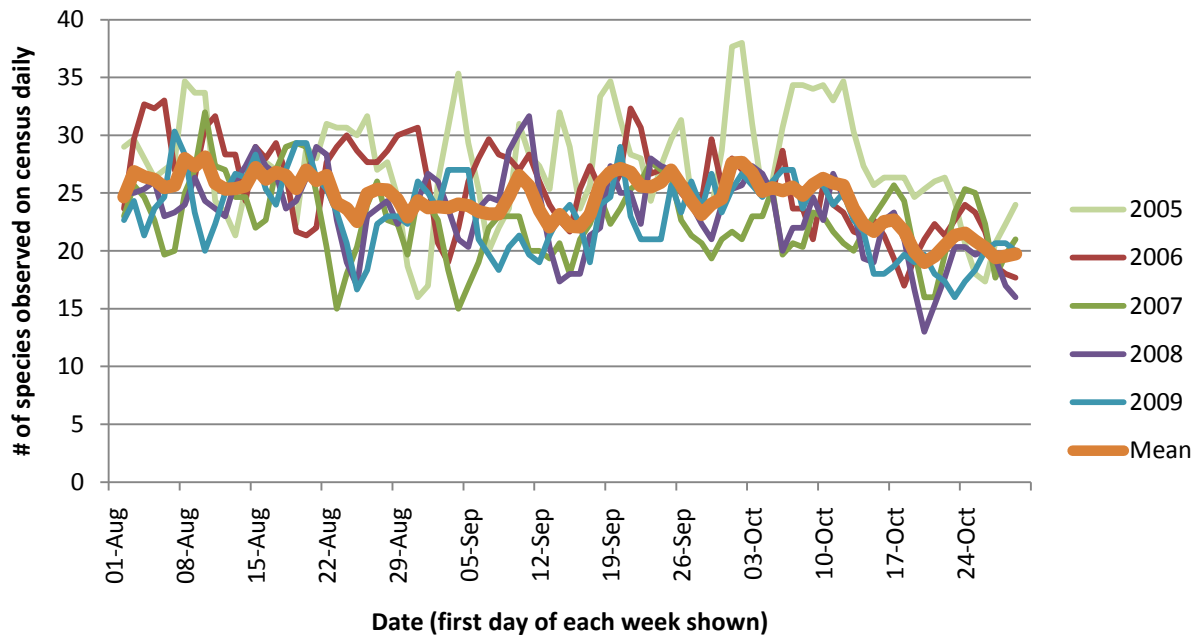


Figure 4.5: Running three-day mean of the number of species observed daily on census throughout the fall season.

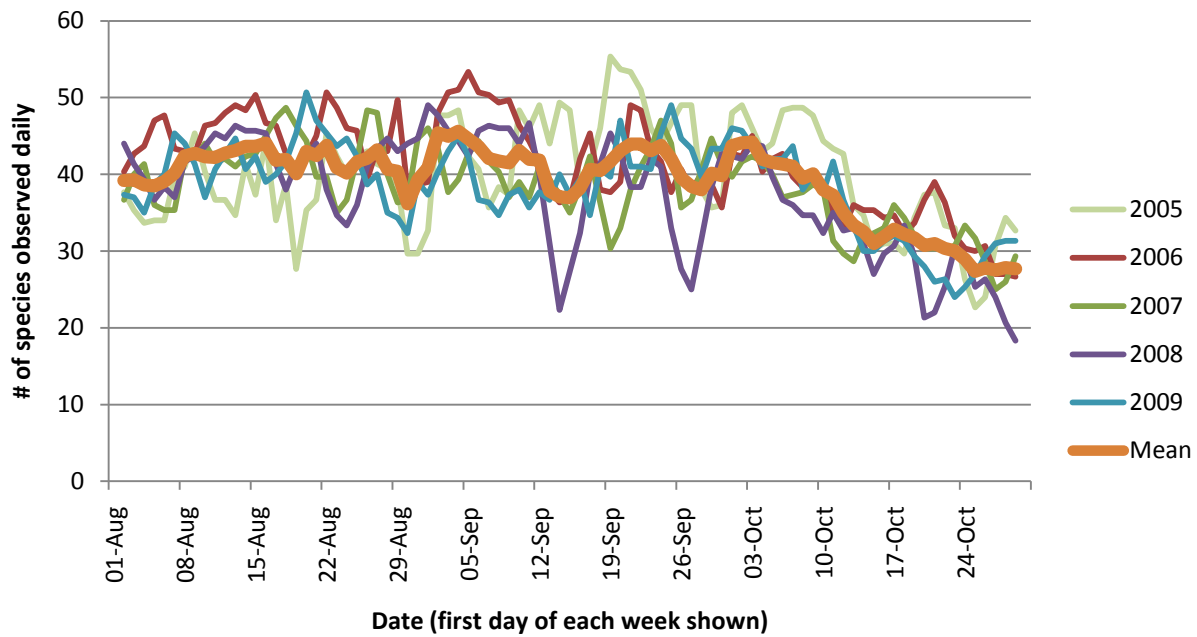


Figure 4.6: Running three-day mean of the number of species observed daily throughout the fall season.

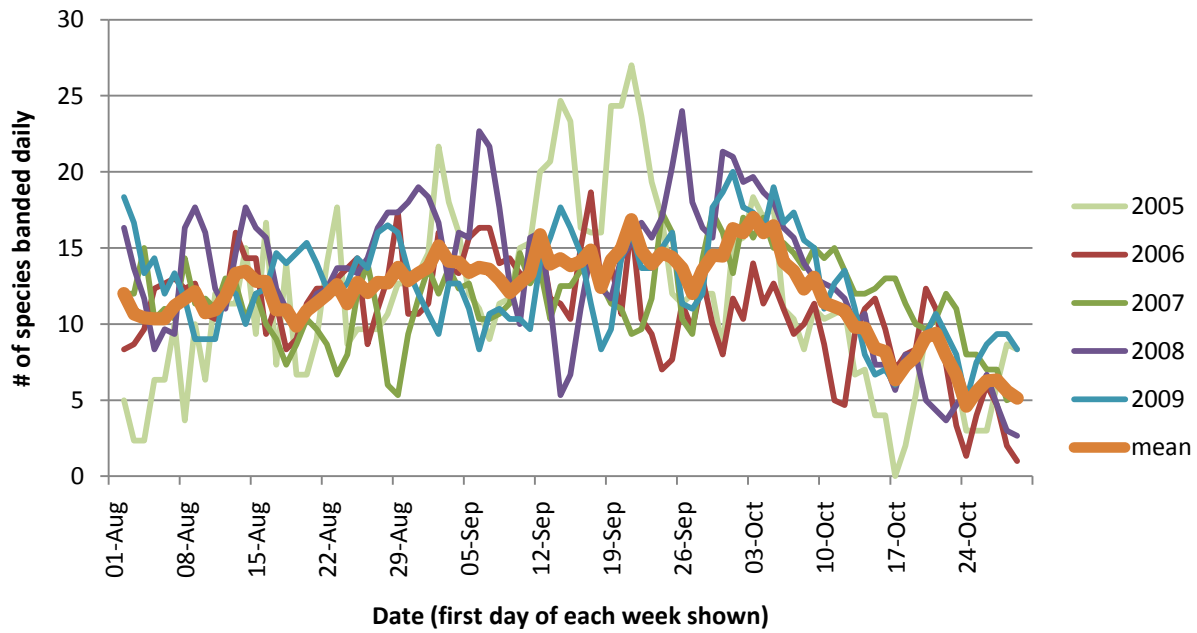


Figure 4.7: Running three-day mean of the number of species banded daily throughout the fall season.

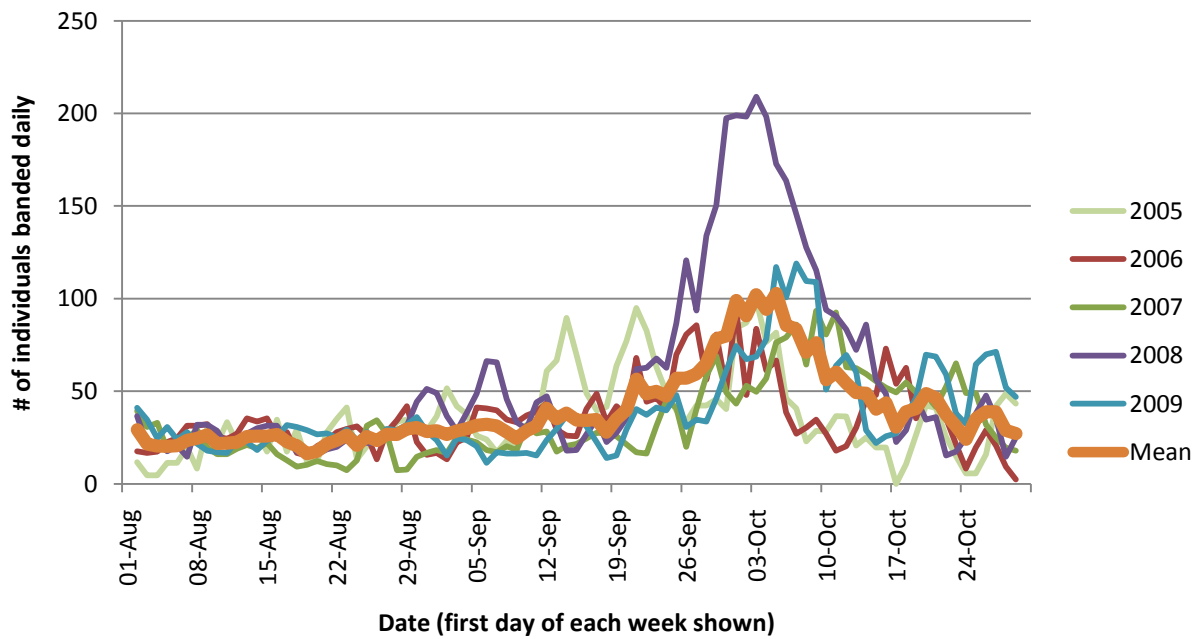


Figure 4.8: Running three-day mean of the number of individuals banded daily throughout the fall season.

4.4 Winter Population Monitoring Program (WPMP)

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

4.4.1 Objectives and protocol

As in other seasons, a key objective of the winter program is to collect data on bird populations that can be assessed over time. However, MBO can experience extended periods of severe winter weather, and conditions vary considerably from one winter to the next, therefore it is impossible to maintain a strict protocol with respect to temporal sampling. Nonetheless, scheduling site visits as weather permits has produced some interesting and potentially valuable data, and the winter program also has educational value for volunteers who have become interested during the fall, but may have been overwhelmed by the diversity of species and volume of birds. The standard census trail is walked in winter (sometimes by snowshoe), and banding is generally limited to a maximum of three hours at a time, no more than twice per week. Nets are set up as a square around a set of feeders that are stocked throughout the winter with sunflower, nyjer, corn, and millet. In general, banding follows the MBO migration monitoring protocols, but net checks are much more frequent due to the colder temperatures.

4.4.2 Results

Winter results from 2005 to 2009 are summarized in Table 4.4 (note that winter is defined as starting in the preceding year, e.g. winter 2005 refers to October 31, 2004 through March 27, 2005). Because of differences in weather conditions and bander availability over the years, effort and results are quite variable. Banding was most frequent in the first two winters, and was skipped entirely in 2008, which was exceptionally cold. However, census has been undertaken quite regularly since 2006, and during that period at least 40 species have been recorded each winter. The cumulative list of species observed during winter is 71 species, but this includes a number of late fall or early spring migrants. Several species are banded in particularly high numbers in winter, including Mourning Dove, House Finch, American Goldfinch, and in some winters Common Redpoll.

Table 4.4: Winter summary statistics, 2005-2009

	2005	2006	2007	2008	2009	Average	Total
# individuals (species) banded	256 (14)	316 (18)	103 (11)	--	32 (6)	177 (12)	707 (21)
# individuals (species) repeat	105 (8)	186 (8)	33 (7)	--	--	81 (6)	324 (12)
# individuals (species) return	10 (4)	26 (5)	7 (2)	--	5 (3)	12 (4)	48 (7)
# species observed	35	51	49	40	51	45	71
# net hours	110.0	163.5	103.0	--	24.0	100.1	400.5
# birds / 100 net hours	231.8	193.3	97.1	--	133.3	176.8	176.5
# days operating	14	64	46	24	37	37	185
# days banding	12	18	11	0	3	8.8	44
# days census only	2	46	35	24	34	28.2	141



Winter landscape at MBO, January 2006 (Photo by Marcel Gahbauer)

4.5 Northern Saw-whet Owl Migration Monitoring Program

Monitoring the fall migration of Northern Saw-whet Owls was actually the original inspiration behind establishing MBO, but during the initial pilot season in 2004 results were disappointing, whereas passerine numbers exceeded expectations. As a result, the owl program became a secondary priority, and was skipped in 2006 and 2008 when resources were too limited to operate both studies effectively.

4.5.1 Objectives and protocol

The primary objective of this program is to contribute to knowledge of the population dynamics and movements of the Northern Saw-whet Owl. Due to the large number of saw-whet banders in eastern North America, most of them members of Project OwlNet (www.projectowl.net), the recovery rate for these owls is much higher than for any passerines, and therefore even non-standardized programs can make significant contributions. To date, the MBO operations have not been standardized, in that there has been only partial coverage of each season, determined mostly by volunteer availability rather than weather. There has also been experimentation with net locations, first using the mixed woodlot near the winter nets (2004), then the ridge along the back ponds (2005 and 2007), and finally setting up a dedicated set of owl nets in and around the spruce/fir stand in the middle of the meadow (2009).

4.5.2 Results

Despite using different locations, and some variability in effort, results over the first three seasons were consistently quite poor, with between 15 and 18 individuals banded, at an average rate of fewer than two owls per night (see Table 5; note that all but the end of the 2004 season, as well as the last several nights of the 2009 season fall outside of the November 2004 – October 2009 period covered by this report, but for the purpose of this summary, the full data for these seasons are included in the table). The change in location in 2009 yielded dramatically greater results, highlighted by the night of October 13, when 17 saw-whets were banded, as many as in any complete previous season. To some extent, the increase in numbers can be attributed to the level of effort, roughly triple the previous average, but the rate of capture was also considerably higher.



Northern Saw-whet Owl, October 2009
(Photo by Marcel Gahbauer)

Although owl banding effort has been relatively limited to date, it has been productive, with two of the 125 Northern Saw-whet Owls banded at MBO recaptured in Virginia and New York later the same year, and three that were banded in Ontario, Michigan, and Virginia in previous years recaptured at MBO (see Appendix F for details on all recoveries).

Table 4.5: Owl banding statistics, 2004-2009

	2004	2005	2007	2009	Average	Total
# individuals (species) banded	18 (2)	17 (1)	15 (1)	78 (2)	32 (2)	128 (2)
# individuals (species) repeat	--	--	--	5 (1)	1 (1)	5 (1)
# individuals (species) foreign	1 (1)	--	--	2 (1)	1 (1)	3 (1)
# net hours	208.8	224.7	293.6	698.0	356.3	1425.1
# birds / 100 net hours	8.6	7.6	5.1	11.2	9.0	9.0
# nights operating	11	8	11	28	11.6	58

4.6 Special projects

The standard research programs at MBO provide an opportunity to collect data for a variety of supplemental research questions, ranging from local and species-specific to international collaborations.

4.6.1 Collaborative research

As a member of the Canadian Migration Monitoring Network, MBO has the opportunity to participate in research projects of a national scope. The most significant collaborative venture to date has been a stable isotope study involving feather samples collected from MBO and other member stations across Canada, in an effort to identify how the source populations for fall migrants compare throughout the network. MBO contributed more than 300 samples from over 60 species; the analysis and reporting is being conducted by Environment Canada and Bird Studies Canada, with publication expected in late 2010. MBO has also collaborated on an international study aiming to document the movement of bird-borne ticks.

4.6.2 Student projects

Many fourth-year wildlife students at McGill University prepare a research-based report as part of their curriculum, and since 2005 several have chosen to do so using data from MBO. These have included an analysis of whether upper mouth lining is reliable for ageing Black-capped Chickadees and a behavioural study assessing net avoidance. These projects generally involve hands-on participation by the student, with supervision and guidance from the banders-in-charge.

4.6.3 Current research

Data for the aforementioned Black-capped Chickadee continue to be collected, for the purpose of reanalyzing at a future date with a larger sample size. Qualitative and quantitative measures of American Goldfinch tails have been recorded since 2006 to permit for an eventual analysis of whether the colour and/or extent of the white patches on the outermost rectrices are useful for ageing and sexing. Since 2008, the length of the white tail spots on Magnolia Warblers has been recorded to determine whether there are consistent differences by sex. Beginning in 2009, the colour of the yellow to orange patch on the side of the breast of American Redstarts has been recorded using a standard colour palette, again to assess whether that feature can be used to discriminate reliably between sexes.

4.7 Publications

Most MBO publications to date have been internal reports, specifically 6 annual Fall Migration Monitoring Program reports (2004-2009) and 5 annual Spring Migration Monitoring Reports (2005-2009), as well as the Migration Monitoring Protocol. One peer-reviewed article documenting a novel pattern of molt in Song Sparrows has been published in *North American Bird Bander* (Hudson et al. 2008), and some data and photos from MBO were included in an article on the acquisition of reddish plumage by Baltimore Orioles published in *Birding* (Flinn et al. 2007).



Unusually red plumage on a hatch-year Baltimore Oriole, August 2006 (Photo by Seabrooke Leckie)

5 Birds of MBO

This section provides summaries of the occurrence of bird species at MBO, based on the detailed weekly/monthly records compiled in Appendix D.

5.1 Species observed at MBO

From November 2004 through October 2009, 199 species were observed at MBO, 132 (66%) of them annually. 104 of these species were banded, 72 (69%) of them at least once each year. During this period, 22701 individuals were banded, 3757 (16.5%) of them in spring, 266 (1.2%) in summer, 17971 (79.2%) in fall, and 707 (3.1%) in winter. Summaries are presented below by taxonomic group.

5.1.1 Waterfowl

20 species observed, 8 of them annually. None banded. Waterfowl are generally seen at MBO from early spring through late fall, with some Canada Geese lingering well into December. Canada Goose is by far the most abundant of all birds observed at MBO, always ranking as the top species in spring (with a mean daily count for the season ranging from 83 to 393), and also in fall in every year but 2006 (with a mean daily count ranging from 91 to 378). Since 2006, Snow Goose has been the second most numerous species in spring, but it is relatively scarce in fall. Mallard and Wood Duck are by far the most numerous of the other waterfowl observed at MBO. Of the 20 species observed, 7 have only been seen flying overhead (Snow Goose, Brant, Cackling Goose, Greater Scaup, Lesser Scaup, White-winged Scoter, and Common Merganser). Only 3 species have nested at MBO: Canada Goose, Wood Duck, and Mallard.

5.1.2 Herons, rails, and crane

8 species observed, 4 of them annually. None banded. Records extend from April to October for Great Blue Heron, but for most other species records are concentrated between May and September. Species range from very rare to uncommon, with Great Blue Heron and Green Heron the only species that occur regularly. One species has only been seen flying overhead (Sandhill Crane). The only species known to nest at MBO is Green Heron, though a pair of Virginia Rails may have been present through the breeding season in 2005.

5.1.3 Shorebirds

10 species observed, 3 of them annually. The only shorebird banded to date is a single Solitary Sandpiper. Records extend from April to October. Only Killdeer and Solitary Sandpiper are seen regularly, though Spotted Sandpiper does also occur annually. Two species have only been seen flying overhead (Semipalmated Plover and Dunlin). No shorebirds are known to have nested at MBO.

5.1.4 Gulls and terns

6 species observed, 3 of them annually. None banded. Gulls have been observed at MBO in all seasons, but tern sightings are limited to mid-May (Black Tern) and early August (Caspian Tern). All sightings have been of birds flying overhead, or in the case of Ring-billed and Herring Gull, sometimes on the field adjacent to MBO, especially after being ploughed in fall. None have nested at MBO.

5.1.5 Other waterbirds (loons, grebes, cormorant, gannet)

4 species observed, 2 of them annually. None banded. Observations range from April to October, without significant peaks in occurrence for any species. Common Loon and Double-crested Cormorant are seen annually, but always flying over MBO, as was the single Northern Gannet seen in September 2008. Pied-billed Grebe attempted to nest on Stoneycroft Pond in 2005, but has not been seen in summer since then.

5.1.6 Diurnal raptors

15 species observed, 12 of them annually. 4 species banded, 1 of them annually. 26 individuals banded, accounting for 0.05% of birds banded in spring, and 0.1% in fall. Raptors have been observed at MBO in all

months, but diversity and abundance peak toward the middle of the spring and fall. Of the 15 species observed, 5 have only been seen flying overhead (Osprey, Bald Eagle, Northern Harrier, Rough-legged Hawk, and Golden Eagle). Sharp-shinned, Cooper's, and Red-shouldered Hawks are the most regular species from spring through fall, and all have likely bred within or immediately adjacent to MBO.

5.1.7 Owls

6 species observed, none of them annually. 1 species banded, but not annually. 96 individuals banded, accounting for 0.5% of birds banded in fall. While Great Horned and Barred Owls are likely resident in the vicinity of MBO throughout the year, owls have been observed only in spring and fall. The only species banded during the study period is Northern Saw-whet Owl, with all captures the result of targeted nocturnal banding using an audiolure between late September and early November. Three Eastern Screech-Owls have also been banded at MBO, but all outside the period covered by this report.

5.1.8 Woodpeckers

5 species observed, all of them annually. 5 species banded, 4 of them annually. 162 individuals banded, accounting for 1.2% of birds banded in spring, 2.6% in summer, 0.6% in fall, and 0.7% in winter. Downy Woodpecker is consistently the most common woodpecker at MBO, and it accounts for 57% of those banded at MBO. Downy, Hairy, and Pileated Woodpeckers are present throughout the year, though generally observed less frequently in winter. Yellow-bellied Sapsucker and Northern (Yellow-shafted) Flicker are migrants, usually present from April through October. All five species have bred at or immediately adjacent to MBO.

5.1.9 Other non-passerines

9 species observed, 5 of them annually. 3 species banded, none of them annually. 26 individuals banded, accounting for 0.03% of birds banded in spring, 0.03% in fall, and 2.7% in winter. Rock Pigeon and Mourning Dove are observed throughout the year, Ruffed Grouse is likely present in the adjacent Morgan Arboretum year-round but has only been seen at MBO in late fall and winter, and the other species (Yellow-billed Cuckoo, Black-billed Cuckoo, Common Nighthawk, Chimney Swift, Ruby-throated Hummingbird, and Belted Kingfisher) have been observed only between April and October. Mourning Dove accounts for 77% of individuals banded, while Black-billed Cuckoo (19%) and Yellow-billed Cuckoo (4%) comprise the remainder. Although observed regularly, Rock Pigeon has only ever been seen flying over MBO. Breeding has not been confirmed for any species, but Mourning Dove and Ruby-throated Hummingbird are regularly present through summer, and there is also potential for Black-billed Cuckoo to nest.

5.1.10 Flycatchers

9 species observed, 7 of them annually. 8 species banded, 6 of them annually. 378 individuals banded, accounting for 2.8% of birds banded in spring, 3.0% in summer, and 1.5% in fall. Most species are observed only from May to September, while Eastern Phoebe records commonly extend from April to October. Many species are late spring and early fall migrants. 4 species regularly breed at MBO: Eastern Wood-Pewee, Great Crested Flycatcher, Eastern Kingbird, and Eastern Phoebe.

5.1.11 Vireos

4 species observed, all of them annually. 4 species banded, all of them annually. 576 individuals banded, accounting for 1.0% of birds banded in spring, 1.5% in summer, and 3.0% in fall. Observations extend from April to October. All except Warbling Vireo are disproportionately more abundant in fall than spring. Red-eyed Vireo is the most abundant, followed by Blue-headed Vireo. Warbling Vireo and Red-eyed Vireo regularly breed at MBO, and there is one record of a very young Blue-headed Vireo indicative of a successful nest at or immediately adjacent to MBO.

5.1.12 Corvids

3 species observed, all of them annually. 1 species banded, annually. 117 individuals banded, accounting for 0.3% of birds banded in spring, 0.5% in fall, and 1.1% in winter. American Crow, Common Raven, and Blue Jay are all resident throughout the year, though migrant Blue Jays pass through in spring and fall, and American Crow numbers fluctuate seasonally, with large flocks being particularly evident in fall, when daily mean counts for the season range from 50 to 112. Blue Jay is known to nest at MBO, while American Crow and Common Raven both breed nearby.

5.1.13 Swallows

6 species observed, 5 of them annually. 3 species banded, 1 of them annually. 127 individuals banded, accounting for 1.7% of birds banded in spring, and 23.3% in summer. All of the swallow species regularly occurring in eastern North America have been seen at MBO, with only Bank Swallow not observed annually. Swallow records at MBO range from mid-April to early September. Tree and Cliff Swallows are the only species to regularly occur in large numbers. The Cliff Swallows are observed primarily because of the large breeding colony at the nearby McGill radar station, while Tree Swallows breed each year in the nest boxes maintained at MBO, and the banding of nestlings accounts for a large proportion of summer banding records.

5.1.14 Chickadees, nuthatches, creeper, kinglets, and gnatcatcher

8 species observed, 6 of them annually. 6 species banded, 4 of them annually. 2940 individuals banded, accounting for 9.0% of birds banded in spring, 4.1% in summer, 13.9% in fall, and 13.9% in winter. Black-capped Chickadee and both nuthatches have been recorded in all seasons, while others occur primarily during spring and fall, although Brown Creeper is also somewhat regular in winter. Ruby-crowned Kinglet and Black-capped Chickadee are the second and ninth most frequently banded species at MBO. Only Black-capped Chickadee is known to breed at MBO, though White-breasted Nuthatch is suspected to nest too. Rare observations of juvenile Brown Creepers and Golden-crowned Kinglets in early fall suggest that they may also nest within or adjacent to MBO in some years.

5.1.15 Wrens

5 species observed, 3 of them annually. 3 species banded, 2 of them annually. 160 individuals banded, accounting for 0.2% of birds banded in spring, 3.4% in summer, and 0.8% in fall. Records extend from April to October, with a few Winter Wren observations into November. House Wrens are by far the most common, accounting for 84% of banding records; House Wren and Winter Wren are both disproportionately more abundant in fall than spring. House Wrens breed annually in the Tree Swallow nest boxes maintained at MBO. The only other summer records are for Sedge Wrens in 2008, but no breeding evidence was observed.

5.1.16 Thrushes and mimids

12 species observed, 9 of them annually. 10 species banded, 7 of them annually. 2125 individuals banded, accounting for 4.0% of birds banded in spring, 10.2% in summer, 10.8% in fall, and 0.6% in winter. Most records are from late March to November, though a few winter records exist for American Robin. It is also the most abundant species of this group, with 1499 individuals banded ranking fourth among all species, and accounting for 71% of thrushes and mimids. 4 species regularly breed at MBO: Veery, American Robin, Gray Catbird, and Brown Thrasher.

5.1.17 Warblers

27 species observed, 23 of them annually. 25 species banded, 21 of them annually. 7565 individuals banded, accounting for 29.0% of birds banded in spring, 10.9% in summer, and 35.9% in fall. Warblers are by far the most diverse family occurring at MBO. All are migrants, with observations limited to between mid-April and late October, except for one Yellow-rumped Warbler lingering into early November. Yellow-rumped Warbler is by a wide margin the most frequently banded species at MBO, although 63% of individuals were banded during

a single season, fall 2008. Magnolia Warbler is ranked seventh among birds banded, while another five warblers are in the top 16 overall (Nashville Warbler, Common Yellowthroat, American Redstart, Yellow Warbler, and Tennessee Warbler). Several boreal-breeding species (most notably Tennessee, Nashville, Magnolia, Yellow-rumped, and Black-throated Green Warblers) have shown similar oscillations in fall, with significantly higher numbers in 2006 and 2008 than in 2007 and 2009. 3 species (Yellow Warbler, Ovenbird, and Common Yellowthroat) breed at MBO annually, while another 3 species (Chestnut-sided Warbler, Black-and-white Warbler, and American Redstart) may nest occasionally.

5.1.18 Sparrows

15 species observed, 10 of them annually. 12 species banded, 9 of them annually. 5438 individuals banded, accounting for 16.1% of birds banded in spring, 13.2% in summer, 26.0% in fall, and 17.5% in winter. Three sparrows are among the six most frequently banded birds at MBO: White-throated Sparrow (third), Song Sparrow (fifth), and Slate-coloured Junco (sixth). As a family, sparrows are present at MBO throughout the year, but almost all species are limited to certain seasons. Only White-throated Sparrow comes close to being present year-round, with scattered records most winters, and a small number of summer sightings, including some likely breeders, considering a fair number of juveniles usually observed in August long before migration. Song and Swamp Sparrows are the only other breeding species, while Slate-coloured Junco and American Tree Sparrow regularly overwinter; the remainder of sparrows are migrants only.

5.1.19 Finches

14 species observed, 9 of them annually. 10 species banded, 6 of them annually. 1560 individuals banded, accounting for 9.8% of birds banded in spring, 6.4% in summer, 4.1% in fall, and 62.5% in winter. Finches are present at MBO throughout the year, but only Northern Cardinal, American Goldfinch, House Finch, and House Sparrow occur in all seasons. American Goldfinch is the most common of the species at MBO, accounting for 55% of finches banded. Finches are particularly numerous and diverse in winter, comprising the majority of all birds banded at MBO in that season. 4 species (Northern Cardinal, Rose-breasted Grosbeak, Indigo Bunting, and American Goldfinch) breed at MBO annually, while Scarlet Tanager is suspected to do so in some years, and House Sparrow did from 2005 to 2007.

5.1.20 Blackbirds

7 species observed, 6 of them annually. 6 species banded, 4 of them annually. 1117 individuals banded, accounting for 21.1% of birds banded in spring, 15.4% in summer, 1.6% in fall, and 0.1% in winter. Blackbirds are generally present from mid-March to late October, with some species such as Bobolink and Baltimore Oriole primarily occurring during a narrower window from May to August. Red-winged Blackbird is consistently among the top four species observed in spring, with a daily mean count ranging from 25 to 62; in every year except 2005 it has also ranked among the top four species overall in fall, with a daily mean count ranging from 55 to 103. Red-winged Blackbird also is the tenth most frequently banded bird at MBO. While Red-winged Blackbird, Rusty Blackbird, Brown-headed Cowbird, and Common Grackle are all more frequently banded in spring than fall, they form much larger mixed-species flocks in the second half of fall. Red-winged Blackbird is likely the most numerous nesting bird at MBO; others that breed annually are Common Grackle, Brown-headed Cowbird, and Baltimore Oriole.

5.1.21 Other passerines

6 species observed, 5 of them annually. 3 species banded, 2 of them annually. 265 individuals banded, accounting for 3.7% of birds banded in spring, 3.4% in summer, 0.6% in fall, and 0.4% in winter. This group includes Northern Shrike, Horned Lark, European Starling, American Pipit, and Bohemian and Cedar Waxwings. Only European Starling is seen throughout the year. Cedar Waxwing accounts for 95% of birds banded in this group, and is the only one of these species to breed at MBO, although European Starling likely does nearby.

5.2 Species not yet observed at MBO

With 199 bird species observed at MBO between 2005 and 2009, the rate of new additions to the list is naturally decreasing, but even in 2009 there were two new discoveries, and there remain others likely to be observed eventually based on patterns of occurrence around Montreal (Bird Protection Quebec Montreal checklist and other records) or elsewhere in southern Quebec or eastern Ontario. Below are brief profiles of 20 species that have not yet been observed at MBO, but are expected to be seen in the years to come [note that these predictions were made at the end of 2009, and three species on the list have since been observed, as pointed out in the relevant species comments].

TUSW: Tundra Swan / Cygne siffleur (*Cygnus columbianus*)

Irregular around Montreal, as the main migratory route is to the west, where the largest numbers in spring are seen between Lake Erie and southern Lake Huron. However, increasing numbers of Tundra Swans are being seen around Kingston during migration and over winter, so chances may be improving of seeing some as far east as Montreal, including potentially flying over MBO.

GREG: Great Egret / Grande Aigrette (*Ardea alba*)

Small numbers breed at colonies in and around Montreal including at Heron Island by Lachine Rapids. It seems likely that one will eventually fly over MBO, or perhaps even come in to feed at one of the ponds, as Great Blue Herons (perhaps from some of the same colonies) do with some regularity. [Note: a Great Egret landed in Stonecroft Pond in May 2010, becoming the 200th species observed at MBO.]

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

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

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

A western species of which a few individuals drift east each year during fall migration, being spotted at hawk watch locations from Ontario through to the east coast, including the Montreal West Island Hawkwatch occasionally.

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

A fairly common boreal breeder that migrates through the Montreal area each spring and fall, and could well pass over MBO at some point.

COTE: Common Tern / Sterne pierregarin (*Sterna hirundo*)

A breeding species in the Montreal area that should eventually be spotted flying over MBO. [Note: two Common Terns were spotted flying over MBO in August 2010, becoming the 202nd species observed at MBO.]

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

A southern species gradually expanding northward with its year-round range. Regular sightings at the adjacent Morgan Arboretum in the winters of 2008-09 and 2009-10 suggest that this is among the most likely candidates for becoming the 200th species observed at MBO. [Note: our prediction was close; in August 2010 a Red-bellied Woodpecker on the slope leading down from the Arboretum became the 201st species on the MBO checklist.]

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

Rare and declining in the Montreal area and southern Quebec in general, with relatively few sightings in recent years.

ATTW: American Three-toed Woodpecker / Pic tridactyle (*Picoides dorsalis*)

An irregular winter visitor to the Montreal area, but the Morgan Arboretum has been among the more reliable locations over time, so there is hope that in future at least one individual will wander over to MBO.

BBWO: Black-backed Woodpecker / Pic à dos noir (*Picoides arcticus*)

Like American Three-toed Woodpecker, an irregular winter visitor from the boreal forest that has been seen on occasion at the Morgan Arboretum.

BOOW: Boreal Owl / Nyctale de Tengmalm (*Aegolius funereus*)

A very rare migrant and winter visitor to the Montreal area, most likely to be detected at MBO during fall owl banding.

SEOW: Short-eared Owl / Hibou des marais (*Asio flammeus*)

An increasingly uncommon owl in the Montreal area, but with potential to be observed over the field adjacent to MBO, especially in years when no corn is planted.

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

A regular winter visitor in the Montreal area, with a number of sightings within a few kilometres of MBO in recent years. Most likely to be seen flying over MBO or in the adjacent field.

YTVI: Yellow-throated Vireo / Viréo à gorge jaune (*Vireo flavifrons*)

A rare species in and around Montreal, though it breeds in good numbers in parts of eastern Ontario and is also a regular breeder in scattered parts of southern Quebec.

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

Southern Quebec is at the northern limit of the Tufted Titmouse's range, but there have been signs in recent years that a few pairs may be establishing themselves as far north as Montreal, including some sightings as close to MBO as Baie d'Urfé.

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

An uncommon to rare breeding species in parts of eastern Ontario that could appear at MBO during spring or fall migration.

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

A southern species with a range that barely reaches southern Quebec and eastern Ontario, but recent records in Gatineau Park and good numbers in the Frontenac area northeast of Kingston provide a potential source of migrants to pass through MBO without being too far off course.

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

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

OROR: Orchard Oriole / Oriole des vergers (*Icterus spurius*)

A more southern species with only scattered records in the Montreal area, but one of these is of a nesting pair near the entrance to the Ecomuseum (in 2001 or 2002); had MBO been operational at the time, it is possible one or more of the birds from that location would have been counted at MBO.

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

A highly nomadic finch that visits feeders on occasion and has been observed at the Morgan Arboretum; chances are good of eventually spotting one at MBO during a winter when relatively large numbers occur in southern Quebec.

5.3 Seasonal patterns

During spring and fall migration, both weather conditions and bird communities undergo significant changes throughout the season. The brief accounts below summarize typical observations on a weekly basis throughout these two seasons, and on a monthly basis during summer and winter, when conditions change less rapidly. Dominant species observed and banded are listed for each period, generally including only those which have occurred in the top 10 for that period in at least 4 of 5 years (see Appendix B). They are listed in descending order of occurrence, with the mean number of individuals observed per day or the mean number banded per week (or per month in summer/winter) in parentheses. Species peaks for spring and fall are based on the patterns of observation shown in Appendix A; clear and consistent peaks are not apparent for all species, therefore the sum of species peaking by week is substantially less than the number of species recorded for each season. Weather data are based on archived records from Environment Canada for Montreal.

Spring Week 1 (March 28 – April 3)

Number of species observed: 54 (cumulative total), 38 (maximum), 34 (mean)

Dominant species observed: Canada Goose (528), Snow Goose (46), Red-winged Blackbird (30), American Crow (19), Ring-billed Gull (16), Bohemian Waxwing (17), Black-capped Chickadee (10), American Robin (10)

Dominant species banded: Not applicable

Species peaking this week: 1 – Bohemian Waxwing

Weather: Temperature range -11 to +22; mean high temperature 4 to 14. Total rainfall 6 to 45 mm (mean 22); total snowfall 0 to 3 cm (mean 1).

Other notes: This was designated as the first spring at MBO as it commonly coincides with the return of large numbers of Canada Geese and Red-winged Blackbirds, as well as the arrival of smaller numbers of other migrants ranging from Wood Duck to Song Sparrow. However, morning temperatures are typically still cold, and in some years there is still snow on the ground, therefore banding has never been attempted during this period. The only species with mean abundance peaking in this week is Bohemian Waxwing, which tends to be most common at MBO in late winter and begins to move on in late March and early April.

Spring Week 2 (April 4 – 10)

Number of species observed: 67 (cumulative total), 51 (maximum), 41 (mean)

Dominant species observed: Canada Goose (309), Red-winged Blackbird (38), Snow Goose (29), Ring-billed Gull (23), American Crow (20), American Robin (14), Song Sparrow (12)

Dominant species banded: Song Sparrow (3.5), American Goldfinch (2.5), American Robin (2.0), American Tree Sparrow (2.0), Black-capped Chickadee (1.5), Slate-coloured Junco (1.5)

Species peaking this week: 4 – Northern Shrike, Golden-crowned Kinglet, European Starling, American Tree Sparrow

Weather: Temperature range -6 to +16; mean high temperature 3 to 12. Total rainfall 3 to 26 mm (mean 17); total snowfall 0 to 11 cm (mean 5).

Other notes: Weather conditions in week 2 are relatively similar to week 1; in fact, over the past five years the second week has been slightly colder and snowier. Banding was attempted during this week for the first two years, but between weather limitations and very small numbers of birds was determined to be not worthwhile with respect to effort required and potential for consistency over time. Since Golden-crowned Kinglet and American Tree Sparrow are among the species peaking during this week, they may be somewhat under-represented in spring numbers, though both are reasonably well detected by census.

Spring Week 3 (April 11 – 17)

Number of species observed: 70 (cumulative total), 53 (maximum), 43 (mean)

Dominant species observed: Canada Goose (309), Snow Goose (57), Red-winged Blackbird (36), Ring-billed Gull (24), American Crow (18), American Robin (17), Song Sparrow (14)

Dominant species banded: Slate-coloured Junco (10.5), American Robin (4.0), Song Sparrow (4.0), Cedar Waxwing (4.0), Golden-crowned Kinglet (2.5), Ruby-crowned Kinglet (2.0), American Tree Sparrow (2.0), Red-winged Blackbird (2.0)

Species peaking this week: None

Weather: Temperature range -4 to +24; mean high temperature 5 to 16. Total rainfall 0 to 19 mm (mean 10); total snowfall 0 to 51 cm (mean 10).

Other notes: Week 3 tends to be slightly warmer than the first two weeks, though there are still some mornings below freezing each year, and there remains the potential for significant snowfall. Banding during this week in the first two years

produced modest results, and again because of that and weather limitations, banding during this week was not continued in subsequent years. Numbers of early migrants such as American Robin, Song Sparrow, and Red-winged Blackbird continue to build during week 3, but there are no species that have shown a peak at this time of spring.

Spring Week 4 (April 18 – 24)

Number of species observed: 93 (cumulative total), 69 (maximum), 63 (mean)

Dominant species observed: Canada Goose (402), Snow Goose (217), Red-winged Blackbird (48), Ring-billed Gull (36), American Crow (27), Song Sparrow (19), American Robin (18)

Dominant species banded: Ruby-crowned Kinglet (17.6), Red-winged Blackbird (7.0), Song Sparrow (6.4), Fox Sparrow (6.2), Slate-coloured Junco (5.2), American Goldfinch (4.4), White-throated Sparrow (3.6), Cedar Waxwing (3.2), American Robin (3.0), Swamp Sparrow (3.4)

Species peaking this week: 18 – Snow Goose, Canada Goose, Mallard, Green-winged Teal, Broad-winged Hawk, Killdeer, Herring Gull, Mourning Dove, Belted Kingfisher, Eastern Phoebe, American Crow, Black-capped Chickadee, Brown Creeper, American Robin, Fox Sparrow, Song Sparrow, Slate-coloured Junco, Northern Cardinal

Weather: Temperature range -2 to +26; mean high temperature 14 to 22. Total rainfall 1 to 63 mm (mean 26).

Other notes: Mean temperature tends to increase noticeably in week 4 and is accompanied by a significant influx of species. Banding has been conducted in week 4 in all years; in every year except 2008 the capture rates were the lowest among weeks 4 through 10, but starting this early appears warranted to provide coverage of early migrants peaking during this period such as Fox Sparrow and Slate-coloured Junco, and even American Robin and Song Sparrow. Sparrows dominate in the nets most years, with 4 to 6 species among the top 10 banded in 2005, 2006, and 2008.

Spring Week 5 (April 25 – May 1)

Number of species observed: 101 (cumulative total), 72 (maximum), 64 (mean)

Dominant species observed: Canada Goose (235), Red-winged Blackbird (54), American Crow (25), Ring-billed Gull (18), Tree Swallow (14), Song Sparrow (14), American Robin (14), White-throated Sparrow (14)

Dominant species banded: Red-winged Blackbird (16.8), Ruby-crowned Kinglet (14.0), White-throated Sparrow (10.8), American Goldfinch (4.0), Swamp Sparrow (3.6), Slate-coloured Junco (3.6), Song Sparrow (3.0)

Species peaking this week: 10 – Northern Pintail, Turkey Vulture, Northern Harrier, Cooper's Hawk, Downy Woodpecker, Northern Flicker, Ruby-crowned Kinglet, Swamp Sparrow, White-throated Sparrow, Rusty Blackbird

Weather: Temperature range -3 to +29; mean high temperature 13 to 22. Total rainfall 5 to 71 mm (mean 30).

Other notes: Both in terms of rainfall and temperature, conditions in week 5 can be highly variable, and migration varies accordingly. For example, in 2007 a cold snap in week 5 reduced the mean temperature by 6° compared to week 4, and this effectively stalled migration, resulting in a lower capture rate than in any other year. Canada Goose and Red-winged Blackbird have been the first and second most abundant species in week 5 every year. The locally breeding Tree Swallows usually return during this period. Fewer species tend to peak in week 5 than week 4, but these include Ruby-crowned Kinglet and White-throated Sparrow, which are among the more common passerine migrants at MBO in spring. Usually one of Ruby-crowned Kinglet, White-throated Sparrow, or Red-winged Blackbird dominates the nets in week 5 by a wide margin over other species.

Spring Week 6 (May 2 – 8)

Number of species observed: 123 (cumulative total), 89 (maximum), 77 (mean)

Dominant species observed: Canada Goose (330), Snow Goose (158), Red-winged Blackbird (48), Ring-billed Gull (30), American Crow (21), Tree Swallow (16), Song Sparrow (14), Common Grackle (12)

Dominant species banded: Red-winged Blackbird (21.6), Ruby-crowned Kinglet (16.0), White-throated Sparrow (11.8), American Goldfinch (6.8), Common Grackle (5.4), Cedar Waxwing (3.0)

Species peaking this week: 11 – Common Loon, Osprey, Sharp-shinned Hawk, Red-shouldered Hawk, Red-tailed Hawk, Yellow-bellied Sapsucker, Hairy Woodpecker, Pileated Woodpecker, Savannah Sparrow, Brown-headed Cowbird, Purple Finch

Weather: Temperature range 0 to 26; mean high temperature 14 to 18. Total rainfall 0 to 31 mm (mean 13).

Other notes: Weather during week 6 has been remarkably consistent over the past five years, with relatively little rainfall, daily highs in the mid-teens, and morning lows consistently above freezing. Overall this is the peak for spring raptor migration at MBO, and while most woodpeckers are either year-round residents or at least local breeders, their activity also tends to be highest in week 6. The top three species banded are the same as in week 6, all in greater numbers, though the mean number of Ruby-crowned Kinglets and White-throated Sparrows observed is actually beginning to

decrease in early May. Small numbers of neotropical migrants begin to arrive in week 6, usually including Yellow Warbler and Rose-breasted Grosbeak, and often also Eastern Kingbird and Baltimore Oriole.

Spring Week 7 (May 9 – 15)

Number of species observed: 133 (cumulative total), 95 (maximum), 86 (mean)

Dominant species observed: Red-winged Blackbird (62), Ring-billed Gull (40), Cliff Swallow (23), Tree Swallow (20), Canada Goose (20), American Crow (19), Common Grackle (14), American Goldfinch (13), Song Sparrow (12)

Dominant species banded: Red-winged Blackbird (30.6), Yellow-rumped Warbler (10.6), American Goldfinch (9.4), White-throated Sparrow (10.8), Ruby-crowned Kinglet (8.0), Yellow Warbler (7.6), Common Grackle (6.6)

Species peaking this week: 13 – Virginia Rail, Ring-billed Gull, Blue-headed Vireo, Tree Swallow, Northern Rough-winged Swallow, Cliff Swallow, Yellow-rumped Warbler, Black-throated Green Warbler, Chipping Sparrow, White-crowned Sparrow, Red-winged Blackbird, Common Grackle, American Goldfinch

Weather: Temperature range -1 to +30; mean high temperature 17 to 21. Total rainfall 5 to 32 mm (mean 15).

Other notes: Diversity begins to spike in week 7, with between 85 and 95 species observed annually from 2006 through 2009, representing a growing influx of neotropical migrants, although many of them do not peak in numbers for another week or two. After being the most abundant species observed since the beginning of spring, Canada Goose abruptly drops off during week 7, with usually only scattered sightings of small lingering flocks to supplement the one or two pairs breeding on site. Swallows often are swarming over Stonecroft Pond in large numbers in week 7. This tends to be the peak week for banding Red-winged Blackbirds, after which some move on and others begin to settle down for nesting. Yellow Warbler is the earliest of the neotropical migrants to be banded in good numbers, with a mean of nearly 8 this week, in addition to usually at least a couple of returns of residents banded in previous years.

Spring Week 8 (May 16 – 22)

Number of species observed: 128 (cumulative total), 104 (maximum), 95 (mean)

Dominant species observed: Red-winged Blackbird (41), Ring-billed Gull (35), American Crow (19), Tree Swallow (17), Yellow Warbler (16), American Goldfinch (13), Cliff Swallow (11), Common Grackle (10), Song Sparrow (10)

Dominant species banded: Yellow Warbler (18.0), Red-winged Blackbird (17.6), American Goldfinch (13.8), Yellow-rumped Warbler (12.8), Common Yellowthroat (10.2), Tennessee Warbler (10.4), Magnolia Warbler (9.6), White-crowned Sparrow (8.2)

Species peaking this week: 20 – Solitary Sandpiper, Ruby-throated Hummingbird, Least Flycatcher, Philadelphia Vireo, Purple Martin, Barn Swallow, House Wren, Tennessee Warbler, Orange-crowned Warbler, Nashville Warbler, Northern Parula, Magnolia Warbler, Black-throated Blue Warbler, Blackburnian Warbler, Black-and-white Warbler, Ovenbird, Lincoln's Sparrow, Rose-breasted Grosbeak, Bobolink, Baltimore Oriole

Weather: Temperature range 2 to 29; mean high temperature 14 to 19. Total rainfall 5 to 85 mm (mean 30).

Other notes: This is the first week during which no sub-freezing temperatures have been recorded between 2005 and 2009, though mean temperatures have tended to hover around the mid-teens as in week 6, and somewhat cooler on average than week 7. Week 8 is the peak of spring migration in every respect, with the highest diversity (mean 95 species; range 87 to 104), greatest number of species peaking in abundance during this week (20; tied with week 9), and highest number of individuals (mean 172; range 130 to 299) and species (mean 36; range 28 to 44) banded. Yellow Warbler takes over as the most commonly banded species overall, though it topped the weekly list only in 2008, reflecting high inter-annual variability at the peak of migration. An additional four warbler species are among the 8 birds regularly banded in good numbers this week.

Spring Week 9 (May 23 – 29)

Number of species observed: 129 (cumulative total), 101 (maximum), 95 (mean)

Dominant species observed: Red-winged Blackbird (36), Ring-billed Gull (29), American Crow (17), Tree Swallow (16), Yellow Warbler (16), Cliff Swallow (15), American Goldfinch (14)

Dominant species banded: Blackpoll Warbler (16.6), American Goldfinch (12.8), Red-winged Blackbird (12.2), Tennessee Warbler (10.4), Wilson's Warbler (10.0), Magnolia Warbler (8.4), Yellow Warbler (8.2), Common Yellowthroat (8.0), Cedar Waxwing (7.8), Yellow-rumped Warbler (7.6)

Species peaking this week: 20 – Wood Duck, Great Blue Heron, Black-billed Cuckoo, Great Crested Flycatcher, Eastern Kingbird, Warbling Vireo, Swainson's Thrush, Gray Catbird, Brown Thrasher, Yellow Warbler, Chestnut-sided Warbler, Blackpoll Warbler, American Redstart, Northern Waterthrush, Mourning Warbler, Common Yellowthroat, Wilson's Warbler, Canada Warbler, Indigo Bunting

Weather: Temperature range 3 to 31; mean high temperature 18 to 24. Total rainfall 2 to 28 mm (mean 13).

Other notes: By late May there can already be early heat waves, with high temperatures in 2007 reaching 31°. Species diversity is on average only marginally lower than in week 8 (and in 2008 was considerably higher), boosted by the arrival of several late migrants, which on average increase the season total by 7 species. Another 20 species tend to peak in abundance this week, most of them neotropical migrants. Blackpoll Warbler has been a dominant species in the nets since 2007, though was not in the top 10 for the week in 2005 or 2006. Red-winged Blackbirds are usually still banded nearly every day in week 9, and various other warblers are also regular, accounting for 7 of the overall top 10 species.

Spring Week 10 (May 30 – June 5)

Number of species observed: 118 (cumulative total), 84 (maximum), 77 (mean)

Dominant species observed: Red-winged Blackbird (30), American Crow (15), Yellow Warbler (12), Tree Swallow (13), American Goldfinch (12), Ring-billed Gull (10), Cedar Waxwing (11), Song Sparrow (9)

Dominant species banded: Cedar Waxwing (9.2), Blackpoll Warbler (5.2), American Goldfinch (3.6), Red-winged Blackbird (3.4), Traill's Flycatcher (3.0)

Species peaking this week: 6 – Eastern Wood-Pewee, Yellow-bellied Flycatcher, Traill's Flycatcher, Red-eyed Vireo, Veery, Cedar Waxwing

Weather: Temperature range 5 to 31; mean high temperature 18 to 26. Total rainfall 6 to 52 mm (mean 27).

Other notes: This final week of spring is defined more by the lingering occurrence of late migrants than by weather. In most years, temperatures are summer-like, similar to the rest of June, though in 2008 and 2009 mean temperatures remained distinctly cooler, below 20°. Despite this, it would be premature to call spring migration over at the end of May, since there are several late migrants that typically linger into early June, most notably Cedar Waxwing and the three flycatchers peaking this week (Eastern Wood-Pewee, Yellow-bellied Flycatcher, and Traill's Flycatcher), as well as four non-breeding warblers regularly still present (Tennessee, Magnolia, Blackpoll, and Wilson's). However, since 2007, the banding period has been cut off after June 1, since data from previous years showed that captures were dominated by local breeders.

Summer Month 1 (June 6 – 30)

Number of species observed: 80 (cumulative total), 64 (maximum), 55 (mean)

Dominant species observed: Red-winged Blackbird (25), Tree Swallow (11), American Goldfinch (10), Yellow Warbler (9), Song Sparrow (7), American Crow (7), Cedar Waxwing (6), Baltimore Oriole (5)

Dominant species banded: Tree Swallow (12.0), Red-winged Blackbird (4.4), House Wren (1.2), Eastern Kingbird (0.8), Cedar Waxwing (0.6), Song Sparrow (0.6)

Weather: Temperature range 6 to 33; mean high temperature 24 to 27. Total rainfall 41 to 129 mm (mean 74, weekly mean 21).

Other notes: Weather for the majority of June is fairly similar to that of the last week of MBO's spring season, although the mean high temperature is more consistently in the mid 20s. This is the peak of the breeding season, and most of the dominant species are very vocal and active throughout the month. Banding numbers are low primarily because little effort has been made to band during this period in most years, with the exception of Tree Swallows in the nest boxes, typically banded several days prior to fledging. The cumulative count of species observed is somewhat inflated by a few late-lingering spring migrants including flycatchers, warblers, and sparrows.

Summer Month 2 (July 1 – 31)

Number of species observed: 79 (cumulative total), 68 (maximum), 51 (mean)

Dominant species observed: Red-winged Blackbird (13), American Goldfinch (11), Song Sparrow (10), American Crow (8), European Starling (6), American Robin (6), Common Grackle (5), Cliff Swallow (5), Black-capped Chickadee (5)

Dominant species banded: Song Sparrow (4.8), Yellow Warbler (3.2), American Robin (2.4), Rose-breasted Grosbeak (2.4), Black-capped Chickadee (1.8), Tree Swallow (1.6), Veery (1.6), Swamp Sparrow (1.6), Red-winged Blackbird (1.6), Baltimore Oriole (1.6)

Weather: Temperature range 10 to 33; mean high temperature 24 to 28. Total rainfall 106 to 135 mm (mean 121, weekly mean 27).

Other notes: July is mid-summer at MBO, with consistently hot temperatures. For most species, numbers observed drop as breeding activity tapers off. A broader variety of species has been banded in July, but in small numbers. The cumulative count of species is somewhat inflated by a few early fall migrants, most notably warblers.

Fall Week 1 (August 1 – 7)

Number of species observed: 110 (cumulative total), 75 (maximum), 71 (mean)

Dominant species observed: Red-winged Blackbird (44), Song Sparrow (21), American Goldfinch (17), Common Grackle (17), Black-capped Chickadee (15), American Robin (13), Cedar Waxwing (12)

Dominant species banded: Song Sparrow (31.0), Yellow Warbler (21.0), Rose-breasted Grosbeak (10.6), Baltimore Oriole (9.4), Black-capped Chickadee (7.2), Gray Catbird (6.8), White-throated Sparrow (5.4)

Species peaking this week: 8 – Warbling Vireo, House Wren, Veery, Yellow Warbler, Song Sparrow, Rose-breasted Grosbeak, Indigo Bunting, Baltimore Oriole

Weather: Temperature range 11 to 34; mean high temperature 24 to 29. Total rainfall 22 to 74 mm (mean 41).

Other notes: Weather provides no indication that the first week of August should represent the first week of fall; in fact, on average between 2005 and 2009, this was the hottest week of the year. However, observations have consistently shown that early migrants are on the move this early, with 8 species actually peaking for fall during this week. Most of these are species that breed locally, but are early to depart. The resident Red-winged Blackbirds on average dominate the observations, but by the end of week are well on their way to roosts elsewhere, where they largely remain until returning in much larger flocks toward the middle of fall. Species diversity in week 1 ranges from 65 to 75 (mean 71), considerably higher than typical summer numbers. Song Sparrow and Yellow Warbler dominate the nets by a large margin over other species, though both Rose-breasted Grosbeak and Baltimore Oriole are unusually numerous at this time too.

Fall Week 2 (August 8 – 14)

Number of species observed: 108 (cumulative total), 84 (maximum), 75 (mean)

Dominant species observed: American Crow (22), Song Sparrow (20), American Goldfinch (18), Black-capped Chickadee (16), Red-winged Blackbird (16), Common Grackle (14), American Robin (13), Cedar Waxwing (13)

Dominant species banded: Song Sparrow (31.8), American Redstart (13.0), Yellow Warbler (12.8), Baltimore Oriole (9.0), Rose-breasted Grosbeak (7.8), Traill's Flycatcher (7.0), Red-eyed Vireo (6.2), Gray Catbird (4.8)

Species peaking this week: 4 – Green Heron, Traill's Flycatcher, Great Crested Flycatcher, Eastern Kingbird

Weather: Temperature range 9 to 31; mean high temperature 23 to 29. Total rainfall 1 to 19 mm (mean 8).

Other notes: Daily high temperatures remain consistently in the mid- to high 20s in week 2, but migration continues to progress at a moderate pace, with this being the peak week overall for flycatchers. Yellow Warbler, American Redstart, and Song Sparrow are almost always among the top 5 species banded this week, joined in some years by a variety of other common early fall migrants including Traill's Flycatcher, Red-eyed Vireo, and Baltimore Oriole.

Fall Week 3 (August 15 – 21)

Number of species observed: 114 (cumulative total), 84 (maximum), 78 (mean)

Dominant species observed: American Crow (31), Song Sparrow (17), American Goldfinch (17), Black-capped Chickadee (15), Common Grackle (11), American Robin (11), Cedar Waxwing (10)

Dominant species banded: Song Sparrow (25.6), American Redstart (13.6), Common Yellowthroat (7.0), Baltimore Oriole (6.8), Magnolia Warbler (6.8), Yellow Warbler (6.2), Rose-breasted Grosbeak (5.2), Nashville Warbler (4.4)

Species peaking this week: 12 – Ruby-throated Hummingbird, Eastern Wood-Pewee, Purple Martin, Tree Swallow, Northern Rough-winged Swallow, Barn Swallow, Chestnut-sided Warbler, Blackburnian Warbler, Black-and-white Warbler, Mourning Warbler, Canada Warbler, Bobolink

Weather: Temperature range 7 to 33; mean high temperature 23 to 29. Total rainfall 8 to 34 mm (mean 19).

Other notes: In some years there is an early cold front that brings nightly temperatures below 10° and may stimulate a small push of migrants, but daily highs generally remain in the mid-20s and with humidity factored in can still feel uncomfortably hot. Migration generally enters a bit of a lull around this time, with capture rates always lower than in week 2. Although a much greater number of species have their fall peak in week 3, most are relatively uncommon, and only 4 of them are banded with any regularity. Either American Redstart or Song Sparrow has topped the list of birds banded during this week each year. Others regularly banded in week 3 include a mix of lingering early fall migrants such as Yellow Warbler, Rose-breasted Grosbeak, and Baltimore Oriole, and the vanguard of somewhat later species such as Nashville Warbler, Magnolia Warbler, and Common Yellowthroat.

Fall Week 4 (August 22 – 28)

Number of species observed: 115 (cumulative total), 82 (maximum), 78 (mean)

Dominant species observed: American Crow (38), Common Grackle (35), Black-capped Chickadee (16), American Goldfinch (16), Song Sparrow (14), Cedar Waxwing (13), Blue Jay (10), Magnolia Warbler (7)

Dominant species banded: Magnolia Warbler (28.2), Song Sparrow (17.4), American Redstart (13.4), Common Yellowthroat (9.8), Nashville Warbler (8.0), Tennessee Warbler (6.0)

Species peaking this week: 2 – Least Flycatcher, Ovenbird

Weather: Temperature range 8 to 30; mean high temperature 21 to 26. Total rainfall 1 to 38 mm (mean 18).

Other notes: Weather is usually similar to week 3 and overall bird numbers remain relatively low for fall. Song Sparrow and American Redstart remain among the most common species banded, but Magnolia Warbler was the most commonly banded species in every year except 2009. In general, warblers dominate, accounting for 5 to 8 of the top 10 species banded in week 4 each year. Fewer species peak in this week than any other time of fall.

Fall Week 5 (August 29 – September 4)

Number of species observed: 114 (cumulative total), 88 (maximum), 82 (mean)

Dominant species observed: Common Grackle (85), American Crow (56), Canada Goose (16), Black-capped Chickadee (18), American Goldfinch (15), Blue Jay (11), Cedar Waxwing (12), Song Sparrow (10), Magnolia Warbler (9)

Dominant species banded: Magnolia Warbler (37.2), American Redstart (16.2), Red-eyed Vireo (12.4), Song Sparrow (12.6), Common Yellowthroat (11.8), Wilson's Warbler (10.2), Nashville Warbler (9.0), Northern Waterthrush (4.0)

Species peaking this week: 8 – Solitary Sandpiper, Olive-sided Flycatcher, Yellow-bellied Flycatcher, Red-eyed Vireo, Bay-breasted Warbler, American Redstart, Northern Waterthrush, Wilson's Warbler

Weather: Temperature range 8 to 31; mean high temperature 21 to 27. Total rainfall 1 to 75 mm (mean 22).

Other notes: Temperatures remain high in week 5, and in most years the mid/late August lull of migration continues through this week, though in 2008 numbers began to increase at this point. Magnolia Warbler has been the most frequently banded species this week each year, the only week in fall consistently dominated by a single species; in total more than twice as many Magnolia Warblers have been banded during this week than any other species. The list of species banded continues to be dominated by warblers, with Red-eyed Vireo and Song Sparrow being the only other species regularly among the top 10 for the week.

Fall Week 6 (September 5 – 11)

Number of species observed: 121 (cumulative total), 85 (maximum), 82 (mean)

Dominant species observed: Common Grackle (123), American Crow (85), Black-capped Chickadee (21), Canada Goose (19), American Goldfinch (19), Cedar Waxwing (19), Blue Jay (16), White-throated Sparrow (11), Song Sparrow (10)

Dominant species banded: Magnolia Warbler (36.6), White-throated Sparrow (16.6), Common Yellowthroat (15.4), Nashville Warbler (13.0), Song Sparrow (12.4), Wilson's Warbler (9.0), American Goldfinch (8.0), Red-eyed Vireo (7.0)

Species peaking this week: 10 – Northern Harrier, Red-shouldered Hawk, Broad-winged Hawk, Pileated Woodpecker, Philadelphia Vireo, Gray Catbird, Magnolia Warbler, Blackpoll Warbler, Common Yellowthroat, Common Grackle

Weather: Temperature range 6 to 33; mean high temperature 20 to 24. Total rainfall 0 to 29 mm (mean 14).

Other notes: Mean daily high temperatures drop toward the low 20s, and there is regularly at least one modest cold front bringing temperatures down to between 6° and 8°. Mid-fall migrants increase noticeably, and on average diversity peaks in week 6, with a mean of 82 species observed. However, the peak of fall diversity is less pronounced than in spring, and ranges from week 3 to week 7 depending on the year. In some years, Magnolia Warblers continue to dominate the banding totals into week 6, and overall this is the peak week for Magnolia Warbler observations. In other years White-throated Sparrows become the most common species banded as early as this week. For the first time in fall, two sparrow species are always among the top 10 banded, with Song Sparrow remaining on the list too, though in most years somewhat less numerous than White-throated Sparrow.

Fall Week 7 (September 12 – 18)

Number of species observed: 115 (cumulative total), 90 (maximum), 78 (mean)

Dominant species observed: American Crow (107), Common Grackle (96), Canada Goose (33), American Goldfinch (21), White-throated Sparrow (20), Black-capped Chickadee (19), Blue Jay (18), Cedar Waxwing (17)

Dominant species banded: White-throated Sparrow (29.0), Magnolia Warbler (23.4), Nashville Warbler (19.6), Song Sparrow (18.4), American Goldfinch (13.4), Yellow-rumped Warbler (12.6), Tennessee Warbler (11.8), Common Yellowthroat (9.8)

Species peaking this week: 5 – Tennessee Warbler, Nashville Warbler, Northern Parula, Yellow Palm Warbler, American Goldfinch

Weather: Temperature range 4 to 29; mean high temperature 19 to 24. Total rainfall 4 to 36 mm (mean 15).

Other notes: Weather is generally quite similar to week 6, but species composition tends to change significantly. While White-throated Sparrow and Magnolia Warbler remain the top two species banded on average, Tennessee and Nashville

Warblers usually increase to their peak during this week. Warblers still dominate in the nets, but their diversity begins to decline. Week 7 usually is the tail end of the slower part of the season, and sometimes the species that dominate the second half of fall begin to appear in small numbers as early as this, including Ruby-crowned Kinglet and Yellow-rumped Warbler.

Fall Week 8 (September 19 – 25)

Number of species observed: 111 (cumulative total), 88 (maximum), 82 (mean)

Dominant species observed: Canada Goose (454), American Crow (133), Common Grackle (100), White-throated Sparrow (36), Yellow-rumped Warbler (31), American Robin (26), Blue Jay (23), Red-winged Blackbird (22), Cedar Waxwing (24), Black-capped Chickadee (18), American Goldfinch (15)

Dominant species banded: Yellow-rumped Warbler (84.2), White-throated Sparrow (54.4), Ruby-crowned Kinglet (26.0), Song Sparrow (17.8), Nashville Warbler (14.8), Magnolia Warbler (15.4)

Species peaking this week: 11 – Turkey Vulture, Sharp-shinned Hawk, Cooper's Hawk, Hairy Woodpecker, Northern Flicker, Swainson's Thrush, Brown Thrasher, Cedar Waxwing, Black-throated Green Warbler, Western Palm Warbler, Lincoln's Sparrow

Weather: Temperature range 4 to 29; mean high temperature 18 to 26. Total rainfall 0 to 24 mm (mean 9).

Other notes: Week 8 is the latest period during which temperatures regularly surpass 20° at least once per year, but in the majority of years there is also at least one night with temperatures below 6°. There is always a substantial increase in birds this week compared to earlier in fall. Canada Goose and mixed blackbird flocks show the most dramatic jump in numbers. White-throated Sparrow has been the most frequently banded species in all odd-numbered years, while Yellow-rumped Warbler has been on top by large margins in both even-numbered years. Ruby-crowned Kinglets begin to appear in good numbers in most years, except for 2009 when they were late in arriving. This is usually the last week that Nashville and Magnolia Warblers are present in good numbers. Overall this week marks a transition from the early season dominance of warblers to the later season dominance of sparrows.

Fall Week 9 (September 26 – October 2)

Number of species observed: 109 (cumulative total), 79 (maximum), 75 (mean)

Dominant species observed: Canada Goose (449), American Crow (112), Common Grackle (64), White-throated Sparrow (55), Yellow-rumped Warbler (54), American Robin (41), Red-winged Blackbird (31), Blue Jay (24), Ruby-crowned Kinglet (27), Black-capped Chickadee (21)

Dominant species banded: Yellow-rumped Warbler (196.6), White-throated Sparrow (86.2), Ruby-crowned Kinglet (80.6), Song Sparrow (24.0), Nashville Warbler (13.8), White-crowned Sparrow (15.2), Black-capped Chickadee (11.2), Blue-headed Vireo (9.4)

Species peaking this week: 12 – Yellow-bellied Sapsucker, Downy Woodpecker, Eastern Phoebe, Blue-headed Vireo, Blue Jay, Grey-cheeked Thrush, Black-throated Blue Warbler, Yellow-rumped Warbler, Savannah Sparrow, Swamp Sparrow, Rusty Blackbird, Brown-headed Cowbird

Weather: Temperature range 4 to 27; mean high temperature 14 to 20. Total rainfall 14 to 42 mm (mean 27).

Other notes: Usually slightly cooler than week 8, and on average one of the wettest weeks of fall. This is the first of two weeks that are consistently the peak of fall migration in terms of total number of birds, although a few weeks past the usual peak of diversity. Canada Goose is the most abundant species observed in week 9 each year, usually by a large margin. Black-throated Blue and Yellow-rumped Warblers tend to peak in this week, the latest of the warblers except for the much less common Orange-crowned. Exactly as in week 8, White-throated Sparrows dominate the banding totals in odd-numbered years, while Yellow-rumped Warblers lead by a substantial margin in even-numbered years. Ruby-crowned Kinglets are almost always the second-most common species banded; all of the top three are many times more common than any other species.

Fall Week 10 (October 3 – 9)

Number of species observed: 110 (cumulative total), 78 (maximum), 73 (mean)

Dominant species observed: Canada Goose (643), American Robin (115), American Crow (87), White-throated Sparrow (67), Red-winged Blackbird (53), Common Grackle (56), Yellow-rumped Warbler (54), Ruby-crowned Kinglet (47), Black-capped Chickadee (24)

Dominant species banded: Yellow-rumped Warbler (167.2), Ruby-crowned Kinglet (112.8), White-throated Sparrow (71.0), American Robin (26.8), Slate-coloured Junco (25.0), White-crowned Sparrow (24), Song Sparrow (23.8), Black-capped Chickadee (22.0)

Species peaking this week: 11 – Canada Goose, Osprey, Black-capped Chickadee, Brown Creeper, Winter Wren, Golden-crowned Kinglet, Ruby-crowned Kinglet, Chipping Sparrow, White-throated Sparrow, White-crowned Sparrow, Purple Finch

Weather: Temperature range 1 to 27; mean high temperature 14 to 21. Total rainfall 10 to 71 mm (mean 31).

Other notes: In most years mean temperature is comparable to week 9, and the peak of migration often spans both weeks with relatively little variation in overall abundance of birds. Canada Goose again dominates the observations across all years, always by a large margin. Ruby-crowned Kinglet is the most consistently abundant species banded in week 10, but Yellow-rumped Warbler has the highest mean total for the week based on a phenomenal total of 650 banded in 2008 (compared to between 30 and 70 in other years). On average, White-throated and White-crowned Sparrow numbers peak this week, although overshadowed by the Ruby-crowned Kinglets and Yellow-rumped Warblers. American Robin and Slate-coloured Juncos begin to increase significantly in week 10.

Fall Week 11 (October 10 – 16)

Number of species observed: 91 (cumulative total), 68 (maximum), 62 (mean)

Dominant species observed: Canada Goose (384), American Robin (350), Red-winged Blackbird (143), American Crow (124), Common Grackle (48), White-throated Sparrow (38), Ruby-crowned Kinglet (32), Slate-coloured Junco (27)

Dominant species banded: American Robin (70.0), Ruby-crowned Kinglet (61.8), Yellow-rumped Warbler (47.2), Slate-coloured Junco (33.0), White-throated Sparrow (21.0), Hermit Thrush (18.6), Song Sparrow (14.8)

Species peaking this week: 4 – Northern Saw-whet Owl, Hermit Thrush, American Robin, Orange-crowned Warbler

Weather: Temperature range -3 to +23; mean high temperature 8 to 17. Total rainfall 4 to 81 mm (mean 25).

Other notes: Temperatures usually drop sharply in week 11, on average nearly 5° cooler than week 10. This change in weather is typically accompanied by a mass exodus of the birds that dominated weeks 9 and 10, and the biggest single-week drop in diversity during fall, with on average 11 fewer species observed than in week 10. However, there is a corresponding increase in late fall migrants, most notably American Robin, Slate-coloured Junco, and Red-winged Blackbird. Canada Geese remain abundant, but are joined by American Robin, with these two species splitting the top two positions among species observed each year; American Crow and Red-winged Blackbird typically alternate between third and fourth, while all other species are much less common. American Robin has been among the top two species banded each year, while Ruby-crowned Kinglet is always among the top four. Yellow-rumped Warbler has the third highest mean of individuals banded, but based almost entirely on a late push of 209 individuals in 2008, with only 2 to 12 banded during week 11 in other years. All other species are much less common, though good numbers of late White-throated Sparrow are still banded most years, while Slate-coloured Juncos continue to increase during this period.

Fall Week 12 (October 17– 23)

Number of species observed: 87 (cumulative total), 57 (maximum), 55 (mean)

Dominant species observed: Canada Goose (347), American Robin (296), Red-winged Blackbird (221), American Crow (146), Common Grackle (74), European Starling (71), Slate-coloured Junco (35), White-throated Sparrow (20), Black-capped Chickadee (20)

Dominant species banded: American Robin (91.0), Slate-coloured Junco (47.6), Ruby-crowned Kinglet (29.4), Black-capped Chickadee (19.6), White-throated Sparrow (18.6), Song Sparrow (11.8), American Tree Sparrow (10.2)

Species peaking this week: 4 – Red-tailed Hawk, Ring-billed Gull, Eastern Bluebird, European Starling

Weather: Temperature range -4 to +25; mean high temperature 9 to 20. Total rainfall 18 to 86 mm (mean 42); total snowfall 0 to 1 cm (mean 0).

Other notes: Temperatures continue to drop significantly in week 12, with mean daily high temperatures in most years around 10°, and usually at least some nights below freezing for the first time each fall. Diversity continues to drop off sharply, with on average 7 fewer species observed than in week 11. Overall numbers tend to be slightly lower too, though the large flocks of Canada Geese, American Robins, Red-winged Blackbirds, and American Crows remain relatively unchanged. Almost twice as many American Robins have been banded in week 12 as any other species, though Slate-coloured Juncos outnumbered them in 2009, and Ruby-crowned Kinglets came out on top in 2007. Sparrows dominate by this time of fall in terms of diversity, with 5 species among the top 10 banded almost every year.

Fall Week 13 (October 24 – 30)

Number of species observed: 83 (cumulative total), 58 (maximum), 52 (mean)

Dominant species observed: Canada Goose (464), Red-winged Blackbird (317), American Robin (182), American Crow (149), European Starling (63), Slate-coloured Junco (41), Mallard (36), Common Grackle (32), Black-capped Chickadee (21)

Dominant species banded: Slate-coloured Junco (72.2), American Robin (51.0), American Tree Sparrow (19.6), Black-capped Chickadee (18.2), Fox Sparrow (9.0), White-throated Sparrow (8.0)

Species peaking this week: 14 – Wood Duck, Mallard, Herring Gull, Mourning Dove, Northern Shrike, American Crow, Bohemian Waxwing, American Tree Sparrow, Fox Sparrow, Slate-coloured Junco, Northern Cardinal, Red-winged Blackbird, Pine Grosbeak, House Sparrow

Weather: Temperature range -4 to +16; mean high temperature 7 to 12. Total rainfall 20 to 62 mm (mean 37); total snowfall 0 to 3 cm (mean 1).

Other notes: Temperatures in week 13 are on average only marginally colder than in week 12, and changes in the bird community are also relatively modest. Canada Goose, American Crow, American Robin, and Red-winged Blackbird remain the most abundant species observed by a large margin, but with the robins on the decline and blackbirds on the increase. Slate-coloured Junco takes over as the most frequently banded species, but American Robin remains strong in second place, with all others far scarcer. Although species diversity is at its lowest point of fall in week 13 (mean 52 species observed; range 46 to 58), more species reach their peak of abundance in week 13 than in any other. Several of these are late fall migrants or overwintering species such as Northern Shrike, Bohemian Waxwing, Slate-coloured Junco, American Tree Sparrow, and Fox Sparrow. Based on these results, attempts have been made to continue monitoring into early November in some years, but numbers consistently drop off sharply right at the end of October, indicating that week 13 is appropriate as the final week of fall migration monitoring.

Winter Month 1 (October 31 – November 30)

Number of species observed: 57 (cumulative total), 44 (maximum), 34 (mean)

Dominant species observed: Canada Goose (86), American Crow (36), American Robin (32), Black-capped Chickadee (13), American Goldfinch (13), Mallard (8), European Starling (7), Slate-coloured Junco (7)

Dominant species banded: American Goldfinch (29), House Finch (14), Slate-coloured Junco (10), Black-capped Chickadee (5), Mourning Dove (3)

Weather: Temperature range -14 to +18; mean high temperature 5 to 8. Total rainfall 48 to 88 mm (mean 70; weekly mean 16); total snowfall 0 to 29 cm (mean 12; weekly mean 3).

Other notes: Mean temperature in November remains above freezing, but in most years at least some snow falls during the month. Canada Goose, American Crow, and American Robin continue as the dominant species observed, though in greatly reduced numbers, and Red-winged Blackbirds usually disappear rapidly after the end of October, despite peaking in week 13 of fall. Within the winter season, diversity is highest in November, with a mean of 34 species observed annually, and a cumulative total of 61 species. Many of these are late-lingering fall migrants that occasionally trickle over into the first week or two of November in small numbers. Nearly 48% of birds banded at MBO in winter are from November, in part because of a greater concentration of banding effort compared to other months, which in turn is related to the warmer temperatures which place less of a limitation on banding activities. Finches dominate November banding, with American Goldfinch and House Finch accounting for almost two-thirds of birds banded during the month.

Winter Month 2 (December 1 – 31)

Number of species observed: 43 (cumulative total), 32 (maximum), 23 (mean)

Dominant species observed: Canada Goose (227), American Crow (21), Black-capped Chickadee (16), American Goldfinch (11), Slate-coloured Junco (11), European Starling (9), House Finch (8)

Dominant species banded: American Goldfinch (9), Black-capped Chickadee (3), Slate-coloured Junco (2), House Finch (2), American Tree Sparrow (1).

Weather: Temperature range -27 to +12; mean high temperature -3 to +2. Total rainfall 7 to 80 mm (mean 47, weekly mean 11); total snowfall 31 to 113 cm (mean 72, weekly mean 16).

Other notes: December is significantly colder than November, with mean daily high temperatures below freezing every year except 2006. On average, snowfall is greatest in December. Canada Goose remains the most abundant species on average, thanks primarily to some enormous flocks ranging from 383 to 2540 during the unusually mild weather of December 2006. Diversity is much lower than in November, with an average of 23 species observed each year, and a cumulative list of 43 for December. The combination of cold weather and frequent snow usually limits banding opportunities in December, and the monthly average totals are consequently much lower than in November. American Goldfinch remains by far the most commonly banded species, but House Finches are no longer as prominent by December; only 8 species have been banded to date in December, fewer than in any other month.

Winter Month 3 (January 1 – 31)

Number of species observed: 37 (cumulative total), 27 (maximum), 21 (mean)

Dominant species observed: European Starling (15), Black-capped Chickadee (13), American Crow (11), Slate-coloured Junco (10), Common Redpoll (7), House Sparrow (6), Bohemian Waxwing (6), Mourning Dove (6)

Dominant species banded: Common Redpoll (5), American Goldfinch (5), Slate-coloured Junco (4), Black-capped Chickadee (3), House Sparrow (1)

Weather: Temperature range -28 to +11; mean high temperature -9 to -1. Total rainfall 0 to 92 mm (mean 42, weekly mean 9); total snowfall 35 to 72 cm (mean 52, weekly mean 12).

Other notes: January is usually the coldest month of the year at MBO, with the mean high temperature always below freezing. The last of the waterfowl and other late fall migrants are finally gone, and the species observed are generally those associated with the feeders at MBO, or others such as European Starling and Bohemian Waxwing that feed on the abundant buckthorn and hawthorn fruit. Diversity drops to an average of 21 species, and a cumulative total of 37. Common Redpolls and Bohemian Waxwings usually are scarce earlier in winter but begin to show up in January. Banding opportunities continue to be scarce due to weather limitations, with Common Redpoll and American Goldfinch the most common species overall when banding has been possible.

Winter Month 4 (February 1 – 28)

Number of species observed: 34 (cumulative total), 27 (maximum), 21 (mean)

Dominant species observed: Bohemian Waxwing (17), European Starling (15), Black-capped Chickadee (11), Common Redpoll (8), American Crow (6), American Goldfinch (5), Slate-coloured Junco (5)

Dominant species banded: Black-capped Chickadee (4), Pine Siskin (1), American Goldfinch (1), Slate-coloured Junco (1), American Tree Sparrow (1).

Weather: Temperature range -23 to +7; mean high temperature -7 to -2. Total rainfall 0 to 51 mm (mean 21, weekly mean 5); total snowfall 26 to 88 cm (mean 43, weekly mean 11).

Other notes: The extremes of temperature are slightly more modest in February, but overall temperatures are comparable to January. The fruit-eating species are on average the most abundant in February, with the feeder species somewhat less common than earlier in winter. Mean diversity for the month remains 21 species, but the cumulative total of 34 is the lowest for any month. Only 50 birds have been banded in February, also fewer than in any other month.

Winter Month 5 (March 1 – 27)

Number of species observed: 46 (cumulative total), 39 (maximum), 30 (mean)

Dominant species observed: Canada Goose (46), Common Redpoll (17), American Crow (16), Bohemian Waxwing (14), European Starling (14), Black-capped Chickadee (12), American Goldfinch (6), Slate-coloured Junco (6)

Dominant species banded: Common Redpoll (7), American Goldfinch (6), Black-capped Chickadee (5), Slate-coloured Junco (2), American Tree Sparrow (2), House Sparrow (1)

Weather: Temperature range -24 to +14; mean high temperature 0 to +3. Total rainfall 14 to 45 mm (mean 24, weekly mean 6); total snowfall 3 to 78 cm (mean 34, weekly mean 9).

Other notes: March marks the transition from winter to spring, with mean high temperatures around or just above freezing, and the return of the first few early spring migrants. Diversity rebounds to a mean of 30 species each year, and a cumulative total of 46. Canada Goose returns to the top of the list of most observed species thanks to some early flocks, while passerine migrants such as American Robin, Song Sparrow, and Red-winged Blackbird trickle in with much smaller numbers and usually don't register among the top species until MBO's spring season begins. Late winter banding is most often dominated by Common Redpolls and American Goldfinches; somewhat surprisingly (since they are presumed to overwinter at MBO), several Black-capped Chickadees are usually caught for the first time and banded in March.

6 Education

Education has been a priority at MBO since its inception, in part through its relationship with McGill University, but just as importantly by virtue of recognizing the importance of training volunteers and communicating the results of research at MBO to a variety of audiences.

6.1 Website

The MBO website is a subset of the Migration Research Foundation's website, with the MBO home page (www.migrationresearch.org/mbo.html) serving as the navigational hub for all content. Much of the MBO website is dynamic, with program reports being added weekly during migration and monthly in summer and winter, and a photo-based identification library that is always growing as better pictures and new tips become available. Other sections of the website, including a site checklist, information for volunteers, a history of MBO, and tips for extractors are updated less frequently, but provide important background information.

The banding log section (www.migrationresearch.org/mbo/log.html) serves as an archive of all the weekly/monthly reports, and also provides direct links to the seasonal reports. For the 2005-2009 period, it contains 195 reports. During spring and fall migration, new reports are typically posted within one week, in order to provide current information to volunteers. These contain tables summarizing weekly and cumulative totals of birds banded and observed, and the ten species most banded and observed in the greatest numbers; photos illustrating some of the highlights of the week; and a variety of text describing the results, weather, site maintenance, and any other noteworthy news, including recoveries of banded birds.

The photo ID library (www.migrationresearch.org/mbo/id/index.html) was started as a visual aid to banders at MBO, intended to complement the text in Pyle (1997). It has since grown to cover 60 species, has gained international recognition from the American Birding Association and in online identification forums, and has become the most frequently visited part of the MRF website. Each species has its own page on the website, beginning with a set of tips on ageing and sexing, followed by a table of thumbnail photos comparing age and sex classes for both spring and fall, and finally larger photos for each age and sex class accompanied by notes pointing out key features. The degree of coverage varies considerably, in large part related to the abundance of species at MBO. Yellow Warbler and Baltimore Oriole are good examples of the 24 full species accounts, where all age and sex classes are represented; for the remaining species there are photos missing for at least one age/sex class. Efforts are ongoing to expand and improve the photo library by filling in these gaps, adding more species, and replacing some early photos of marginal quality with better ones.

6.2 Workshops

Three weekend workshops led by Marcel Gahbauer have been held at MBO to provide volunteers with training in ageing and sexing birds. Each involved a Saturday afternoon classroom session using diagrams, photos, and sometimes specimens from the Bird Banding Office to illustrate key features and contrasts, followed by a Sunday morning at MBO focused on applying the previous day's lessons. The first workshop in December 2006 focused on understanding molt and learning how to effectively use the *Identification Guide to North American Birds*. In August 2007, the second workshop focused on ageing by molt patterns in fall. The third workshop, in September 2008, was entitled "*Knowing the common birds well and being prepared for rarities*".

6.3 Other lectures and presentations

While the MBO workshops are relatively technical and advanced, there is also an interest in the community for briefer presentations on migration monitoring and banding research. Between 2005 and 2009, Marcel Gahbauer, Marie-Anne Hudson, and Barbara Frei gave 10 talks on various aspects of MBO research to local and national birding groups including Bird Protection Quebec, the Zoological Society of Montreal, the Congrès des Ornithologues Amateurs du Québec, and the Canadian Migration Monitoring Network. In addition, many volunteers have helped with staffing displays at public events such as the Bird Protection Quebec Bird Fair, and Ste-Anne-de-Bellevue's Ecology Day.

6.4 McGill Ornithology class

From 1995 until 2003, the McGill University ornithology class had been visiting the Stoneycroft Wildlife Area (now MBO) on average twice each fall for banding demonstrations by professors Dr. David Bird and Dr. Rodger Titman. With the inception of MBO in the fall of 2004, leadership of the demonstrations was turned over to the MBO banders-in-charge. Since 2005, participation in MBO activities by students has been integrated into the ornithology curriculum, with students expected to visit the station at least twice to help with migration monitoring, while gaining field experience to complement their classroom learning. Over 120 students from the ornithology class have volunteered at MBO, some of whom continued to come out after the class was over and ended up acquiring banding subpermits for their own research projects elsewhere.

6.5 On-site training

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

6.6 School visits

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



Inside the banding station at MBO, August 2009 (Photo by Marcel Gahbauer)

7 Future plans (2010-2014)

MBO has completed its first five years, during which the value of consistent long-term monitoring at this location has been established. The primary goals for the next five years are to maintain operation of existing programs, take advantage of opportunities to expand on research and education, and build capacity to support the long-term persistence of MBO.

7.1 Management

For much of the first five years, MBO was largely dependent on three or fewer people managing operations. Although MBO has been successful during this period, it has required substantial time commitments from these volunteers, and it would be desirable to broaden the leadership base in order to reduce the volume of work required from any one individual. Similarly, in most years the majority of banding has been undertaken by three or fewer banders-in-charge, and this small number leaves MBO at risk if they become unavailable for any reason. A goal during the next five years will be to develop a core of at least five local banders-in-charge who can participate regularly, and who collectively would be able to provide full coverage for a season of migration if no primary bander-in-charge is available.

In addition to building the core of personnel, effort must be dedicated to securing more consistent funding for MBO. To date, MBO has operated with a modest annual budget of under \$20,000 and has always managed to cover all expenses. However, nearly all sources of funding provide support one year at a time, and some are non-renewable. To ensure that programs can continue to be operated consistently, MBO's strong results to date need to be translated into long-term partnerships and sponsorships that will provide financial stability.

Considering the volume and variety of birds occurring at MBO, having an experienced primary bander-in-charge is highly important, and for the sake of consistency it is very desirable to limit turnover in this position. Unfortunately, with the position currently being seasonal, it is difficult for MBO to compete with offers of full-time employment from elsewhere. Therefore a key goal during the next five years is to acquire sufficient funding to hire a full-time coordinator for MBO, who would be responsible not only for being the primary bander, but also for leading an expanded education program, supervising researchers and other volunteers, and contributing to ongoing fundraising efforts.

7.2 Research

The top priority for research is to maintain consistent operation of all seasonal monitoring programs; if funding should become limiting, the most important is fall migration, followed by spring migration, MAPS, owl migration, and winter monitoring. The winter program has been largely informal to date, but there is interest in developing its potential for learning more about the local movements of feeder-associated species, perhaps through the use of color-banding and/or telemetry.

The summaries presented in this five-year report provide only a rather high-level overview of the data collected during this period. Much more exploration of this database can and should be done. Among the topics meriting further analysis are:

- Summarizing in greater detail the patterns of occurrence of common migrants at MBO, comparing earliest, latest, and peak dates over the years and evaluating whether there are any temporal or weather-related trends for any species.
- Reviewing the over 3700 repeats recorded to date, to explore aspects of stopover ecology (such as duration of stay and changes in fat and mass) and assess whether differences across years can be related to weather patterns and can be used to refine estimates of species counts.
- Reviewing the over 600 returns recorded to date, with an emphasis on identifying the patterns of occurrence of resident species and compiling a list of returns that are not breeding on site.
- Exploring the apparent two-year cycles in abundance exhibited in fall by various species including Black-capped Chickadee, Yellow-rumped Warbler, and Baltimore Oriole.

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

Whether for new projects or those involving analysis of existing data, the hope is that such research will increasingly be undertaken by undergraduate or graduate students from McGill University. While MBO banders are eager to provide guidance and assist with data collection, their priority is generally the operation of standard monitoring programs, therefore having specific research under the leadership of students will improve the ability for such projects to be completed in a timely and thorough manner.

Closely related to a desire for more research to be done is the goal of presenting and publishing more results from MBO, especially in peer-reviewed journals and ornithological conferences. Such communication is of vital importance; during the first five years of MBO, both data and time were limiting factors. However, now that a solid database has been established, research opportunities have been identified, and the potential for student involvement has been demonstrated, output should increase significantly over the next five years.

7.3 Education

The priorities for education over the next five years will be to continue on-site training of students and other volunteers, regular dissemination of results via the MBO website, and presentations to naturalist clubs and other interested community groups. More advanced workshops should also continue to be offered; in May 2010 a successful four-day session with guest leader Peter Pyle provided participants with some different perspectives on identification challenges. There is the potential to repeat this kind of event in the future, as well as offering more focused workshops aimed at a subset of the species commonly encountered at MBO.

MBO has visited a few schools upon request, and this program could be greatly expanded, especially in conjunction with the position of MBO coordinator evolving to a full-time role throughout the year. This should involve development of a standard classroom presentation, perhaps with a few variations for different age levels, targeted specifically at relevant aspects of the curriculum for each grade.

Across all aspects of education, a goal over the next five years is to offer more bilingual content.



American Goldfinch, October 2009 (Photo by Marcel Gahbauer)

8 Acknowledgements

MBO was started in 2004 as a pilot project by a few students, and over the course of five years has become established as an important member of the Canadian Migration Monitoring Network, has developed an international following through its website, and has positively influenced many students and community members through training and outreach efforts. These achievements would not have been possible without the sustained effort of dedicated leaders and a large group of volunteers always willing to assist whenever help was required. In particular, the long-term banders-in-charge (Simon Duval, Barbara Frei, Marcel Gahbauer, Gay Gruner, and Marie-Anne Hudson) have all contributed countless hours off-site over the years to developing protocols, managing data, fundraising, and communications, all of which have been essential to building a strong framework for long-term monitoring at MBO. However, a project of this scope demands a much larger team to be active, and the long list of volunteers in Appendix G demonstrates how many people have played a role in MBO's success, with special thanks to those who have contributed in each of the past five years.

8.1 Funders and supporters

Despite MBO relying heavily on volunteers, there are some costs that require fundraising on an annual basis. MBO has been fortunate to receive financial support from corporate sponsors, grants, individual donations, and volunteer fundraising initiatives.

The Baillie Birdathon, coordinated by Bird Studies Canada, is a major source of funding for many members of the Canadian Migration Monitoring Network, including MBO. Each year, between one and three teams of birders have raised between \$4,000 and \$11,000 for MBO through the Birdathon, and in most years this funding has been critical to ensuring that all programs were able to take place in full. Participants in alphabetical order (* indicating those who have been involved in the Birdathon at least four out of five years) are: Jean Bacon, Lina Bardo, Christine Barrie, Jean Beaudreault, David Bird, Sophie Cauchon, Averill Craig, Steven Dedesko, Jean Demers, Samuel Denault, Joy Ding, Christina Donehower, Catherine Doucet, Manon Dubé, Bob Edwards, David Fishman, Linda Fishman, Nicki Fleming, Sarah Fraser, Barbara Frei*, Marcel Gahbauer*, Jean Gregson, Richard Gregson, Gay Gruner*, Peter Gruner, Marie-Anne Hudson*, Stacey Jarema, Kristen Keyes, Lance Laviolette, Helen Leroux, Dylan Letchuk, Morgan Letchuk, Penny Letchuk, Barbara MacDuff*, Sarah Martinson, Mike Mayerhofer, Betsy McFarlane*, Sandy McNeil, Anthi Mimidakis, Chris Murphy, Jeremy Pauzé, André Pelletier, Oliver Rind, Clémence Soulard, Rodger Titman.

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Canada Steamship Lines

Wildlifers



EMCO



SUN-MAR

Grants in direct support of MBO's migration monitoring programs or educational efforts have been a critical source of funding most years. The James L. Baillie Memorial Fund provided financial support for the 2006 Spring Migration Monitoring Program, while a grant from the Mountain Equipment Co-op Environment Fund supported the 2006 Fall Migration Monitoring Program. Bird Protection Quebec offered grants from their Support and Education Funds annually from 2005 to 2007. Environment Canada provided financial support of migration monitoring in 2008 and 2009. Finally, a grant from the TD Friends of the Environment Foundation covered equipment and other costs for migration monitoring in 2009. Sincere thanks to all of these generous supporters.



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Note: All MRF reports are available at <http://www.migrationresearch.org/mbo/research.html>

Appendix A: Spring Migration Monitoring Program Overview

Statistics compiled for the Spring Migration Monitoring Program, 2005-2009. Numbers in the first row of each cell are for the week, while those in the second row are the cumulative season total. See section 5.3 for the dates corresponding to S1 to S10, and further details on the characteristics of each week of the spring season.

	Year	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	FINAL
# individual birds (species) banded	2005	n/a	19 (7) 19 (7)	17 (8) 36 (10)	50 (15) 86 (19)	97 (18) 183 (25)	80 (18) 263 (30)	55 (18) 318 (40)	163 (39) 481 (56)	110 (30) 591 (59)	59 (26) 650 (62)	650 (62)
	2006	n/a	17 (10) 17 (10)	69 (20) 86 (22)	79 (16) 165 (26)	78 (13) 243 (29)	148 (23) 391 (33)	88 (23) 479 (39)	123 (28) 602 (52)	128 (31) 730 (62)	29 (18) 759 (63)	759 (63)
	2007	n/a	n/a	n/a	57 (13) 57 (13)	14 (4) 71 (14)	86 (13) 157 (20)	202 (34) 359 (40)	130 (34) 489 (51)	169 (35) 658 (57)	46 (17) 704 (60)	704 (60)
	2008	n/a	n/a	n/a	141 (18) 141 (18)	68 (12) 209 (21)	68 (22) 277 (34)	177 (32) 454 (45)	147 (34) 601 (55)	171 (30) 772 (63)	56 (16) 828 (64)	828 (64)
	2009	n/a	n/a	n/a	39 (20) 39 (20)	92 (18) 131 (27)	52 (16) 183 (30)	116 (27) 299 (44)	299 (44) 598 (60)	225 (34) 773 (64)	42 (24) 816 (66)	816 (66)
# individual birds (species) repeat	2005	n/a	-- --	5 (2) 5 (2)	9 (4) 14 (4)	12 (6) 26 (7)	22 (7) 48 (9)	12 (7) 60 (11)	55 (12) 115 (15)	58 (12) 173 (18)	36 (13) 209 (18)	209 (18)
	2006	n/a	7 (3) 7 (3)	8 (5) 15 (6)	6 (3) 21 (7)	16 (6) 37 (11)	14 (10) 51 (11)	22 (8) 73 (14)	25 (9) 98 (16)	38 (15) 136 (20)	8 (7) 144 (23)	144 (23)
	2007	n/a	n/a	n/a	13 (2) 13 (2)	3 (3) 16 (4)	12 (4) 28 (6)	16 (9) 44 (10)	20 (8) 64 (13)	32 (11) 96 (17)	7 (5) 103 (18)	103 (18)
	2008	n/a	n/a	n/a	19 (5) 19 (5)	28 (10) 47 (11)	12 (8) 59 (14)	26 (12) 85 (18)	62 (17) 147 (23)	41 (14) 188 (25)	10 (8) 198 (25)	198 (25)
	2009	n/a	n/a	n/a	8 (3) 8 (3)	14 (5) 22 (6)	12 (5) 34 (7)	45 (13) 79 (15)	83 (18) 162 (24)	72 (22) 234 (30)	16 (9) 250 (30)	250 (30)
# individual birds (species) return	2005	n/a	2 (1) 2 (1)	-- 2 (1)	5 (3) 7 (3)	2 (2) 9 (4)	4 (1) 13 (4)	2 (2) 15 (5)	2 (1) 17 (5)	2 (2) 19 (5)	-- 19 (5)	19 (5)
	2006	n/a	7 (2) 7 (2)	9 (3) 16 (4)	6 (5) 22 (6)	8 (5) 30 (7)	7 (6) 37 (10)	8 (5) 45 (12)	13 (6) 58 (14)	15 (10) 73 (19)	2 (2) 75 (19)	75 (19)
	2007	n/a	n/a	n/a	12 (4) 12 (4)	2 (2) 14 (5)	12 (5) 26 (7)	18 (9) 44 (13)	20 (11) 64 (16)	14 (6) 78 (19)	3 (1) 81 (19)	81 (19)
	2008	n/a	n/a	n/a	22 (6) 22 (6)	13 (5) 35 (8)	17 (8) 52 (11)	13 (11) 65 (15)	17 (8) 82 (16)	8 (4) 90 (17)	2 (2) 92 (17)	92 (17)
	2009	n/a	n/a	n/a	13 (4) 13 (4)	9 (7) 22 (8)	9 (5) 31 (10)	25 (10) 56 (16)	30 (15) 86 (22)	13 (10) 99 (23)	-- 99 (23)	99 (23)
# species observed	2005	n/a	51 51	41 54	56 64	55 76	56 84	68 100	87 122	84 130	70 134	134
	2006	37 37	48 54	53 61	60 71	63 80	80 100	85 118	104 137	99 148	74 148	148
	2007	36 36	38 45	36 49	66 70	58 78	79 97	91 116	98 132	92 135	80 135	135
	2008	24 24	36 38	44 48	69 69	71 80	82 102	91 118	90 128	101 136	84 139	139
	2009	38 38	33 45	40 52	64 71	72 89	89 112	95 128	97 138	97 143	76 146	146
# net hours	2005	n/a	115.3 115.3	61.2 176.5	97.0 273.5	208.0 481.5	278.5 760.0	109.4 869.4	274.7 1144.1	281.6 1425.7	137.2 1562.9	1562.9
	2006	n/a	169.3 169.3	314.0 483.3	353.0 836.3	386.9 1223.2	463.9 1687.1	319.5 2006.6	236.2 2242.8	483.8 2726.6	209.9 2938.4	2938.4
	2007	n/a	n/a	n/a	413.5 413.5	75.0 488.5	510.0 998.5	454.5 1453.0	300.5 1753.5	533.0 2286.5	173.5 2460.0	2460.0
	2008	n/a	n/a	n/a	510.0 510.0	436.7 946.7	436.0 872.7	508.0 1380.7	454.0 2344.7	446.0 2790.7	121.5 2912.2	2912.2
	2009	n/a	n/a	n/a	398.0 398.0	464.0 862.0	352.5 1214.5	525.0 1739.5	554.5 2294.0	464.0 2758.0	198.5 2956.5	2956.5
# birds banded / 100 net hours	2005	n/a	16.5 16.5	27.8 20.4	51.5 31.4	46.6 38.0	28.7 34.6	50.3 36.6	59.3 42.0	39.1 41.5	43.0 41.6	41.6
	2006	n/a	10.0 10.0	22.0 17.8	22.4 19.7	20.2 19.9	31.7 23.1	27.5 23.8	52.1 26.8	26.5 26.8	13.8 25.8	25.8
	2007	n/a	n/a	n/a	13.8 13.8	18.7 14.5	16.9 15.7	44.2 24.5	43.3 27.7	31.7 27.8	26.5 28.6	28.6
	2008	n/a	n/a	n/a	27.6 27.6	15.6 22.1	15.6 20.0	34.8 24.0	32.2 25.6	38.3 27.7	46.0 28.4	28.4
	2009	n/a	n/a	n/a	9.8 9.8	19.8 15.2	14.8 15.1	22.1 17.2	54.9 26.1	48.5 28.0	21.2 27.6	27.6

Appendix B: Fall Migration Monitoring Program Overview

Statistics compiled for the Fall Migration Monitoring Program, 2005-2009. Numbers in the first row of each cell are for the week, while those in the second row are the cumulative season total. See section 5.3 for the dates corresponding to F1 to F13, and further details on the characteristics of each week of the fall season.

	Year	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	FINAL
# individual birds (species) banded	2005	70 (22)	159 (28)	140 (38)	197 (35)	281 (40)	181 (34)	426 (50)	480 (48)	380 (37)	375 (37)	185(21)	157 (17)	195 (20)	3226
		70 (22)	229 (32)	369 (43)	566 (49)	847 (53)	1028(60)	1454(65)	1934(68)	2314(69)	2689(70)	2874(73)	3031(75)	3226(78)	(78)
	2006	152 (30)	225 (40)	162 (31)	200 (34)	146 (37)	279 (38)	266 (41)	332 (33)	545 (35)	305 (23)	241 (22)	321 (19)	94 (11)	3268
		152 (30)	377 (46)	539 (48)	739 (54)	885 (58)	1164(59)	1430(64)	1762(67)	2307(70)	2612(72)	2853(74)	3174(76)	3268(76)	(76)
	2007	210 (29)	142 (33)	91 (25)	128 (30)	131 (36)	162 (36)	135 (34)	209 (39)	311 (33)	486 (36)	430 (27)	289 (19)	152 (7)	2876
		210 (29)	352 (36)	443 (41)	571 (47)	702 (56)	864 (60)	999 (66)	1208(71)	1519(71)	2005(74)	2435(75)	2724(77)	2876(77)	(77)
	2008	187 (32)	187 (42)	154 (33)	166 (35)	271 (44)	343 (43)	203 (35)	392 (35)	1113(48)	1113(40)	530 (27)	218 (14)	224 (13)	5101
		187 (32)	374 (45)	528 (48)	694 (52)	965 (59)	1308(62)	1511(66)	1903(67)	3016(71)	4129(74)	4659(77)	4877(77)	5101(77)	(77)
	2009	228 (39)	148 (33)	184 (33)	196 (33)	159 (34)	109 (33)	185 (38)	252 (34)	371 (43)	591 (36)	257 (22)	359 (20)	351 (19)	3390
		228 (39)	376 (47)	560 (50)	756 (54)	915 (56)	1024(59)	1209(64)	1461(69)	1832(69)	2423(71)	2680(72)	3039(73)	3390(75)	(75)
# individual birds (species) repeat	2005	2 (2)	21 (12)	26 (11)	20 (13)	48 (13)	36 (16)	63 (20)	86 (18)	53 (12)	56 (16)	24 (10)	14 (7)	47 (9)	496
		2 (2)	23 (12)	49 (13)	69 (18)	117 (21)	153 (22)	216 (24)	302 (26)	355 (28)	411 (30)	435 (30)	449 (31)	496 (33)	(33)
	2006	22 (10)	31 (11)	33 (12)	25 (10)	19 (8)	36 (13)	54 (18)	29 (12)	48 (10)	26 (11)	49 (10)	33 (9)	8 (3)	413
		22 (10)	53 (15)	86 (19)	111 (23)	130 (24)	166 (25)	220 (25)	249 (31)	297 (32)	323 (33)	372 (36)	405 (36)	413 (37)	(37)
	2007	31 (12)	50 (14)	41 (16)	24 (10)	33 (15)	47 (14)	41 (15)	34 (11)	72 (17)	69 (13)	55 (12)	43 (11)	22 (8)	562
		31 (12)	81 (19)	122 (26)	146 (27)	179 (29)	226 (30)	267 (32)	301 (34)	373 (39)	442 (43)	497 (43)	540 (45)	562 (45)	(45)
	2008	42 (17)	47 (14)	51 (19)	36 (12)	54 (20)	63 (15)	67 (19)	69 (13)	135 (14)	153 (16)	122 (15)	52 (12)	33 (7)	924
		42 (17)	89 (20)	140 (26)	176 (27)	226 (29)	293 (34)	360 (36)	429 (37)	564 (38)	717 (42)	839 (46)	891 (47)	924 (48)	(48)
	2009	29 (12)	35 (16)	38 (16)	40 (18)	37 (11)	29 (11)	29 (10)	49 (12)	93 (13)	66 (10)	38 (8)	50 (9)	73 (9)	606
		29 (12)	64 (19)	102 (23)	142 (25)	179 (25)	208 (26)	237 (28)	286 (28)	379 (33)	445 (34)	483 (35)	533 (37)	606 (39)	(39)
# individual birds (species) return	2005	--	2 (2)	3 (3)	2 (2)	8 (6)	4 (3)	3 (2)	6 (3)	7 (4)	3 (2)	1 (1)	--	2 (2)	41
		--	2 (2)	5 (4)	7 (5)	15 (7)	19 (7)	22 (7)	28 (7)	35 (9)	38 (9)	39 (9)	39 (9)	41 (10)	(10)
	2006	6 (5)	6 (3)	1 (1)	2 (2)	1 (1)	2 (2)	2 (2)	--	2 (1)	1 (1)	2 (1)	2 (2)	3 (2)	31
		6 (5)	13 (6)	14 (7)	16 (8)	17 (9)	19 (9)	21 (9)	21 (9)	23 (9)	24 (9)	26 (9)	28 (10)	31 (10)	(10)
	2007	10 (6)	6 (5)	6 (4)	5 (4)	3 (3)	7 (5)	2 (2)	3 (2)	--	1 (1)	1 (1)	1 (1)	1 (1)	46
		10 (6)	16 (7)	22 (7)	27 (10)	30 (11)	37 (11)	39 (11)	42 (12)	42 (12)	43 (12)	44 (12)	45 (12)	46 (12)	(12)
	2008	11 (7)	--	--	1 (1)	2 (2)	3 (3)	3 (3)	3 (3)	--	1 (1)	5 (3)	--	2 (2)	31
		11 (7)	11 (7)	11 (7)	12 (7)	14 (9)	17 (10)	20 (11)	23 (14)	23 (14)	24 (14)	29 (14)	29 (14)	31 (14)	(14)
	2009	6 (5)	3 (3)	3 (3)	2 (2)	7 (6)	4 (4)	1 (1)	4 (2)	2 (1)	2 (2)	1 (1)	5 (3)	2 (2)	42
		6 (5)	9 (7)	12 (10)	14 (11)	21 (15)	25 (16)	26 (16)	30 (16)	32 (16)	34 (16)	35 (16)	40 (18)	42 (18)	(18)
# species observed	2005	74	75	67	72	79	85	90	88	73	78	68	57	54	151
		74	88	93	100	107	119	123	127	128	133	140	146	151	
	2006	75	84	78	82	88	84	75	78	71	65	61	55	50	134
		75	91	95	101	106	114	120	122	125	131	134	134	134	
	2007	65	73	84	81	83	84	75	82	74	75	55	53	58	144
		65	84	99	106	111	115	122	130	132	135	135	137	144	
	2008	71	71	77	76	82	84	76	78	76	75	62	57	46	140
		71	85	96	105	112	115	119	122	126	129	134	140	140	
	2009	71	73	83	78	76	75	72	82	79	71	65	52	52	143
		71	86	99	107	112	116	120	127	127	130	132	135	143	
# net hours	2005	71.5	128.8	152.7	245.6	414.9	459.7	425.0	430.5	397.7	360.4	168.2	190.2	281.1	3726.3
		71.5	200.3	353.0	598.6	1013.5	69.8	1898.2	2328.7	2726.4	3086.8	3255.0	3445.2	3726.3	
	2006	419.9	426.5	390.9	412.8	343.7	498.2	377.8	175.3	208.9	333.3	310.3	318.3	207.0	4422.9
		419.9	846.4	1237.3	1650.1	1993.8	2492.0	2869.8	3045.1	3254.0	3587.3	3897.6	4215.9	4422.9	
	2007	370.0	462.0	493.6	414.8	490.5	434.5	453.5	489.5	369.6	399.0	348.5	370.8	363.0	5423.3
		370.0	832.0	1325.6	1740.3	2230.8	2665.3	3082.8	3572.3	3942.0	4341.0	4689.5	5060.3	5423.3	
	2008	386.5	459.3	520.0	560.0	553.0	433.0	358.0	536.5	377.5	377.5	373.0	402.2	290.8	5607.3
		386.5	845.8	1365.8	1905.8	2458.8	2891.8	3249.8	3786.3	4163.8	4541.3	4914.3	5316.5	5607.3	
	2009	499.7	466.0	544.0	533.0	476.3	554.0	504.0	532.0	459.0	359.5	225.5	307.0	377.4	5837.4
		499.7	965.7	1509.7	2042.7	2519.0	3073.0	3577.0	4109.0	4568.0	4927.5	5153.0	5460.0	5837.4	
# birds banded / 100 net hours	2005	97.9	123.5	91.7	80.2	67.7	39.4	100.2	111.5	95.5	104.1	110.0	82.5	69.4	86.6
		97.9	114.4	104.5	94.6	83.6	69.8	76.6	83.1	84.5	87.1	88.3	88.0	86.6	
	2006	36.2	52.8	41.4	48.4	42.5	56.0	70.4	189.3	260.9	91.5	77.7	100.8	45.4	73.9
		36.2	44.5	43.6	44.8	44.4	46.7	49.8	57.9	70.9	72.8	73.2	75.3	73.9	
	2007	56.0	31.0	18.0	30.0	26.0	37.0	30.0	42.7	83.0	121.0	123.4	77.0	41.9	53.0
		56.0	42.0	33.0	32.0	31.0	33.0	32.0	33.8	38.5	46.0	51.8	53.7	53.0	
	2008	48.4	40.7	29.6	29.5	49.0	79.2	45.2	73.6	294.8	294.8	142.1	54.2	77.0	91.0
		48.4	44.2	38.7	36.4	39.2	45.2	46.5	50.3	72.4	90.9	94.8	91.7	91.0	
	2009	45.6	31.8	33.8	36.8	33.4	19.7	36.7	47.4	80.8	164.3	114.0	116.9	93.0	58.1
		45.6	38.9	37.1	37.0	36.3	33.3	33.8	35.6	40.1	49.2	52.0	55.6	58.1	

Appendix C: Weekly Species Charts

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

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



After-second-year male Magnolia Warbler, May 2005 (Photo by Marcel Gahbauer)

Banding, Spring Week 1 (March 28 – April 3): No banding in any year

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

	2005	2006	2007	2008	2009
No observations during this period		Canada Goose (686)	Canada Goose (1099)	Red-wing. Blackbird (24)	Canada Goose (293)
		Red-wing. Blackbird (25)	Red-wing. Blackbird (47)	Cedar Waxwing (17)	Snow Goose (186)
		American Crow (24)	American Crow (17)	American Crow (14)	Bohemian Waxwing (55)
		Ring-billed Gull (24)	Ring-billed Gull (17)	Bohemian Waxwing (14)	Ring-billed Gull (26)
		Black-cap. Chickadee (13)	Mallard (13)	Black-cap. Chickadee (10)	Red-wing. Blackbird (25)
		Slate-colored Junco (12)	American Robin (13)	Slate-colored Junco (4)	American Crow (20)
		American Robin (9)	Blue Jay (10)	American Robin (4)	American Robin (15)
		Am. Tree Sparrow (7)	Song Sparrow (7)	Canada Goose (3)	Black-cap. Chickadee (10)
		Song Sparrow (7)	Black-cap. Chickadee (6)	Northern Cardinal (3)	Song Sparrow (10)
	Mallard (6)	European Starling (5)	Blue Jay (3)	Wood Duck (9)	

Banding, Spring Week 2 (April 4 – 10):

2005	2006	2007	2008	2009
Song Sparrow (5)	Slate-colored Junco (3)	No banding during this period	No banding during this period	No banding during this period
American Goldfinch (5)	Black-cap. Chickadee (2)			
American Robin (2)	Golden-cr. Kinglet (2)			
Am. Tree Sparrow (2)	American Robin (2)			
Eastern Phoebe (1)	Am. Tree Sparrow (2)			
Black-cap. Chickadee (1)	Pileated Woodpecker (1)			
Swamp Sparrow (1)	Brown Creeper (1)			
	Fox Sparrow (1)			
	Song Sparrow (1)			
	House Sparrow (1)			

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

2005	2006	2007	2008	2009
Canada Goose (241)	Canada Goose (732)	Canada Goose (178)	Canada Goose (174)	Canada Goose (96)
Snow Goose (53)	Ring-billed Gull (59)	Red-wing. Blackbird (44)	Red-wing. Blackbird (42)	Red-wing. Blackbird (35)
Bohemian Waxwing (35)	Snow Goose (54)	American Crow (22)	Snow Goose (20)	Ring-billed Gull (19)
Red-wing. Blackbird (28)	Red-wing. Blackbird (32)	Ring-billed Gull (13)	American Crow (13)	American Robin (15)
Cedar Waxwing (18)	American Robin (18)	American Robin (10)	American Robin (10)	American Crow (15)
American Crow (17)	Slate-colored Junco (17)	Song Sparrow (9)	Song Sparrow (7)	Bohemian Waxwing (12)
Song Sparrow (14)	Song Sparrow (17)	Black-cap. Chickadee (9)	Black-cap. Chickadee (6)	Song Sparrow (11)
Black-cap. Chickadee (13)	American Crow (15)	Wood Duck (8)	Ring-billed Gull (6)	Black-cap. Chickadee (7)
American Robin (10)	Black-cap. Chickadee (14)	Mallard (8)	Blue Jay (5)	Snow Goose (6)
Common Grackle (8)	Blue Jay (9)	Blue Jay (7)	European Starling (4)	European Starling (6)

Banding, Spring Week 3 (April 11 – 17):

2005	2006	2007	2008	2009
Cedar Waxwing (7)	Slate-colored Junco (20)	No banding during this period	No banding during this period	No banding during this period
Song Sparrow (3)	American Robin (6)			
American Robin (2)	Golden-cr. Kinglet (5)			
Black-cap. Chickadee (1)	Fox Sparrow (5)			
Northern Cardinal (1)	Song Sparrow (5)			
Swamp Sparrow (1)	Ruby-cr. Kinglet (4)			
Slate-colored Junco (1)	Am. Tree Sparrow (4)			
American Goldfinch (1)	Red-wing. Blackbird (4)			
	Eastern Phoebe (3)			

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

2005	2006	2007	2008	2009
Canada Goose (66)	Canada Goose (753)	Canada Goose (198)	Canada Goose (440)	Snow Goose (96)
Cedar Waxwing (36)	Ring-billed Gull (78)	Red-wing. Blackbird (31)	Snow Goose (162)	Canada Goose (88)
Red-wing. Blackbird (21)	Red-wing. Blackbird (57)	Snow Goose (28)	Red-wing. Blackbird (40)	Red-wing. Blackbird (30)
Song Sparrow (17)	American Crow (27)	American Crow (20)	Ring-billed Gull (20)	American Robin (17)
American Robin (16)	American Robin (23)	American Robin (13)	American Robin (16)	American Crow (16)
American Crow (11)	Slate-colored Junco (22)	Black-cap. Chickadee (9)	American Crow (14)	Song Sparrow (11)
Black-cap. Chickadee (6)	Song Sparrow (21)	Blue Jay (9)	Song Sparrow (13)	Ring-billed Gull (10)
American Goldfinch (6)	Mallard (12)	Mallard (8)	Mallard (8)	Black-cap. Chickadee (9)
Tree Swallow (5)	Brown-head. Cowbird (11)	Ring-billed Gull (8)	Black-cap. Chickadee (8)	Cedar Waxwing (8)
Ring-billed Gull (5)	House Sparrow (10)	Song Sparrow (6)	Slate-colored Junco (5)	Wood Duck (6)

Banding, Spring Week 4 (April 18 – 24):

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

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

2005	2006	2007	2008	2009
Canada Goose (79)	Canada Goose (898)	Snow Goose (791)	Canada Goose (561)	Snow Goose (156)
Cedar Waxwing (27)	Ring-billed Gull (51)	Canada Goose (322)	Snow Goose (139)	Canada Goose (151)
Red-wing. Blackbird (20)	Red-winged Blackbird (46)	Red-wing. Blackbird (73)	Ring-billed Gull (71)	Red-wing. Blackbird (44)
American Crow (20)	American Crow (35)	American Crow (33)	Red-wing. Blackbird (57)	American Crow (26)
Song Sparrow (14)	Slate-colored Junco (24)	Ring-billed Gull (32)	Common Grackle (38)	Ring-billed Gull (19)
Tree Swallow (11)	American Robin (22)	American Robin (26)	Ruby-cr. Kinglet (28)	American Robin (18)
American Robin (8)	Mallard (20)	Song Sparrow (24)	Song Sparrow (20)	Song Sparrow (17)
Black-cap. Chickadee (7)	Song Sparrow (18)	American Goldfinch (15)	American Crow (19)	Slate-colored Junco (15)
American Goldfinch (6)	Brown-head. Cowbird (13)	Mallard (14)	American Robin (15)	Black-cap. Chickadee (11)
Ring-billed Gull (5)	Northern Pintail (12)	Black-cap. Chickadee (14)	Fox Sparrow (14)	Wood Duck (10)

Banding, Spring Week 5 (April 25 – May 1):

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

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

2005	2006	2007	2008	2009
Canada Goose (120)	Canada Goose (541)	Canada Goose (109)	Canada Goose (203)	Canada Goose (201)
Red-wing. Blackbird (35)	Red-wing. Blackbird (79)	Red-wing. Blackbird (65)	Red-wing. Blackbird (49)	Red-wing. Blackbird (43)
White-thr. Sparrow (24)	American Crow (37)	American Crow (25)	American Crow (24)	Snow Goose (29)
Cedar Waxwing (22)	Ring-billed Gull (35)	Tree Swallow (16)	Ring-billed Gull (22)	American Robin (20)
American Robin (18)	Slate-colored Junco (25)	Song Sparrow (15)	White-thr. Sparrow (20)	American Crow (19)
Song Sparrow (15)	Mallard (20)	American Goldfinch (13)	Tree Swallow (12)	Ring-billed Gull (19)
Black-cap. Chickadee (14)	Common Grackle (19)	Ruby-cr. Kinglet (12)	Song Sparrow (11)	Ruby-cr. Kinglet (17)
American Crow (13)	Northern Pintail (17)	American Robin (11)	American Goldfinch (11)	Tree Swallow (14)
Tree Swallow (12)	Tree Swallow (16)	Black-cap. Chickadee (8)	Ruby-cr. Kinglet (11)	Song Sparrow (13)
American Goldfinch (11)	Song Sparrow (15)	White-thr. Sparrow (8)	Black-cap. Chickadee (9)	Black-cap. Chickadee (9)

Banding, Spring Week 6 (May 2 – 8):

2005	2006	2007	2008	2009
Red-wing. Blackbird (21)	Red-wing. Blackbird (42)	Ruby-cr. Kinglet (31)	White-thr. Sparrow (13)	White-thr. Sparrow (16)
American Goldfinch (16)	Ruby-cr. Kinglet (32)	Red-wing. Blackbird (27)	Red-wing. Blackbird (13)	Ruby-cr. Kinglet (7)
Cedar Waxwing (15)	Common Grackle (24)	White-thr. Sparrow (7)	Ruby-cr. Kinglet (10)	Red-wing. Blackbird (5)
White-thr. Sparrow (5)	White-thr. Sparrow (18)	American Goldfinch (6)	American Goldfinch (5)	Tree Swallow (4)
Swamp Sparrow (4)	Blue Jay (3)	Common Grackle (5)	Tree Swallow (4)	American Goldfinch (4)
Tree Swallow (3)	American Robin (3)	Downy Woodpecker (2)	White-crown. Sparrow (3)	Purple Finch (3)
Common Grackle (3)	White-crown. Sparrow (3)	Savannah Sparrow (2)	Yellow Warbler (2)	American Robin (2)
American Robin (2)	Brown-head. Cowbird (3)	Tree Swallow (1)	Com. Yellowthroat (2)	Song Sparrow (2)
Myrtle Warbler (2)	American Goldfinch (3)	Black-cap. Chickadee (1)	Lincoln's Sparrow (2)	Brown-head. Cowbird (2)
Song Sparrow (2)	Northern Cardinal (2)	American Robin (1)	Swamp Sparrow (2)	

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

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

Banding, Spring Week 7 (May 9 – 15):

2005	2006	2007	2008	2009
Yellow Warbler (10)	Red-wing. Blackbird (25)	Red-wing. Blackbird (65)	Red-winged Blackbird (33)	Red-wing. Blackbird (21)
Red-wing. Blackbird (9)	Common Grackle (14)	Myrtle Warbler (19)	White-thr. Sparrow (29)	Common Grackle (12)
American Goldfinch (7)	American Goldfinch (8)	American Goldfinch (18)	Yellow-rump. Warbler (24)	Yellow Warbler (8)
White-thr. Sparrow (6)	White-throat. Sparrow (7)	Yellow Warbler (16)	Ruby-cr. Kinglet (20)	American Goldfinch (8)
Rose-br. Grosbeak (3)	Yellow-rump. Warbler (5)	Ruby-cr. Kinglet (10)	White-cr. Sparrow (15)	Ruby-cr. Kinglet (7)
Common Grackle (3)	Yellow Warbler (3)	Baltimore Oriole (8)	American Goldfinch (6)	White-thr. Sparrow (7)
Baltimore Oriole (3)	Baltimore Oriole (3)	Tree Swallow (7)	Baltimore Oriole (5)	Baltimore Oriole (7)
Least Flycatcher (2)	Tree Swallow (2)	Nashville Warbler (5)	Brown-head. Cowbird (5)	Nashville Warbler (6)
Ruby-cr. Kinglet (2)	Nashville Warbler (2)	Magnolia Warbler (5)	Common Yellowthroat (4)	Myrtle Warbler (5)
Gray Catbird (2)	Rose-breast. Grosbeak (2)	White-thr. Sparrow (5)	Blue-headed Vireo (3)	Com. Yellowthroat (5)
			Nashville Warbler (3)	White-cr. Sparrow (5)
			Chipping Sparrow (3)	

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

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

Banding, Spring Week 8 (May 16 – 22):

2005	2006	2007	2008	2009
American Goldfinch (32)	Red-wing. Blackbird (19)	Red-wing. Blackbird (21)	Yellow Warbler (24)	Tennessee Warbler (36)
Yellow Warbler (27)	Myrtle Warbler (13)	Tennessee Warbler (12)	Red-wing. Blackbird (20)	Yellow Warbler (29)
Com. Yellowthroat (11)	Com. Yellowthroat (11)	American Goldfinch (11)	Myrtle Warbler (11)	Magnolia Warbler (26)
Red-wing. Blackbird (11)	Magnolia Warbler (10)	Nashville Warbler (8)	White-cr. Sparrow (10)	Myrtle Warbler (26)
Rose-br. Grosbeak (9)	Gray Catbird (7)	Myrtle Warbler (6)	American Goldfinch (9)	White-cr. Sparrow (20)
Myrtle Warbler (8)	Baltimore Oriole (6)	Yellow Warbler (5)	Com. Yellowthroat (8)	Com. Yellowthroat (17)
Common Grackle (6)	Common Grackle (6)	Ruby-cr. Kinglet (5)	Magnolia Warbler (7)	Red-wing. Blackbird (16)
Least Flycatcher (5)	Yellow Warbler (5)	Gray Catbird (5)	Baltimore Oriole (7)	North. Waterthrush (15)
Ruby-cr. Kinglet (4)	White-cr.. Sparrow (5)	Warbling Vireo (4)	Gray Catbird (6)	Wilson's Warbler (15)
Cedar Waxwing (4)	Lincoln's Sparrow (4)	Magnolia Warbler (4)	Rose-breast. Grosbeak (5)	American Goldfinch (13)
		Com. Yellowthroat (4)		
		Common Grackle (4)		

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

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

Banding, Spring Week 9 (May 23 – 29):

2005	2006	2007	2008	2009
American Goldfinch (20)	Red-wing. Blackbird (21)	Blackpoll Warbler (34)	Red-winged Blackbird (21)	Tennessee Warbler (44)
Myrtle Warbler (11)	Yellow Warbler (13)	Red-wing. Blackbird (12)	Wilson's Warbler (19)	Blackpoll Warbler (25)
Yellow Warbler (9)	Com. Yellowthroat (13)	Cedar Waxwing (10)	Blackpoll Warbler (17)	American Goldfinch (18)
Com. Yellowthroat (8)	Magnolia Warbler (11)	North. Waterthrush (9)	Cedar Waxwing (11)	Magnolia Warbler (12)
American Robin (6)	Wilson's Warbler (11)	Gray Catbird (8)	Magnolia Warbler (11)	Cedar Waxwing (10)
Baltimore Oriole (6)	American Goldfinch (9)	American Goldfinch (8)	Com. Yellowthroat (10)	Wilson's Warbler (9)
Red-wing. Blackbird (5)	Cedar Waxwing (8)	Yellow Warbler (7)	Yellow Warbler (9)	Trail's Flycatcher (8)
American Redstart (4)	North. Waterthrush (4)	Myrtle Warbler (7)	Myrtle Warbler (9)	North. Waterthrush (7)
Song Sparrow (4)	Common Grackle (4)	Wilson's Warbler (7)	North. Waterthrush (8)	Myrtle Warbler (6)
Common Grackle (4)	Rose-breast. Grosbeak (3)	Baltimore Oriole (7)	American Goldfinch (8)	Com. Yellowthroat (4)

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

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

Banding, Spring Week 10 (May 30 – June 5):

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

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

2005	2006	2007	2008	2009
Red-wing. Blackbird (25)	Red-winged Blackbird (23)	Red-wing. Blackbird (35)	Red-winged Blackbird (36)	Red-wing. Blackbird (28)
Yellow Warbler (19)	Canada Goose (16)	American Crow (20)	American Crow (14)	Ring-billed Gull (14)
Ring-billed Gull (19)	Yellow Warbler (15)	Tree Swallow (16)	American Goldfinch (12)	American Crow (13)
American Goldfinch (18)	Mallard (14)	American Goldfinch (10)	Tree Swallow (12)	Tree Swallow (9)
Tree Swallow (17)	Cedar Waxwing (13)	Cedar Waxwing (9)	Cedar Waxwing (11)	Yellow Warbler (9)
American Crow (16)	American Goldfinch (13)	Yellow Warbler (9)	Yellow Warbler (10)	Cliff Swallow (8)
Song Sparrow (13)	Tree Swallow (11)	Com. Yellowthroat (6)	Ring-billed Gull (9)	Cedar Waxwing (7)
Cedar Waxwing (12)	Song Sparrow (10)	Song Sparrow (6)	Cliff Swallow (9)	Song Sparrow (7)
Common Grackle (8)	Ring-billed Gull (9)	Cliff Swallow (6)	Song Sparrow (9)	American Goldfinch (6)
Baltimore Oriole (8)	American Crow (9)	Wood Duck (5)	European Starling (8)	Black-cap. Chickadee (5)

Banding, Spring Season (March 28 – June 5):

2005	2006	2007	2008	2009
American Goldfinch (111)	Red-wing. Blackbird (169)	Red-wing. Blackbird (154)	Red-wing. Blackbird (114)	Tennessee Warbler (82)
Red-wing. Blackbird (73)	Common Grackle (59)	Ruby-cr. Kinglet (52)	Ruby-cr. Kinglet (92)	Ruby-cr. Kinglet (73)
Cedar Waxwing (59)	Ruby-cr. Kinglet (58)	American Goldfinch (51)	White-thr. Sparrow (79)	Red-wing. Blackbird (50)
Yellow Warbler (47)	Slate-colored Junco (48)	Blackpoll Warbler (47)	Myrtle Warbler (47)	American Goldfinch (47)
Song Sparrow (30)	White-thr. Sparrow (42)	Myrtle Warbler (32)	American Goldfinch (41)	Yellow Warbler (43)
White-thr. Sparrow (29)	American Goldfinch (32)	Yellow Warbler (29)	Yellow Warbler (36)	Magnolia Warbler (41)
Myrtle Warbler (25)	Com. Yellowthroat (25)	Common Grackle (18)	White-cr. Sparrow (30)	Blackpoll Warbler (39)
Com. Yellowthroat (22)	Magnolia Warbler (22)	Baltimore Oriole (18)	Cedar Waxwing (29)	Myrtle Warbler (37)
Ruby-cr. Kinglet (20)	Myrtle Warbler (22)	Cedar Waxwing (17)	Com. Yellowthroat (25)	White-thr. Sparrow (34)
Common Grackle (20)	Yellow Warbler (21)	Magnolia Warbler (17)	Blackpoll Warbler (24)	Com. Yellowthroat (28)
			Wilson's Warbler (24)	Wilson's Warbler (28)

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

2005	2006	2007	2008	2009
Canada Goose (83)	Canada Goose (393)	Canada Goose (237)	Canada Goose (190)	Canada Goose (118)
Red-wing. Blackbird (25)	Snow Goose (64)	Snow Goose (88)	Snow Goose (47)	Snow Goose (47)
Cedar Waxwing (20)	Ring-billed Gull (51)	Red-wing. Blackbird (62)	Red-wing. Blackbird (46)	Red-wing. Blackbird (34)
Ring-billed Gull (20)	Red-wing. Blackbird (43)	American Crow (23)	Ring-billed Gull (19)	Ring-billed Gull (25)
Song Sparrow (14)	American Crow (26)	Ring-billed Gull (15)	American Crow (17)	American Crow (17)
Tree Swallow (14)	Mallard (17)	Tree Swallow (14)	Cliff Swallow (11)	American Robin (11)
American Crow (14)	Song Sparrow (14)	Song Sparrow (11)	Song Sparrow (10)	Song Sparrow (10)
American Goldfinch (11)	Common Grackle (13)	American Goldfinch (11)	Tree Swallow (10)	Cliff Swallow (10)
American Robin (8)	American Robin (13)	American Robin (10)	Common Grackle (8)	Tree Swallow (9)
Black-cap. Chickadee (8)	American Goldfinch (12)	Black-cap. Chickadee (9)	American Goldfinch (8)	Black-cap. Chickadee (8)

Banding, Fall Week 1 (August 1 – 7):

2005	2006	2007	2008	2009
Song Sparrow (17)	Song Sparrow (33)	Song Sparrow (57)	Yellow Warbler (24)	Yellow Warbler (25)
Black-cap. Chickadee (9)	Yellow Warbler (22)	Yellow Warbler (27)	Song Sparrow (22)	Song Sparrow (25)
Yellow Warbler (6)	Baltimore Oriole (14)	Baltimore Oriole (17)	Baltimore Oriole (16)	Rose-br. Grosbeak (16)
American Robin (4)	Gray Catbird (8)	Rose-br. Grosbeak (14)	Rose-br. Grosbeak (15)	American Redstart (15)
Gray Catbird (4)	Rose-br. Grosbeak (8)	House Wren (11)	Gray Catbird (12)	House Wren (13)
Swamp Sparrow (4)	Black-cap. Chickadee (6)	Swamp Sparrow (10)	Traill's Flycatcher (10)	Cedar Waxwing (12)
Tennessee Warbler (3)	Downy Woodpecker (5)	American Redstart (9)	Black-cap. Chickadee (9)	American Robin (11)
White-thr. Sparrow (3)	Traill's Flycatcher (5)	Black-cap. Chickadee (7)	Tennessee Warbler (9)	White-thr. Sparrow (11)
	Cedar Waxwing (5)	Nashville Warbler (7)	Com/ Yellowthroat (7)	Gray Catbird (10)
	Tennessee Warbler (5)	Cedar Waxwing (6)	White-thr. Sparrow (7)	Red-eyed Vireo (10)
		Com. Yellowthroat (6)		

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

2005	2006	2007	2008	2009
Song Sparrow (21)	Red-wing Blackbird (120)	Red-wing Blackbird (71)	American Goldfinch (17)	Common Grackle (42)
Black-cap. Chickadee (18)	Song Sparrow (35)	Song Sparrow (25)	American Robin (16)	Black-cap. Chickadee (14)
American Goldfinch (15)	American Goldfinch (19)	American Goldfinch (23)	Red-wing Blackbird (15)	American Robin (14)
Red-wing Blackbird (10)	Cedar Waxwing (18)	Common Grackle (19)	American Crow (13)	Cedar Waxwing (13)
American Robin (10)	European Starling (17)	Black-cap. Chickadee (16)	Song Sparrow (13)	Song Sparrow (12)
Yellow Warbler (8)	Black-cap. Chickadee (15)	Cedar Waxwing (14)	Black-cap Chickadee (11)	American Goldfinch (12)
Cedar Waxwing (6)	American Robin (13)	American Crow (13)	Common Grackle (9)	House Wren (8)
American Crow (5)	Common Grackle (13)	American Robin (11)	Cedar Waxwing (9)	Yellow Warbler (7)
Blue Jay (4)	American Crow (12)	Yellow Warbler (8)	Gray Catbird (7)	Red-wing Blackbird (6)
Common Grackle (4)	Yellow Warbler (10)	Baltimore Oriole (8)	Blue Jay (7)	Gray Catbird (6)

Banding, Fall Week 2 (August 8 – 14):

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

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

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

Banding, Fall Week 3 (August 15 – 21):

2005	2006	2007	2008	2009
Song Sparrow (23)	Song Sparrow (46)	American Redstart (12)	American Redstart (22)	Song Sparrow (37)
Yellow Warbler (7)	Baltimore Oriole (18)	Song Sparrow (9)	Magnolia Warbler (12)	American Redstart (20)
Magnolia Warbler (7)	Magnolia Warbler (12)	Com. Yellowthroat (8)	Chest.-sided Warbler (10)	Bl.-and-white Warbler (10)
American Redstart (7)	Ovenbird (8)	Rose-br. Grosbeak (8)	Song Sparrow (10)	Com. Yellowthroat (10)
Baltimore Oriole (7)	Nashville Warbler (7)	Yellow Warbler (6)	Com. Yellowthroat (9)	Red-eyed Vireo (9)
Canada Warbler (6)	American Redstart (7)	Red-eyed Vireo (5)	Canada Warbler (9)	Gray Catbird (9)
Rose-br. Grosbeak (6)	Com. Yellowthroat (5)	Mourning Warbler (5)	Baltimore Oriole (9)	Traill's Flycatcher (8)
Traill's Flycatcher (5)	Traill's Flycatcher (4)	Black-cap. Chickadee (4)	Yellow Warbler (7)	Yellow Warbler (7)
Black-cap. Chickadee (5)	House Wren (4)	House Wren (4)	Ovenbird (7)	Rose-br. Grosbeak (7)
Nashville Warbler (5)	Gray Catbird (4)	Swainson's Thrush (4)	Nashville Warbler (6)	American Goldfinch (7)
	Yellow Warbler (4)	Nashville Warbler (4)		
	Canada Warbler (4)			

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

2005	2006	2007	2008	2009
American Crow (42)	Song Sparrow (40)	American Crow (54)	American Crow (20)	Black-cap. Chickadee (17)
Black-cap. Chickadee (15)	American Crow (27)	American Goldfinch (24)	Common Grackle (19)	Cedar Waxwing (16)
Song Sparrow (14)	American Goldfinch (18)	Black-cap. Chickadee (17)	Black-cap. Chickadee (16)	American Goldfinch (16)
American Goldfinch (13)	Bobolink (15)	Tree Swallow (11)	American Goldfinch (15)	Red-winged Blackbird (12)
Common Grackle (11)	Cedar Waxwing (15)	Common Grackle (10)	American Robin (13)	Song Sparrow (12)
American Robin (9)	American Robin (13)	Song Sparrow (10)	Cedar Waxwing (12)	American Crow (11)
Red-winged Blackbird (8)	Black-cap. Chickadee (11)	American Robin (9)	Blue Jay (8)	American Robin (8)
Blue Jay (6)	Baltimore Oriole (11)	Gray Catbird (8)	Song Sparrow (7)	House Wren (8)
Gray Catbird (5)	Common Grackle (10)	Cedar Waxwing (8)	Ruby-th. Hummingbird (6)	Common Grackle (7)
Baltimore Oriole (4)	Blue Jay (10)	Ring-billed Gull (7)	Common Yellowthroat (6)	Gray Catbird (6)

Banding, Fall Week 4 (August 22 – 28):

2005	2006	2007	2008	2009
Magnolia Warbler (48)	Magnolia Warbler (39)	Magnolia Warbler (24)	Magnolia Warbler (19)	Song Sparrow (30)
Nashville Warbler (16)	Song Sparrow (26)	American Redstart (14)	American Redstart (17)	American Redstart (18)
Song Sparrow (13)	North. Waterthrush (19)	Red-eyed Vireo (11)	Com. Yellowthroat (14)	Com. Yellowthroat (16)
Baltimore Oriole (13)	American Redstart (12)	Song Sparrow (9)	Nashville Warbler (11)	Red-eyed Vireo (14)
Com. Yellowthroat (8)	Tennessee Warbler (10)	Wilson's Warbler (8)	Song Sparrow (8)	Black-cap. Chickadee (11)
Tennessee Warbler (7)	Ovenbird (10)	Least Flycatcher (6)	Tennessee Warbler (6)	Magnolia Warbler (11)
Gray Catbird (6)	Wilson's Warbler (9)	House Wren (5)	Mourning Warbler (6)	Bl.-and-white Warbler (8)
Chest.-sided Warbler (6)	Nashville Warbler (8)	Nashville Warbler (5)	Wilson's Warbler (6)	Ovenbird (8)
Bl.-and-white Warbler (6)	Com. Yellowthroat (7)	North. Waterthrush (5)	Blk-thr. Blue Warbler (5)	Yel.-bellied Flycatcher (7)
American Redstart (6)	American Goldfinch (7)	Traill's Flycatcher (4)	Baltimore Oriole (5)	Cedar Waxwing (7)
Ovenbird (6)		Blk-thr. Blue Warbler (4)		
Rose-br. Grosbeak (6)		Canada Warbler (4)		

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

2005	2006	2007	2008	2009
Common Grackle (82)	Common Grackle (49)	American Crow (85)	Common Grackle (28)	American Crow (22)
Black-cap. Chickadee (18)	American Crow (41)	American Goldfinch (23)	American Crow (26)	Black-cap. Chickadee (20)
American Crow (18)	Song Sparrow (33)	Black-cap. Chickadee (17)	Blue Jay (15)	Cedar Waxwing (20)
Magnolia Warbler (13)	American Goldfinch (22)	Cedar Waxwing (13)	Black-cap Chickadee (15)	American Goldfinch (16)
Blue Jay (12)	Cedar Waxwing (19)	Song Sparrow (10)	American Robin (11)	Song Sparrow (11)
Song Sparrow (9)	Bobolink (18)	Common Grackle (9)	American Goldfinch (10)	Gray Catbird (8)
American Goldfinch (8)	Red-wing Blackbird (17)	Blue Jay (7)	Song Sparrow (8)	American Robin (8)
American Robin (7)	Blue Jay (13)	House Wren (6)	Cedar Waxwing (7)	Red-winged Blackbird (7)
Baltimore Oriole (6)	Black-cap. Chickadee (12)	Red-eyed Vireo (5)	Com. Yellowthroat (6)	American Redstart (7)
Gray Catbird (5)	Magnolia Warbler (10)	American Redstart (5)	Gray Catbird (5)	Common Grackle (7)

Banding, Fall Week 5 (August 29 – September 4):

2005	2006	2007	2008	2009
Magnolia Warbler (53)	Magnolia Warbler (21)	Magnolia Warbler (19)	Magnolia Warbler (62)	Magnolia Warbler (31)
Nashville Warbler (28)	Song Sparrow (16)	American Redstart (14)	Wilson's Warbler (22)	American Redstart (26)
Red-eyed Vireo (27)	Com. Yellowthroat (12)	Red-eyed Vireo (13)	Com. Yellowthroat (19)	Song Sparrow (10)
American Redstart (26)	American Redstart (11)	Wilson's Warbler (9)	Blackpoll Warbler (16)	Blk-thr. Blue Warbler (8)
Song Sparrow (24)	Red-eyed Vireo (8)	Com. Yellowthroat (7)	American Redstart (15)	Com. Yellowthroat (8)
Com. Yellowthroat (13)	North. Waterthrush (8)	House Wren (6)	Red-eyed Vireo (14)	Yel.-bellied Flycatcher (6)
Black-cap. Chickadee (9)	Tennessee Warbler (7)	Song Sparrow (6)	Ovenbird (12)	Black-cap. Chickadee (6)
Wilson's Warbler (9)	Nashville Warbler (7)	Blk-thr. Blue Warbler (5)	Nashville Warbler (10)	Wilson's Warbler (5)
Indigo Bunting (8)	Wilson's Warbler (6)	Blackpoll Warbler (4)	North. Waterthrush (8)	Indigo Bunting (5)
Ovenbird (7)	Rose-br. Grosbeak (5)	North. Waterthrush (4)	Yel.-bellied Flycatcher (7)	House Wren (4)
			Song Sparrow (7)	Gray Catbird (4)
				Cedar Waxwing (4)
				North. Waterthrush (4)
				Canada Warbler (4)

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

2005	2006	2007	2008	2009
Common Grackle (137)	Common Grackle (205)	American Crow (132)	Common Grackle (60)	Canada Goose (24)
American Crow (27)	American Crow (71)	American Goldfinch (20)	Canada Goose (55)	Black-cap. Chickadee (22)
Black-cap. Chickadee (21)	Song Sparrow (23)	Black-cap. Chickadee (17)	American Crow (33)	American Crow (18)
American Goldfinch (12)	American Goldfinch (19)	Cedar Waxwing (12)	Black-cap. Chickadee (20)	Cedar Waxwing (16)
Blue Jay (12)	Black-cap. Chickadee (17)	Common Grackle (10)	Magnolia Warbler (13)	American Goldfinch (12)
Magnolia Warbler (12)	Blue Jay (16)	American Robin (6)	Blue Jay (12)	Common Grackle (12)
Cedar Waxwing (11)	Bobolink (9)	Song Sparrow (6)	American Goldfinch (11)	Blue Jay (8)
European Starling (11)	White-thr. Sparrow (8)	Blue Jay (6)	Cedar Waxwing (10)	American Redstart (8)
Song Sparrow (9)	Cedar Waxwing (8)	Red-eyed Vireo (5)	American Robin (8)	Gray Catbird (7)
Nashville Warbler (7)	Magnolia Warbler (8)	Gray Catbird (5)	Com. Yellowthroat (8)	Magnolia Warbler (7)

Banding, Fall Week 6 (September 5 – 11):

2005	2006	2007	2008	2009
Nashville Warbler (20)	Magnolia Warbler (39)	White-thr. Sparrow (21)	Magnolia Warbler (109)	White-thr. Sparrow (18)
Magnolia Warbler (20)	Common Grackle (33)	American Goldfinch (20)	Nashville Warbler (22)	Magnolia Warbler (10)
Com. Yellowthroat (19)	Com. Yellowthroat (26)	Wilson's Warbler (17)	Wilson's Warbler (20)	Song Sparrow (10)
White-thr. Sparrow (18)	Song Sparrow (21)	Red-eyed Vireo (16)	Tennessee Warbler (16)	American Redstart (7)
Song Sparrow (13)	Nashville Warbler (18)	American Redstart (10)	Com. Yellowthroat (16)	Com. Yellowthroat (6)
Yellow Palm Warbler (9)	White-thr. Sparrow (13)	Com. Yellowthroat (9)	Red-eyed Vireo (14)	Indigo Bunting (6)
Gray Catbird (8)	Tennessee Warbler (9)	Song Sparrow (7)	White-thr. Sparrow (13)	Red-eyed Vireo (5)
Blk-thr. Gr. Warbler (6)	Ovenbird (9)	Gray Catbird (5)	Blackpoll Warbler (11)	Blk-thr. Blue Warbler (5)
American Redstart (6)	Gray Catbird (8)	Nashville Warbler (5)	Blk-thr. Gr. Warbler (11)	Black-cap. Chickadee (4)
Ovenbird (6)	American Redstart (8)	Magnolia Warbler (5)	American Redstart (11)	
American Goldfinch (6)	Wilson's Warbler (8)		Song Sparrow (11)	

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

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

Banding, Fall Week 7 (September 12 – 18):

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

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

2005	2006	2007	2008	2009
Common Grackle (366)	American Crow (244)	American Crow (139)	American Crow (86)	Canada Goose (81)
American Crow (46)	Common Grackle (66)	White-thr. Sparrow (32)	Canada Goose (42)	European Starling (25)
White-thr. Sparrow (29)	American Goldfinch (33)	Blue Jay (27)	Cedar Waxwing (29)	American Robin (25)
Black-cap. Chickadee (25)	Blue Jay (23)	American Goldfinch (19)	Red-winged Blackbird (24)	Cedar Waxwing (24)
American Goldfinch (23)	Black-cap. Chickadee (21)	Black-cap. Chickadee (15)	Common Grackle (19)	American Crow (21)
Canada Goose (22)	Song Sparrow (18)	Canada Goose (14)	Black-cap. Chickadee (17)	White-thr. Sparrow (19)
Blue Jay (10)	Myrtle Warbler (17)	Common Grackle (14)	Blue Jay (14)	Black-cap. Chickadee (19)
Nashville Warbler (9)	American Robin (16)	Cedar Waxwing (12)	American Goldfinch (13)	American Goldfinch (18)
Cedar Waxwing (9)	White-thr. Sparrow (14)	Song Sparrow (8)	Magnolia Warbler (9)	Blue Jay (17)
Red-eyed Vireo (8)	Ruby-cr. Kinglet (14)	Broad-winged Hawk (7)	White-thr. Sparrow (8)	Red-wing. Blackbird (15)

Banding, Fall Week 8 (September 19 – 25):

2005	2006	2007	2008	2009
White-thr. Sparrow (86)	Myrtle Warbler (163)	White-thr. Sparrow (60)	Myrtle Warbler (170)	White-thr. Sparrow (62)
Myrtle Warbler (76)	Ruby-cr. Kinglet (42)	American Goldfinch (17)	White-thr. Sparrow (50)	Song Sparrow (28)
Ruby-cr. Kinglet (46)	Magnolia Warbler (15)	Ruby-cr. Kinglet (12)	Ruby-cr. Kinglet (24)	Magnolia Warbler (25)
Red-eyed Vireo (33)	Nashville Warbler (15)	Song Sparrow (11)	Nashville Warbler (20)	Com. Yellowthroat (13)
Song Sparrow (27)	White-thr. Sparrow (14)	Nashville Warbler (10)	Tennessee Warbler (16)	Gray Catbird (10)
Magnolia Warbler (22)	Blk-thr. Gr. Warbler (11)	Yellow Palm Warbler (9)	Song Sparrow (13)	Nashville Warbler (10)
Nashville Warbler (19)	Song Sparrow (10)	Black-cap. Chickadee (7)	Magnolia Warbler (10)	Blk-thr. Blue Warbler (10)
Chipping Sparrow (12)	Com. Yellowthroat (6)	Swamp Sparrow (7)	Com. Yellowthroat (8)	Indigo Bunting (10)
Golden-cr. Kinglet (12)	Lincoln's Sparrow (5)	West. Palm Warbler (7)	Golden-cr. Kinglet (8)	Tennessee Warbler (7)
Swainson's Thrush (10)	Golden-cr. Kinglet (4)	Gray Catbird (6)	Blue Jay (7)	American Goldfinch (7)
		Cedar Waxwing (6)		

Observations, Fall Week 8 (September 19 – 25):

2005	2006	2007	2008	2009
Canada Goose (365)	American Crow (244)	American Crow (138)	Canada Goose (448)	Canada Goose (1166)
Common Grackle (334)	Canada Goose (156)	Canada Goose (133)	American Crow (144)	American Crow (81)
American Crow (57)	Common Grackle (84)	Common Grackle (49)	Myrtle Warbler (46)	Cedar Waxwing (51)
White-thr. Sparrow (54)	Myrtle Warbler (75)	White-thr. Sparrow (41)	Red-wing. Blackbird (36)	Common Grackle (50)
Blue Jay (26)	American Robin (32)	American Robin (29)	White-thr. Sparrow (29)	White-thr. Sparrow (37)
Myrtle Warbler (22)	Ruby-cr. Kinglet (30)	Cedar Waxwing (21)	Blue Jay (23)	American Robin (37)
Black-cap. Chickadee (21)	Rusty Blackbird (24)	Black-cap. Chickadee (19)	Cedar Waxwing (22)	Blue Jay (26)
American Goldfinch (20)	Blue Jay (24)	Blue Jay (18)	American Robin (17)	American Goldfinch (21)
Red-wing. Blackbird (19)	Red-wing. Blackbird (20)	American Goldfinch (18)	Black-cap. Chickadee (16)	Red-wing. Blackbird (21)
American Robin (18)	White-thr. Sparrow (18)	Red-wing. Blackbird (15)	American Goldfinch (14)	Black-cap. Chickadee (16)

Banding, Fall Week 9 (September 26 – October 2):

2005	2006	2007	2008	2009
White-thr. Sparrow (104)	Myrtle Warbler (236)	White-thr. Sparrow (96)	Myrtle Warbler (688)	White-thr. Sparrow (100)
Ruby-cr. Kinglet (89)	Ruby-cr. Kinglet (114)	Ruby-cr. Kinglet (45)	Ruby-cr. Kinglet (111)	Song Sparrow (50)
Black-cap. Chickadee (38)	White-thr. Sparrow (57)	White-cr. Sparrow (22)	White-thr. Sparrow (74)	Ruby-cr. Kinglet (45)
Myrtle Warbler (21)	White-cr. Sparrow (27)	Black-cap. Chickadee (16)	Nashville Warbler (36)	Blue-headed Vireo (21)
Song Sparrow (18)	Golden-cr. Kinglet (17)	American Goldfinch (15)	Song Sparrow (24)	Myrtle Warbler (21)
Slate-colored Junco (17)	Song Sparrow (13)	Song Sparrow (15)	Blue-headed Vireo (18)	White-cr. Sparrow (14)
Golden-cr. Kinglet (11)	Nashville Warbler (10)	Swamp Sparrow (13)	American Goldfinch (12)	Nashville Warbler (13)
Nashville Warbler (10)	Gray Catbird (8)	Myrtle Warbler (12)	Magnolia Warbler (11)	Magnolia Warbler (11)
Blk-thr. Blue Warbler (10)	Magnolia Warbler (8)	Blue-headed Vireo (8)	Tennessee Warbler (11)	Hermit Thrush (8)
White-cr. Sparrow (6)	Cedar Waxwing (6)	American Robin (6)	Slate-colored Junco (10)	Blk-thr. Blue Warbler (8)
		West. Palm Warbler (6)		
		Slate-coloured Junco (6)		

Observations, Fall Week 9 (September 26 – October 2):

2005	2006	2007	2008	2009
Canada Goose (423)	Canada Goose (251)	Canada Goose (433)	Canada Goose (310)	Canada Goose (758)
Common Grackle (129)	American Crow (126)	American Crow (106)	American Crow (206)	Common Grackle (80)
White-thr. Sparrow (76)	Myrtle Warbler (76)	Red-wing. Blackbird (75)	Myrtle Warbler (155)	American Robin (68)
American Crow (63)	Ruby-cr. Kinglet (42)	White-thr. Sparrow (60)	American Robin (34)	White-thr. Sparrow (68)
Blue Jay (29)	White-thr. Sparrow (32)	Common Grackle (56)	Ruby-cr. Kinglet (33)	American Crow (47)
Black-cap. Chickadee (25)	American Robin (31)	American Robin (42)	Red-wing. Blackbird (32)	European Starling (35)
American Robin (24)	Blue Jay (19)	Blue Jay (28)	White-thr. Sparrow (27)	Blue Jay (27)
Ruby-cr. Kinglet (24)	White-cr. Sparrow (18)	Black-cap. Chickadee (22)	Common Grackle (27)	Song Sparrow (26)
Red-wing. Blackbird (18)	Black-cap. Chickadee (16)	Ruby-cr. Kinglet (15)	Blue Jay (18)	Cedar Waxwing (24)
American Goldfinch (16)	Song Sparrow (15)	American Goldfinch (15)	Cedar Waxwing (17)	Black-cap. Chickadee (21)

Banding, Fall Week 10 (October 3 – 9):

2005	2006	2007	2008	2009
White-thr. Sparrow (67)	Ruby-cr. Kinglet (115)	Ruby-cr. Kinglet (98)	Myrtle Warbler (650)	Ruby-cr. Kinglet (159)
Ruby-cr. Kinglet (66)	Myrtle Warbler (40)	American Robin (54)	Ruby-cr. Kinglet (126)	White-thr. Sparrow (103)
Black-cap. Chickadee (54)	White-thr. Sparrow (31)	White-thr. Sparrow (54)	White-thr. Sparrow (100)	Myrtle Warbler (70)
Slate-colored Junco (34)	American Robin (28)	Black-cap. Chickadee (52)	Song Sparrow (32)	White-cr. Sparrow (46)
Myrtle Warbler (30)	White-cr. Sparrow (17)	Myrtle Warbler (46)	American Robin (28)	Hermit Thrush (37)
Song Sparrow (25)	Song Sparrow (10)	Slate-colored Junco (44)	Slate-colored Junco (23)	Song Sparrow (33)
Golden-cr. Kinglet (14)	Hermit Thrush (10)	White-cr. Sparrow (35)	Nashville Warbler (21)	American Robin (22)
Swamp Sparrow (12)	Golden-cr. Kinglet (7)	Song Sparrow (18)	White-cr. Sparrow (19)	Slate-colored Junco (21)
American Goldfinch (10)	Swamp Sparrow (7)	American Goldfinch (16)	Golden-cr. Kinglet (14)	Blue-headed Vireo (15)
Nashville Warbler (8)	Winter Wren (6)	Swamp Sparrow (10)	Hermit Thrush (12)	Golden-cr. Kinglet (10)

Observations, Fall Week 10 (October 3 – 9):

2005	2006	2007	2008	2009
Canada Goose (1072)	Canada Goose (376)	Canada Goose (901)	Canada Goose (428)	Canada Goose (258)
Common Grackle (122)	American Robin (99)	American Robin (116)	Myrtle Warbler (178)	American Robin (154)
American Crow (99)	American Crow (67)	American Crow (106)	American Robin (108)	White-thr. Sparrow (103)
White-thr. Sparrow (96)	Red-wing. Blackbird (57)	White-thr. Sparrow (38)	American Crow (106)	European Starling (75)
American Robin (86)	Ruby-cr. Kinglet (49)	Red-wing. Blackbird (37)	Common Grackle (85)	Red-wing. Blackbird (61)
Ruby-cr. Kinglet (59)	White-thr. Sparrow (25)	European Starling (32)	White-thr. Sparrow (57)	White-cr. Sparrow (43)
Red-wing. Blackbird (51)	Myrtle Warbler (25)	Ruby-cr. Kinglet (30)	Red-wing. Blackbird (50)	American Crow (40)
Black-cap. Chickadee (39)	Blue Jay (23)	Slate-colored Junco (29)	Ruby-cr. Kinglet (49)	Ruby-cr. Kinglet (37)
Golden-cr. Kinglet (30)	Common Grackle (22)	Black-cap. Chickadee (26)	Blue Jay (18)	Common Grackle (24)
Slate-colored Junco (25)	Black-cap. Chickadee (17)	White-cr. Sparrow (20)	Black-cap. Chickadee (17)	Myrtle Warbler (24)

Banding, Fall Week 11 (October 10 – 16):

2005	2006	2007	2008	2009
American Robin (34)	American Robin (82)	Ruby-cr. Kinglet (145)	Myrtle Warbler (209)	American Robin (51)
Slate-colored Junco (32)	Ruby-cr. Kinglet (71)	American Robin (80)	American Robin (103)	Slate-colored Junco (46)
Ruby-cr. Kinglet (26)	Golden-cr. Kinglet (15)	Black-cap. Chickadee (34)	Slate-colored Junco (53)	Hermit Thrush (34)
Black-cap. Chickadee (15)	Hermit Thrush (14)	Slate-colored Junco (29)	Ruby-cr. Kinglet (34)	Ruby-cr. Kinglet (33)
Myrtle Warbler (12)	White-thr. Sparrow (13)	White-thr. Sparrow (25)	Song Sparrow (32)	White-thr. Sparrow (32)
Hermit Thrush (11)	Myrtle Warbler (6)	Hermit Thrush (21)	White-thr. Sparrow (25)	Black-cap. Chickadee (15)
White-thr. Sparrow (10)	Song Sparrow (6)	White-cr. Sparrow (18)	Pine Siskin (14)	Song Sparrow (12)
Song Sparrow (9)	Blue Jay (5)	Song Sparrow (17)	Hermit Thrush (13)	White-cr. Sparrow (9)
Golden-cr. Kinglet (7)	Slate-colored Junco (5)	Am. Tree Sparrow (10)	Common Grackle (8)	Swamp Sparrow (6)
White-cr. Sparrow (7)	Orange-cr. Warbler (4)	Fox Sparrow (10)	White-cr. Sparrow (7)	Blue-headed Vireo (3)
	White-cr. Sparrow (4)			

Observations, Fall Week 11 (October 10 – 16):

2005	2006	2007	2008	2009
Canada Goose (466)	American Robin (419)	Canada Goose (800)	American Robin (260)	American Robin (403)
American Robin (273)	Canada Goose (233)	American Robin (347)	Red-wing. Blackbird (176)	Canada Goose (169)
Common Grackle (107)	Red-wing. Blackbird (132)	Red-wing. Blackbird (202)	Canada Goose (175)	Red-wing. Blackbird (153)
American Crow (97)	American Crow (131)	American Crow (110)	American Crow (154)	American Crow (113)
Red-wing. Blackbird (43)	Ruby-cr. Kinglet (41)	European Starling (56)	Common Grackle (82)	White-thr. Sparrow (63)
Slate-colored Junco (42)	Cedar Waxwing (31)	Ruby-cr. Kinglet (38)	Myrtle Warbler (59)	European Starling (53)
White-thr. Sparrow (39)	Mallard (27)	White-thr. Sparrow (36)	European Starling (49)	Slate-colored Junco (34)
Ruby-cr. Kinglet (37)	European Starling (27)	Slate-colored Junco (22)	White-thr. Sparrow (26)	Black-cap. Chickadee (18)
Black-cap. Chickadee (21)	White-thr. Sparrow (21)	Common Grackle (20)	Ruby-cr. Kinglet (21)	White-cr. Sparrow (18)
Golden-cr. Kinglet (20)	Blue Jay (20)	Black-cap. Chickadee (18)	Pine Siskin (21)	Ruby-cr. Kinglet (15)

Banding, Fall Week 12 (October 17 – 23):

2005	2006	2007	2008	2009
American Robin (47)	American Robin (143)	Ruby-cr. Kinglet (73)	American Robin (101)	Slate-colored Junco (109)
Black-cap. Chickadee (37)	Ruby-cr. Kinglet (57)	American Robin (68)	Slate-colored Junco (54)	American Robin (96)
Slate-colored Junco (22)	Golden-cr. Kinglet (28)	Slate-colored Junco (38)	White-thr. Sparrow (15)	White-thr. Sparrow (35)
American Goldfinch (11)	White-thr. Sparrow (19)	Black-cap. Chickadee (21)	Song Sparrow (13)	Black-cap. Chickadee (31)
Am. Tree Sparrow (9)	Slate-colored Junco (15)	White-thr. Sparrow (21)	Myrtle Warbler (11)	Red-wing. Blackbird (30)
Song Sparrow (5)	Am. Tree Sparrow (14)	Am. Tree Sparrow (16)	Black-cap. Chickadee (9)	Song Sparrow (12)
Fox Sparrow (5)	Song Sparrow (13)	Song Sparrow (16)	Am. Tree Sparrow (5)	Fox Sparrow (9)
Ruby-cr. Kinglet (4)	Hermit Thrush (8)	Fox Sparrow (9)	Ruby-cr. Kinglet (5)	Ruby-cr. Kinglet (8)
Hermit Thrush (4)	Myrtle Warbler (6)	Golden-cr. Kinglet (5)		Am. Tree Sparrow (7)
White-thr. Sparrow (3)		American Goldfinch (5)		Golden-cr. Kinglet (6)

Observations, Fall Week 12 (October 17 – 23):

2005	2006	2007	2008	2009
Canada Goose (260)	American Robin (321)	Canada Goose (946)	Canada Goose (283)	Red-wing. Blackbird (334)
American Robin (240)	Red-wing. Blackbird (174)	American Robin (333)	Red-wing. Blackbird (276)	American Robin (321)
Common Grackle (133)	European Starling (169)	Red-wing. Blackbird (220)	American Robin (264)	Canada Goose (166)
American Crow (101)	American Crow (152)	American Crow (179)	American Crow (197)	American Crow (103)
Red-wing. Blackbird (98)	Canada Goose (78)	Common Grackle (108)	Common Grackle (105)	Slate-colored Junco (37)
European Starling (92)	White-thr. Sparrow (24)	European Starling (38)	Ring-billed Gull (58)	Black-cap. Chickadee (26)
Slate-colored Junco (57)	Cedar Waxwing (23)	Slate-colored Junco (37)	Slate-colored Junco (36)	European Starling (26)
Black-cap. Chickadee (25)	Ruby-cr. Kinglet (20)	Ruby-cr. Kinglet (20)	European Starling (28)	White-thr. Sparrow (23)
Ring-billed Gull (23)	Mallard (17)	White-thr. Sparrow (17)	Black-cap. Chickadee (22)	Common Grackle (18)
White-thr. Sparrow (22)	Blue Jay (14)	Black-cap. Chickadee (15)	White-thr. Sparrow (14)	Blue Jay (10)

Banding, Fall Week 13 (October 24 – 30):

2005	2006	2007	2008	2009
Slate-colored Junco (79)	American Robin (34)	American Robin (99)	American Robin (95)	Slate-colored Junco (175)
Black-cap. Chickadee (31)	Am. Tree Sparrow (15)	Black-cap. Chickadee (15)	Slate-colored Junco (94)	Am. Tree Sparrow (54)
Fox Sparrow (20)	Ruby-cr. Kinglet (14)	Am. Tree Sparrow (8)	Ruby-cr. Kinglet (9)	Black-cap. Chickadee (44)
American Robin (18)	Slate-colored Junco (9)	Fox Sparrow (5)	Am. Tree Sparrow (6)	White-thr. Sparrow (22)
Am. Tree Sparrow (15)	Song Sparrow (8)	Slate-colored Junco (4)	Song Sparrow (5)	Fox Sparrow (17)
Golden-cr. Kinglet (6)	White-thr. Sparrow (8)	Song Sparrow (4)	Fox Sparrow (3)	Song Sparrow (9)
White-thr. Sparrow (5)	Golden-cr. Kinglet (2)	Northern Cardinal (2)	Purple Finch (3)	American Robin (9)
American Goldfinch (4)	Cedar Waxwing (1)	Golden-cr. Kinglet (2)	White-thr. Sparrow (3)	Ruby-cr. Kinglet (4)
	Hermit Thrush (1)	White-thr. Sparrow (2)	Hermit Thrush (2)	Golden-cr. Kinglet (3)
	Indigo Bunting (1)	American Goldfinch (2)		Swamp Sparrow (3)

Observations, Fall Week 13 (October 24 – 30):

2005	2006	2007	2008	2009
Canada Goose (404)	Red-wing. Blackbird (150)	Canada Goose (1670)	American Robin (259)	Red-wing. Blackbird (465)
American Crow (115)	American Crow (144)	Red-wing. Blackbird (700)	Red-wing. Blackbird (211)	American Robin (174)
American Robin (106)	American Robin (136)	American Robin (234)	American Crow (174)	American Crow (143)
Slate-colored Junco (63)	European Starling (104)	American Crow (167)	European Starling (131)	Canada Goose (91)
Red-wing. Blackbird (60)	Canada Goose (72)	Mallard (139)	Canada Goose (80)	Slate-coloured Junco (71)
Common Grackle (40)	Cedar Waxwing (27)	Common Grackle (81)	Slate-colored Junco (48)	Mallard (33)
Mourning Dove (36)	Blue Jay (14)	European Starling (63)	Common Grackle (25)	Black-cap. Chickadee (29)
Black-cap. Chickadee (34)	Black-cap. Chickadee (14)	Black-cap. Chickadee (16)	Black-cap. Chickadee (15)	White-thr. Sparrow (22)
Ring-billed Gull (20)	White-thr. Sparrow (11)	American Goldfinch (13)	Ring-billed Gull (9)	Am. Tree Sparrow (16)
Blue Jay (19)	Mallard (11)	Slate-colored Junco (10)	Blue Jay (8)	European Starling (15)

Banding, Fall Season (August 1 – October 30):

2005	2006	2007	2008	2009
White-thr. Sparrow (354)	Myrtle Warbler (522)	Ruby-cr. Kinglet (376)	Myrtle Warbler (1732)	White-thr. Sparrow (428)
Ruby-cr. Kinglet (245)	Ruby-cr. Kinglet (435)	American Robin (318)	American Robin (346)	Slate-colored Junco (361)
Black-cap Chickadee (222)	Song Sparrow (302)	White-thr. Sparrow (318)	Ruby-cr. Kinglet (319)	Song Sparrow (322)
Song Sparrow (215)	American Robin (299)	Song Sparrow (198)	White-thr. Sparrow (315)	Ruby-cr. Kinglet (257)
Magnolia Warbler (192)	White-thr. Sparrow (187)	Black-cap Chickadee (172)	Magnolia Warbler (264)	American Robin (200)
Slate-colored Junco (191)	Magnolia Warbler (157)	Slate-colored Junco (127)	Slate-colored Junco (236)	Black-cap Chickadee (135)
Nashville Warbler (164)	Nashville Warbler (98)	American Goldfinch (94)	Song Sparrow (199)	Myrtle Warbler (106)
Myrtle Warbler (157)	Com. Yellowthroat (77)	White-cr. Sparrow (80)	Nashville Warbler (158)	American Redstart (104)
American Robin (119)	Golden-cr. Kinglet (73)	American Redstart (77)	American Redstart (99)	Magnolia Warbler (103)
Red-eyed Vireo (117)	Baltimore Oriole (62)	Magnolia Warbler (74)	Com. Yellowthroat (93)	Hermit Thrush (86)

Observations, Fall Season (August 1 – October 30):

2005	2006	2007	2008	2009
Canada Goose (233)	American Crow (112)	Canada Goose (378)	Canada Goose (143)	Canada Goose (213)
Common Grackle (146)	Canada Goose (91)	Red-wing. Blackbird (103)	American Crow (97)	American Robin (95)
American Robin (61)	American Robin (86)	American Crow (102)	American Robin (79)	Red-wing. Blackbird (86)
American Crow (58)	Red-wing. Blackbird (55)	American Robin (89)	Red-wing. Blackbird (64)	American Crow (50)
White-thr. Sparrow (28)	Common Grackle (46)	Common Grackle (31)	Common Grackle (41)	White-thr. Sparrow (28)
Red-wing. Blackbird (26)	European Starling (27)	White-thr. Sparrow (19)	Myrtle Warbler (35)	Common Grackle (23)
Blakc-cap. Chickadee (24)	Song Sparrow (21)	American Goldfinch (19)	European Starling (19)	Black-cap. Chickadee (20)
Slate-colored Junco (15)	Myrtle Warbler (17)	Black-cap. Chickadee (18)	Black-cap. Chickadee (16)	European Starling (18)
Blue Jay (15)	Blue Jay (17)	European Starling (17)	Blue Jay (14)	Cedar Waxwing (17)
American Goldfinch (14)	Cedar Waxwing (16)	Mallard (13)	White-thr. Sparrow (14)	Slate-colored Junco (13)

Appendix D: Species Occurrence Summaries

This section compiles observation and banding data on a weekly (spring and fall) or monthly (summer and winter) basis for all 199 species observed at MBO between November 2004 and October 2009. Species are organized according to the latest taxonomic revisions by the American Ornithologists' Union (AOU 2010).

LEGEND:

Time periods:

WINTER:

Nov: October 31 – November 30 (of the year BEFORE that listed in the row header)

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

Jan: January 1 – 31

Feb: February 1 – 28

Mar: March 1 – 27

SPRING:

S1: March 28 – April 3

S2: April 4 – 10

S3: April 11 – 17

S4: April 18 – 24

S5: April 25 – May 1

S6: May 2 – 8

S7: May 9 – 15

S8: May 16 – 22

S9: May 23 – 29

S10: May 30 – June 5

SUMMER:

Jun: June 6 – 30

July: July 1 – 31

FALL:

F1: August 1 – 7

F2: August 8 – 14

F3: August 15 – 21

F4: August 22 – 28

F5: August 29 – September 4

F6: September 5 – 11

F7: September 12 – 18

F8: September 19 – 25

F9: September 26 – October 2

F10: October 3 – 9

F11: October 10 – 16

F12: October 17 – 23

F13: October 24 – 30

Numerical data:

The number in each cell represents the mean number of individuals observed or banded during that period. During spring and fall migration monitoring, this is usually the total divided by 7, since those seasons have had almost complete coverage; during summer and winter the totals are divided by the number of days of observation of banding in each period. Numbers above 0.1 are rounded to one decimal place, and those below 0.1 are rounded to two decimal places to permit some distinction among rare records. For each season, the peak number is highlighted in bold red, unless numbers across the season are too similar to identify a distinct peak (usually for rare species).

Status (based on mean observation data):

Abundant: 50+ individuals observed daily

Common: 10 – 49.9 individuals observed daily

Fairly common: 5 – 9.9 individuals observed daily

Uncommon: 1 – 4.9 individuals observed daily

Rare: 0.1 – 0.9 individuals observed daily

Very rare: <0.1 individuals observed daily

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005								53.3									5.4
2006								62.5				582.1					64.5
2007		0.9					0.1		27.9	791.4		57.1					87.6
2008	0.1						0.04	20.3	162.1	138.9		150.0					47.1
2009								185.7	7.2	95.7	155.7	28.6	0.3				47.9
Mean	<0.1	0.2					0.03	46.4	28.7	57.1	217.2	5.7	157.9				50.5

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005														10.2	15.7		1.9
2006												0.1	0.1		4.6		0.4
2007															2.9		0.2
2008																	
2009									10.0			0.7	21.4				2.5
Mean									2.0			0.1	4.3	2.1	3.7	0.9	1.0

Notes: All observations consist of individuals flying over MBO. Much more numerous and regular in spring than fall. Large flocks in spring often make Snow Goose among the most abundant species observed in the second half of April, and in some years a later movement is observed in the second week of May. Unusually scarce in spring 2005. Fall sightings are more scattered, with no distinct pattern of occurrence, and typically involve a small number of individuals, often part of larger Canada Goose flocks.

BRAN: Brant / Bernache cravant (*Branta bernicla*)

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006													1.4				0.2
2007																	
2008																	
2009																	
Mean													0.3				0.04

Notes: A single flock of 10 individuals observed flying over MBO on 21 May 2006.

CACG: Cackling Goose / Bernache de Hutchins (*Branta hutchinsii*)

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006																	
2007																	
2008	0.1						0.04					0.7					0.07
2009																	
Mean	<0.1						<0.01					0.1					0.01

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005															0.1		0.01
2006														0.1			0.01
2007																1.3	0.1
2008											0.1						0.01
2009											0.3	0.3				0.1	0.06
Mean											0.1	0.1		<0.1	<0.1	0.3	0.04

Notes: A rare to very rare migrant at MBO, seen in small numbers on fewer than a dozen occasions, always flying over MBO in the company of Canada Geese. Observed at least once each fall, but just once in spring.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005	46.0	30.0					17.4	240.7	65.6	78.6	119.5	219.3	11.1	5.6	6.1	6.6	83.0
2006	7.0	8.9			20.0	7.2	717.9	853.8	752.6	898.6	541.0	250.7	9.7	11.3	32.4	15.1	401.9
2007	137.9	875.7	3.7	2.2	0.5	185.1	1098.9	178.3	198.4	321.6	109.1	430.7	13.3	9.3	11.0	3.7	237.4
2008	172.8					55.3	3.4	174.0	439.6	561.1	203.0	459.0	39.4	8.1	13.4	3.3	190.4
2009	42.9	140.0			109.4	60.0	292.6	96.4	88.3	150.9	200.7	292.4	37.4	9.7	5.7	2.6	119.4
Mean	81.2	210.9	0.9	0.4	32.5	65.0	528.2	308.6	308.9	402.2	234.7	330.4	22.2	8.8	13.7	6.3	206.4

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	1.3		0.6					4.6	8.6	22.3	364.9	493.5	1251.8	544.2	259.6	404.1	240.7
2006				0.4	1.1		2.4	4.4	3.7	7.4	156.3	250.9	376.4	233.4	77.7	72.4	91.4
2007	1.8		0.9				4.4	1.0	0.6	13.6	13.7	132.6	433.1	901.0	800.0	945.7	1669.9
2008	0.6		0.3	0.4	6.9	0.1	4.4	53.0	28.6	42.4	452.1	311.7	428.1	175.0	283.4	80.3	143.6
2009					8.9	5.4	3.6	24.3	42.7	80.6	1166.0	757.7	257.6	168.9	166.1	91.3	213.3
Mean	0.7		0.4	0.2	3.4	2.4	2.3	17.4	19.4	33.3	454.4	449.4	643.0	384.3	346.5	463.6	213.4

Notes: The vast majority of observations pertain to flocks flying over MBO, but each year at least one pair has attempted to nest at MBO. Mean abundance is comparable in spring and fall. Spring migration typically peaks at some point in April, and drops off abruptly after the first week of May, beyond which mostly just the local residents are observed. In fall, the first small flocks usually start being seen in early September, but a drastic increase does not occur until the final week of September. On average, the peak of migration is usually between late September and mid-October, but in 2007 numbers kept building through the end of the season.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005								4.7	4.0	4.4	5.5	4.3	2.3	3.1	5.9	5.8	4.4
2006	1.0					0.2	5.1	7.5	9.9	7.4	6.3	7.1	11.0	9.7	10.0	4.6	7.9
2007	0.2					0.07	3.0	7.7	5.4	6.4	7.6	9.9	7.9	13.0	16.9	4.9	8.3
2008								0.7	3.1	8.3	7.7	7.1	4.6	7.3	4.3	2.1	4.5
2009					0.2	0.08	8.9	4.2	6.1	10.1	7.9	5.1	5.3	3.1	3.1	3.0	5.7
Mean	0.2				<0.1	0.07	4.3	5.0	5.7	7.3	7.0	6.7	6.2	7.2	8.0	4.1	6.2

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	1.5	0.5	1.0	1.0	0.7	0.1	0.1	0.3	0.9	2.3	3.0	3.7	5.0	6.7	4.6	6.3	2.7
2006	3.1	0.3	1.5	2.1	0.3	1.6	1.3	2.7	5.0	1.1	2.0	5.1	4.0	5.7	6.6	6.3	3.4
2007	1.8	0.2	1.0	0.4	0.7	1.3	1.4	1.1	0.3	1.1	1.6	0.6	0.3	0.6	1.4	4.9	1.2
2008	0.2	0.2	0.2	0.3	0.6	0.6	0.6		0.1	0.1	0.4		0.7				0.3
2009	2.0		1.0	1.1	2.1	0.7	0.6	1.9		0.1	0.6	0.9	0.1	0.1	0.4	0.9	0.7
Mean	1.7	0.2	0.9	1.0	0.9	0.9	0.8	1.2	1.3	0.9	1.5	2.1	2.0	2.6	2.6	3.7	1.7

Notes: Generally present at MBO from the beginning of spring through the end of fall. Fairly common throughout spring, with numbers peaking in mid/late May from 2005-2007, and in late April in 2008-2009, perhaps reflecting reduced suitability for breeding as Stonecroft Pond filled in. Uncommon through most of fall, peaking in mid/late October in most years. Fall numbers much lower since 2007, probably also related to the reduced amount of open water available on site. Four nest boxes were put up in 2007, one at either end of Stonecroft Pond, and one at either end of the back ponds, but none have yet been used by Wood Ducks.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006															0.6		0.06
2007																	
2008															1.4	0.3	0.2
2009									0.4			0.7					0.1
Mean									0.1			0.1			0.4	0.1	0.07

Notes: Rare and irregular spring visitor, not observed annually, and with no distinct pattern of occurrence.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006											0.3						0.03
2007									0.3								0.03
2008																	
2009								0.3									0.03
Mean							0.1	0.1			0.1						0.02

Notes: Rare and irregular spring visitor, visiting before the end of April in the three years that it has been seen

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005										0.4	0.3	0.6					0.2
2006										0.7	1.4	0.6	1.1	0.1	1.0	0.4	0.6
2007	0.1	2.1				0.4	3.3		0.7	0.3	0.3	0.3		0.1	0.1		0.5
2008	0.8					0.2			0.3	0.7	0.3		0.3				0.2
2009																	
Mean	0.2	0.4				0.1	0.8		0.2	0.4	0.4	0.3	0.3	<0.1	0.2	0.1	0.3

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005													1.3	1.3			0.2
2006		0.4	0.2	0.1									0.3		0.1	0.6	0.09
2007																2.9	0.2
2008							0.1			0.4	0.1						0.05
2009							0.3									0.1	0.03
Mean		0.1	0.04	<0.1			0.1			0.1	<0.1		0.3	0.3	<0.1	0.7	0.1

Notes: Rare at MBO in all seasons. Aside from unusually arrivals in 2007, there tends to be a weak spring peak observed in late April; 2009 was the only year without any spring observations. Fall sightings are more scattered, but somewhat more frequent and abundant in October, with a few late migrants hanging around into early winter. Most are seen flying over the site, but a few have been observed swimming on the ponds.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005	32.8					9.4		7.0	4.7	1.9	4.2	3.9	4.3	2.7	3.9	2.8	3.9
2006	0.6	0.1				0.2	6.1	5.0	14.1	19.4	20.1	14.3	29.7	18.7	26.3	14.0	16.6
2007	9.4	57.1	0.7			12.2	13.3	7.7	7.6	14.1	7.7	10.7	8.7	7.3	5.4	2.3	8.5
2008	8.3					2.6		1.0	8.0	11.6	7.1	4.3	6.3	6.9	6.0	4.3	5.5
2009	4.9				0.2	1.0	6.6	3.5	1.6	6.9	5.7	3.4	3.1	3.9	4.1	2.0	4.1
Mean	11.2	11.4	0.2		<0.1	5.1	6.5	4.8	7.2	10.8	9.0	7.3	10.4	7.9	9.1	5.1	7.7

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	1.4	0.6	1.0	0.3	1.6	0.3			0.1					3.2	7.4	1.3	1.1
2006	4.7	1.2	2.7	3.4	1.7		0.9	2.1			0.9	3.6	6.9	27.4	16.9	11.0	5.8
2007	0.8		0.4	2.1	0.3	0.4	4.4	1.3	1.4		2.9	0.3	0.6	0.3	12.4	138.7	12.7
2008	1.6	0.2	0.9	1.6	0.7	0.7	1.9		1.7	0.1	1.9	0.1		0.9	0.6	6.1	1.3
2009	0.3		0.2	0.3	0.7	0.9		0.3	0.1		0.3	0.7	4.0	1.1	0.4	33.4	3.2
Mean	1.8	0.4	1.0	1.5	1.0	0.5	1.4	0.7	0.7	<0.1	1.2	0.9	2.3	6.6	7.5	38.1	4.8

Notes: Fairly common to common in spring, typically peaking around the third week of April, though later in 2006, when Mallards were unusually abundant throughout the season. Generally uncommon in fall, but in some years becoming common in mid/late October.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring	
2005										0.1						0.3	0.2	0.07
2006								0.2	0.3		0.1	0.1						0.07
2007										0.3			0.1					0.04
2008																		
2009																		
Mean								<0.1	0.1	0.1	<0.1	<0.1	<0.1			0.1	<0.1	0.04

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006								0.1									0.01
2007																	
2008																	
2009																	
Mean								<0.1									<0.01

Notes: A rare spring visitor, with occasional sightings scattered throughout much of the season. Only a single individual observed in fall, on 29 August 2006. Last recorded at MBO in May 2007.

NSHO: Northern Shoveler / Canard souchet (*Anas clypeata*)

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005											0.3						0.03
2006													0.1				0.01
2007																	
2008																	
2009															0.1		0.01
Mean											0.1		<0.1		<0.1		0.01

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006																	
2007																	
2008																	
2009																0.3	0.02
Mean																0.1	<0.01

Notes: Very rare at MBO, with only three scattered spring sightings and one fall record.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005											0.7	0.6	1.1	0.3			0.3
2006								0.3	2.6	12.3	17.0	6.7	1.9	1.3	0.7	0.3	4.4
2007							1.6		0.1	0.3	0.4						0.2
2008										0.9	0.3						0.1
2009																	
Mean							0.4	0.1	0.5	2.7	3.7	1.5	0.6	0.3	0.1	0.1	1.0

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005															2.9		0.2
2006																	
2007							0.9					11.4					1.0
2008																	
2009																0.1	0.01
Mean							0.2					2.3			0.6	<0.1	0.2

Notes: Regular only in spring 2006; otherwise rare and sporadic, though somewhat more frequently seen in spring.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005										1.0							0.1
2006															0.1		0.01
2007							0.6										0.06
2008										2.3							0.2
2009										0.4	0.3						0.07
Mean							0.1			0.7	0.1				<0.1		0.09

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005														0.2			0.01
2006																	
2007																0.1	0.01
2008																	
2009																0.3	0.02
Mean														<0.1		0.1	0.01

Notes: A rare spring visitor, with at least one observation each year, most commonly in late April. Very rare in fall, with only three records, all in October.

RNDU: Ring-necked Duck / Fuligule à collier (*Aythya collaris*)

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006																	
2007								1.1	0.6	0.9		0.1					0.3
2008																	
2009																	
Mean								0.2	0.1	0.2		<0.1					0.1

Notes: Very rare, with observations limited to spring 2007. A pair remained present on Stoneycroft Pond for much of the first half of April, then moved on, but another flock of six was observed on 22 April, and a lone bird on 2 May.

GRSC: Greater Scaup / Fuligule milouinan (*Aythya marila*)

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006																	
2007	1.1						0.4							25.0			2.5
2008																	
2009																	
Mean	0.2						0.1							5.0			0.5

Notes: The only confirmed sighting was a flock of 175 individuals flying overhead on 22 May 2007. A mixed flock seen in November 2006 appeared to include at least some Greater Scaup, but likely included Lesser Scaup too.

LESC: Lesser Scaup / Petit Fuligule (*Aythya affinis*)

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																0.7	0.06
2006																	
2007																	
2008																	
2009																	
Mean																0.1	0.01

Notes: A large flock of 1180 scaup flew over MBO on 27 October 2005; only five individuals were clearly identified as Lesser Scaup, but there were likely more in what appeared to be a mixed flock of Lesser and Greater Scaup.

WWSC: White-winged Scoter / Macreuse brune (*Melanitta fusca*)

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006														6.7			0.7
2007																	
2008																	
2009																	
Mean														1.3			0.1

Notes: Observations limited to two flocks totalling 47 individuals that flew over MBO on 21 May 2006.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005								0.5	0.3								0.08
2006														0.1			0.01
2007							0.4		0.4								0.09
2008																	
2009										0.3							0.03
Mean							0.1	0.1	0.1	0.1				<0.1			0.04

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006				0.1													0.01
2007																	
2008																	
2009																	
Mean				<0.1													<0.01

Notes: Rare to very rare in spring, most commonly seen early in the season, and missed entirely in 2008. Very rare in fall, with just a single sighting on 2 August 2006.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006		0.1					0.03								0.1		0.01
2007							1.0			0.7							0.2
2008	1.0						0.3		0.3	0.1	0.1	0.1			0.1	0.1	0.1
2009	0.4						0.08			0.1	0.7	0.6	0.3	0.1			0.2
Mean	0.3	<0.1					0.08	0.3	0.1	0.2	0.2	0.1	0.1	<0.1	<0.1	<0.1	0.1

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006																	
2007																	
2008																	
2009						1.6								0.1	0.1		0.14
Mean						0.3								<0.1	<0.1		0.03

Notes: A rare spring migrant, becoming somewhat more regular since 2007. There appears to be a slight peak toward the end of April, but numbers to date are too small to see a clear pattern. Very rare in fall, with observations limited to a few sightings in 2009. In three separate years, small numbers of late migrants were observed in early winter.

RBME: Red-breasted Merganser / Harle huppé (*Mergus serrator*)

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	0.1		0.03														
2006																	
2007																	
2008																	
2009													0.4				0.03
Mean	<0.1		0.01										0.1				0.01

Notes: Very rare, with only two observations to date. The first was a female on the back pond in June 2005, and the second was a small flock of three flying overhead on 7 October 2009.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006																	
2007																	
2008																	
2009			0.3		0.1	0.05	0.1										0.01
Mean			0.1		<0.1	0.01	<0.1										<0.01

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006																	
2007																	
2008													0.1	0.1	0.1		0.03
2009																	
Mean													<0.1	<0.1	<0.1		0.01

Notes: Although known to historically frequent the area, Ruffed Grouse was not documented at MBO until October 2008. Scattered sightings (and in winter track observations) were recorded through until the beginning of spring 2009.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005												0.3	0.3		0.3		0.1
2006										0.4	0.3	0.7	0.3	0.7		0.3	0.3
2007											0.3	0.1	0.6		0.3	0.1	0.1
2008										0.7		1.1	0.4	0.3	1.3		0.4
2009										0.6		0.7	0.7	0.4			0.3
Mean										0.3	0.1	0.6	0.5	0.3	0.4	0.1	0.2

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	0.1		0.03						0.1		0.6	0.2	1.5	0.2	0.1		0.2
2006																	
2007					0.1		0.1					0.4			0.1		0.07
2008															0.1		0.01
2009				0.1													0.01
Mean	<0.1		<0.1	<0.1	<0.1		<0.1		<0.1		0.1	0.1	0.3	<0.1	0.1		0.06

Notes: A rare spring migrant, usually with a handful of sightings scattered across a period of several weeks. In most years there is a weak peak of movement in early May. Numbers tend to be lower in fall, with only a single individual observed in each of 2008 and 2009, and none at all in 2006. Only in 2005 was Common Loon observed with any regularity in fall, with a slight peak in abundance in early October. All observations are of individuals flying over MBO.

PBGR: Pied-billed Grebe / Grèbe à bec bigarré (*Podilymbus podiceps*)

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005									0.1	0.4	0.7	0.3	0.9	0.9	1.0	0.2	0.5
2006																0.1	0.01
2007																	
2008										0.1		0.1		0.1			0.04
2009																	
Mean									<0.1	0.1	0.1	0.1	0.2	0.2	0.2	<0.1	0.1

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	0.1	0.2	0.2	0.1													0.01
2006																	
2007																	
2008																	
2009								0.1									0.01
Mean	<0.1	<0.1	<0.1	<0.1				<0.1									<0.01

Notes: A pair was resident on Stoneycroft Pond in spring and summer 2005, and attempted to breed, although it appeared they were unsuccessful. Since then, there have been only five additional sightings, all in spring except for one fall record on 1 September 2009.

NOGA: Northern Gannet / Fou de Bassan (*Morus bassanus*)

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006																	
2007																	
2008									0.1								0.01
2009																	
Mean									<0.1								<0.01

Notes: A single observation of a lone juvenile flying east over MBO on 7 September 2008.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005								0.7		0.1	0.2		0.3	0.4			0.2
2006									2.4	0.1		0.3		0.6			0.4
2007											0.3	0.1	1.3	0.1	0.1		0.2
2008								0.3		0.3	1.3	1.0		1.3	1.4		0.6
2009											0.4	0.1					0.06
Mean								0.2	0.5	0.1	0.4	0.3	0.3	0.5	0.3		0.3

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005									0.6				1.0				0.1
2006				0.1	0.1							0.1	0.1	0.1			0.05
2007							0.3	0.1	0.1		0.3						0.07
2008										0.1			0.1				0.02
2009							5.6				0.1		0.3				0.5
Mean				<0.1	<0.1	1.1	0.1	<0.1	0.1	<0.1	0.1	<0.1	0.3	<0.1			0.1

Notes: Rare but widely scattered observations throughout much of spring and fall. All observations are of individuals flying over MBO, and numbers reported generally reflect flock size more than seasonal abundance, therefore it is not possible to determine any peaks of occurrence yet.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005											0.3	0.1	0.3			0.2	0.1
2006									0.1	0.1				0.1	0.1		0.06
2007												0.1			0.1	0.1	0.04
2008												0.1		0.3			0.04
2009										0.6	0.1	0.3					0.1
Mean									<0.1	0.1	0.1	0.1	0.1	0.1	<0.1	0.1	0.07

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005				0.3						0.1							0.03
2006					0.1												0.01
2007					0.1												0.01
2008																	
2009																	
Mean				0.1	<0.1					<0.1							0.01

Notes: A rare spring migrant, occurring between mid-April and early June with no apparent peak of movement. Very rare in fall, with only a few records, and none since August 2007. A possible Least Bittern was heard outside MBO from the Warbler Alley section of the census trail on 4 September 2005, but since Black-billed Cuckoo could not be conclusively ruled out, it was not counted as an observation.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005								0.5	0.1	0.1	0.3	0.7	0.6	1.3	1.1	1.2	0.7
2006	0.1						0.01	0.3	1.7	2.6	2.0	4.9	2.4	3.4	4.4	1.3	2.5
2007	0.1	0.1					0.04	0.4		1.4	0.9	4.1	3.3	2.3	4.9	2.6	2.0
2008	0.1						0.04	0.3	0.7	0.6	1.7	1.6	1.9	3.7	1.6	3.4	1.7
2009								0.4		0.1	0.7	0.4	0.6	1.1	1.6	1.7	0.4
Mean	<0.1	<0.1					0.02	0.1	0.4	0.5	1.3	1.0	2.4	2.2	2.0	3.1	1.4

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	0.9	1.6	1.3	0.7	0.3	0.4	0.6	0.4	0.1	0.3		0.5	0.2		0.4		0.3
2006	1.3	1.2	1.2	1.3	0.1	0.1	0.1		0.3	0.7	0.3	0.1	0.3	0.3	0.1		0.3
2007	1.5	0.3	0.9		0.6	0.6	0.9	0.4	0.6	1.1			0.6		0.1		0.4
2008	0.4		0.2	0.4	1.1	0.3	0.1	0.1	0.1	0.1	0.4	0.4	0.1				0.3
2009		0.3	0.2	0.1	0.4	0.6	0.7			0.3	0.4	0.4	0.1				0.2
Mean	0.8	0.7	0.8	0.5	0.5	0.4	0.5	0.2	0.2	0.5	0.2	0.3	0.3	0.1	0.1		0.3

Notes: Fairly regular at MBO from early spring until early October in most years, with several records extending into early winter. More numerous in spring, with numbers usually peaking in late May. Generally rare in fall, most abundant in August and typically tapering off as the season progresses.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005														0.1	0.9	0.8	0.2
2006												0.6	0.6	0.3	1.6	1.0	0.4
2007														0.7	0.3	0.1	0.1
2008													0.4	1.4	1.7	1.3	0.5
2009										0.1		0.4	0.7	0.7	0.7	0.6	0.3
Mean										<0.1		0.2	0.3	0.6	1.0	0.8	0.3

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	0.7	0.7	0.7	0.3	0.7	0.1	0.7	0.1	0.4			0.2					0.2
2006	0.4	0.8	0.6	1.4	1.1	2.0	0.7		0.7	0.3	0.4						0.5
2007	0.2	0.3	0.3	1.1	3.0	1.1	0.4	0.3	0.3				0.1				0.5
2008	1.2	1.0	1.1	2.1	0.4		0.3	0.3	0.1								0.3
2009	1.0		0.5	0.7	1.9	1.7	0.3			0.1	0.1						0.4
Mean	0.7	0.6	0.6	1.1	1.4	1.0	0.5	0.1	0.3	0.1	0.1	<0.1	<0.1				0.4

Notes: A regular summer resident and breeder at MBO; most records likely pertain to the local birds. Spring arrivals usually begin only in May, with observations most frequent late in the month. The fall peak is always in August, with numbers tapering off through September and only a single record extending into early October.

BCNH: Black-crowned Night Heron / Bihoreau gris (*Nycticorax nycticorax*)

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005											0.2						0.02
2006											0.1						0.01
2007																	
2008																	
2009										0.3							0.03
Mean										0.1	0.1						0.01

Notes: Very rare at MBO, with only four sightings over five years, all in the second half of April.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005										0.7	0.2	0.1		0.6	0.1	0.2	0.2
2006							0.3	0.2	0.1	0.7	0.3	1.1	0.6	0.6	1.1	0.1	0.5
2007								0.1		0.3	0.3	1.7	0.6	0.1	0.6	0.1	0.4
2008										1.4	1.0	0.3	0.9	0.6	0.9	0.1	0.5
2009									0.6	1.3	2.3	1.9	0.4	0.4	1.0	0.3	0.8
Mean							0.1	0.1	0.1	0.9	0.8	1.0	0.5	0.5	0.7	0.2	0.5

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	0.3		0.2				0.1	0.1		0.1	0.1		0.3			0.4	0.1
2006				0.1	0.1	0.1	0.3		0.1	0.7					0.4	0.9	0.2
2007	0.5	0.2	0.3								0.1						0.01
2008					0.1				0.3	0.3	0.1		0.1		0.4		0.1
2009						0.1	0.1	0.1				0.9	1.1	0.4	0.1		0.4
Mean	0.2	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	0.2	0.5	0.2	0.3	0.1	0.3	0.2	0.2

Notes: Regular, but mostly rare to uncommon in spring, with numbers usually peaking in late April or early May. Sightings are more scattered in summer and early fall, until migrants start moving around mid-September. Fall numbers tend to be lower, and patterns are less clear, with a peak in mid/late September in some years and in late October in others.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006										0.1	0.7	1.4					0.2
2007										0.4	0.4	0.3	0.1				0.1
2008										0.1	0.1	0.7					0.1
2009											0.1		0.1				0.03
Mean										0.1	0.3	0.5	<0.1				0.09

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005													0.2				0.01
2006										0.4	0.1		0.9				0.1
2007											0.1	0.1	0.1		0.1		0.04
2008						0.1											0.01
2009					0.1												0.01
Mean					<0.1	<0.1				0.1	<0.1	<0.1	0.2		<0.1		0.03

Notes: A rare spring migrant, most commonly peaking around the beginning of May. Even less frequently observed in fall, and with migration not as concentrated. All individuals observed were flying over MBO.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006							0.1					0.1	0.1	0.1			0.06
2007																	
2008											0.1						0.01
2009																	
Mean							<0.1				<0.1	<0.1	<0.1	<0.1			0.01

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005										0.1							0.01
2006																	
2007																	
2008																	
2009																	
Mean										<0.1							<0.01

Notes: Very rare, with only five spring records, all from 2006 and 2008, and a lone fall record on 14 September 2005. All individuals observed were flying over MBO.

NOHA: Northern Harrier / Busard Saint-Martin (*Circus cyaneus*)

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005											0.2						0.02
2006									0.4	0.1	0.1	0.1		0.1	0.1		0.1
2007	0.1	0.1			0.1	0.1			0.1	0.3	0.3		0.1	0.1	0.1		0.1
2008										0.1	0.7	0.3	0.1	0.1	0.1	0.1	0.2
2009					0.1	0.03	0.1				0.6	0.6	0.1	0.4			0.2
Mean	<0.1	<0.1			<0.1	0.03	<0.1		0.1	0.2	0.4	0.1	0.1	0.1	0.1	<0.1	0.1

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005						0.1			0.3					0.7	0.3	0.6	0.2
2006							0.9	0.3	0.3		0.3	0.4	0.3	0.1	0.6	0.3	0.3
2007	0.2		0.1	0.1		0.4		0.3	0.3	0.7	0.4	0.7	0.3	0.1	0.4	0.3	0.3
2008				0.1				0.1	0.6								0.06
2009						0.3	0.1	0.1	0.3	0.1	0.1	0.1		0.1		0.1	0.1
Mean	<0.1		<0.1	<0.1		0.2	0.2	0.2	0.4	0.2	0.2	0.2	0.1	0.2	0.3	0.3	0.2

Notes: A rare but relatively regular migrant in both spring and fall, with an extended period of movement in both seasons. In spring there tends to be a peak of migration toward the end of April, but the fall peak does not occur predictably.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005														0.4			0.05
2006	0.2			0.1		0.06				0.3	0.1	0.1	0.3		0.3		0.1
2007		0.1	0.2			0.04		0.1		0.4		1.0			0.1	0.1	0.2
2008											0.7	0.7	0.4		0.4	0.1	0.2
2009				0.1		0.03				0.6	0.3	0.4	0.4		0.1		0.2
Mean	<0.1	<0.1	<0.1	<0.1		0.03		<0.1		0.3	0.2	0.4	0.3		0.2	<0.1	0.2

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005					0.1	0.4	0.3	0.4	1.4	0.7	1.6	1.7	1.5	1.5	1.0	0.1	0.8
2006				0.1	0.3	0.4	0.1	0.4	1.0	1.0	0.9	0.6	1.0	0.1	0.6	0.3	0.5
2007	0.2	0.3	0.3			0.1	0.7	1.6	1.4	0.7	1.3	0.7	0.1	0.7	0.3	1.0	0.7
2008				0.1	0.1	0.1	1.0	0.3	0.7	0.7	1.9	1.3	0.3	0.1	0.6	0.1	0.6
2009				0.1			0.4	0.7	0.9	1.1	1.4	1.3	1.4	1.7	0.6	0.7	0.8
Mean	<0.1	0.1	0.1	0.1	0.1	0.2	0.5	0.7	1.1	0.8	1.4	1.1	0.9	0.8	0.6	0.4	0.7

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006																	
2007																	
2008												1					1
2009																	
Mean												0.2					0.2

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005									1			2		1			4
2006				1								1					2
2007								1		2	1			1			5
2008				1						1	1	1					4
2009							1	2		1		1	2				7
Mean				0.4			0.2	0.6	0.2	0.8	0.4	1.0	0.4	0.4			4.4

Notes: 23 individuals banded, all but one of them in fall, and the only diurnal raptor banded with any regularity at MBO. A rare spring migrant, with most activity concentrated between mid-April and mid-May. More regular and more numerous in fall, with observations weekly throughout September and October in all years. There is a weak peak of migration in late September, but more generally, fall numbers are elevated from mid-September to almost mid-October. Occasional winter sightings are scattered over three years.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005								0.8	0.1	0.6		0.6	0.3	0.1			0.3
2006	0.4	0.1		0.1	0.2	0.1		0.5	0.1	0.1	0.3		0.1	0.1			0.1
2007	0.1	0.3	0.5			0.2		0.1		0.3	0.1	0.4	0.3	0.1	0.1		0.2
2008	0.3					0.1				0.1	0.7	0.1	0.3		0.3		0.2
2009					0.07	0.03			0.3	0.4	1.0	0.4	0.1	0.1	0.6	0.3	0.3
Mean	0.2	0.1	0.1	<0.1	0.1	0.09		0.3	0.1	0.3	0.4	0.3	0.2	0.1	0.2	0.1	0.2

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	0.1	0.1	0.1	0.1		0.1	0.1	0.3	1.4	0.3	0.7	1.0	0.8	0.3	0.4	0.4	0.5
2006				0.3	0.1	0.3	0.1	0.6	0.4	0.9	0.4	0.9	0.6	0.6	1.6	0.1	0.5
2007				0.3	0.1	1.3	0.1	0.9	0.7	0.9	0.6	0.7	0.7	0.9	0.3	0.3	0.6
2008				0.3		0.1	0.3	1.0	0.9	1.0	1.1	0.1	0.9	0.4	0.4	0.3	0.5
2009	0.3		0.2	0.4	0.3	0.6	1.3	0.4	1.0	1.1	1.4	0.9	0.3	1.7	0.4		0.8
Mean	0.1	<0.1	0.1	0.3	0.1	0.5	0.4	0.6	0.9	0.8	0.8	0.7	0.7	0.8	0.5	0.2	0.6

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006																	
2007					1												1
2008																	
2009																	
Mean					0.2												0.2

Notes: 1 individual banded in August 2007. A rare spring migrant at MBO, occurring through much of the season, but peaking in early April in 2005 and 2006, and in late April or early May in 2007 to 2009. Similar to Sharp-shinned Hawk, Cooper's Hawk is more regular and more numerous in fall, occurring almost weekly throughout the season. There is no strong peak in migration, but rather slightly elevated numbers from around mid-September to mid-October. Cooper's Hawk is somewhat more regular during winter than Sharp-shinned Hawk.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006	0.2					0.05											
2007																	
2008																	
2009																	
Mean	<0.1					0.01											

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005													0.2				0.01
2006										0.1							0.01
2007					0.1			0.1		0.1	0.1			0.1		0.1	0.06
2008													0.1				0.01
2009					0.1		0.1				0.3	0.7	0.3	0.7	0.3		0.2
Mean					<0.1		<0.1	<0.1		<0.1	0.1	0.1	0.1	0.2	0.1	<0.1	0.06

Notes: A rare fall migrant, seen annually, but always in small numbers. No spring records to date.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005					0.3	0.07		0.3		0.3	0.3	0.4		0.3	0.4	0.8	0.3
2006							1.4	1.0	1.0	1.0	1.4	2.6	0.9	0.7	1.3	0.6	1.2
2007	0.1				0.4	0.1	0.7	0.7	0.6	0.4	0.4	0.7	0.1	0.7	0.1	0.1	0.5
2008									0.3	1.7	1.3	2.0	1.3	0.9	0.6	0.7	0.9
2009					0.1	0.05	0.3		0.1	0.1	1.0	0.6	0.4	0.3	0.4	0.3	0.4
Mean	<0.1				0.2	0.04	0.6	0.5	0.4	0.7	0.9	1.3	0.5	0.6	0.6	0.5	0.7

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	0.1	0.3	0.2	0.1		0.1	0.3		0.4	0.3	0.6	0.7	1.5	0.5	0.6	0.1	0.4
2006	0.2	0.3	0.3	0.7	1.1	0.7	0.9	0.7	1.6	1.1	1.3	1.1	1.4	0.6	0.4	0.3	0.9
2007	0.2	0.3	0.3		0.9	1.0	0.3	0.4	0.9	0.6	0.3	0.1	0.1			0.1	0.4
2008				0.3	0.4	0.3	0.1		0.6	1.1	1.6	0.9	0.6	0.1		0.1	0.5
2009	0.7	0.3	0.5	0.6	0.1	0.1	0.3	0.3	0.9	0.3	0.7	0.3	0.4	1.0		0.6	0.4
Mean	0.2	0.3	0.3	0.2	0.6	0.4	0.3	0.3	0.9	0.7	0.9	0.6	0.8	0.4	0.2	0.2	0.5

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006															1		1
2007																	
2008																	
2009																	
Mean															0.2		0.2

Notes: 1 individual banded in October 2005. Regular from late March through late October, with many records likely representing the local breeding pair. Spring observations regularly peak in early May, while in fall there is a weak peak in mid/late September.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005										0.1				0.1			0.03
2006												0.3					0.03
2007										0.7	0.3	0.3	0.1				0.1
2008										1.6	0.4	0.3	0.1				0.2
2009											0.1			0.1	0.1		0.04
Mean										0.5	0.2	0.2	<0.1	<0.1	<0.1		0.08

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005								5.3		0.3							0.4
2006						0.9	0.6	0.1	0.7		0.1						0.2
2007									7.3	0.7	0.3						0.6
2008						0.1	0.4	0.9	2.4	4.7	0.1						0.7
2009							0.1		1.0	1.4		0.3					0.2
Mean						0.2	0.2	1.3	2.3	1.4	0.1	0.1					0.4

Notes: Generally rare in spring, though small flocks are sometimes observed in the second half of April. Somewhat more regular in fall, but with most records concentrated around a brief peak of migration in the first half of September.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005					0.8	0.2					0.2	0.1					0.03
2006	0.3	0.1	0.2		0.2	0.1	0.1	0.2	1.0		0.4	1.9	0.1		0.1		0.4
2007	0.3	0.6	0.3	0.5	0.5	0.4		0.4	0.1	0.9	0.1	0.1	0.1	0.1			0.2
2008	0.6	0.3	0.2			0.3	0.3	0.1	0.3	0.4	0.3	0.3	0.4		0.3	0.1	0.3
2009	0.4	0.5		0.4	0.3	0.3	0.1		0.1	0.3	0.9	0.6		0.3	0.1		0.3
Mean	0.3	0.3	0.2	0.2	0.5	0.3	0.1	0.1	0.3	0.3	0.4	0.6	0.1	0.1	0.1	<0.1	0.2

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005							0.1			0.1	0.1	0.3	1.3	0.7	0.4	0.4	0.3
2006		0.1	0.05				0.1	0.3	0.3	0.1	0.1	0.4	0.6	0.7	3.7	1.3	0.6
2007	0.2		0.08	0.1		0.1	0.3	0.1	0.1	1.4	0.6	0.3	1.3	0.7	1.4	1.9	0.7
2008						0.1	0.3	0.1	0.1	0.1	0.6	0.3	0.7	1.9	2.0	1.7	0.6
2009					0.3		0.3		0.7	0.7	1.1	0.9	0.6	4.1	0.9	0.9	0.8
Mean	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.2	0.1	0.2	0.5	0.5	0.4	0.9	1.6	1.7	1.2	0.6

Notes: Rare to uncommon throughout most of the year. Spring migration typically peaks in late April or early May, while fall numbers peak around mid-October in most years.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006	0.1					0.02							0.1				0.01
2007										0.1		0.1					0.03
2008																	
2009				0.1		0.03											
Mean	<0.1			<0.1		0.01				<0.1		<0.1	<0.1				0.01

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006													0.1		0.3		0.03
2007																	
2008																	
2009																0.1	0.01
Mean													<0.1		0.1	<0.1	0.01

Notes: Very rare from early October through early May, with only 9 records to date.

GOEA: Golden Eagle / Aigle royal (*Aquila chrysaetos*)

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006	0.1					0.02						0.3	0.1				0.04
2007													0.1				0.01
2008																	
2009											0.1						0.01
Mean	<0.1					<0.01					<0.1	0.1	<0.1				0.01

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006																	
2007																	
2008																	
2009																0.3	0.02
Mean																0.1	<0.01

Notes: Very rare in late fall / early winter and late April / early May, with only 8 records to date.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005								0.2	0.3	0.1							0.07
2006									0.1								0.01
2007																	
2008																	
2009													0.1				0.01
Mean								<0.1	0.1	<0.1			<0.1				0.02

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005								0.1	0.1	0.1	0.1			0.2			0.06
2006									0.1	0.1		0.3					0.04
2007				0.1				0.3		0.1							0.04
2008										0.3			0.1				0.03
2009						0.1											0.01
Mean				<0.1		<0.1		0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1			0.04

Notes: Very rare in spring and rare in fall, with not enough records to identify any distinct patterns in occurrence.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005								0.2			0.1						0.03
2006													0.1	0.1			0.03
2007	0.1					0.02				0.1		0.1	0.3				0.06
2008	0.1					0.04					0.1						0.01
2009															0.1		0.01
Mean	<0.1					0.01		<0.1		<0.1	<0.1	<0.1	0.1	<0.1	<0.1		0.03

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005				0.1	0.3						0.4	0.2	0.2	0.2			0.1
2006		0.1	0.05	0.4	0.3	0.1			0.3			0.3		0.3		0.1	0.1
2007									0.1	0.1	0.3	0.1			0.1		0.07
2008		0.2	0.1	0.1	0.4	0.6	0.1	0.4	0.1	0.3	0.1		0.3	0.3			0.2
2009					0.3	0.1	0.3	0.1	0.1	0.4	0.3	0.4	0.3	0.3	0.3		0.2
Mean		0.1	<0.1	0.1	0.3	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	<0.1	0.1

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006																	
2007										1							1
2008																	
2009																	
Mean										0.2							0.2

Notes: 1 individual banded in April 2007. Rare throughout most of the year, but somewhat more regularly observed in fall. No distinct peaks in occurrence are apparent, and it may be that many sightings relate to local residents.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005												0.1					0.02
2006								0.3				0.1		0.1			0.06
2007																	
2008																	
2009					0.1	0.03	0.1										0.01
Mean					<0.1	0.01	<0.1	0.1				<0.1		<0.1			0.02

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005															0.1		0.01
2006												0.1					0.01
2007						0.3		0.1									0.03
2008							0.1	0.1							0.1		0.03
2009								0.1	0.1								0.02
Mean						0.1	<0.1	0.1	<0.1			<0.1		<0.1			0.02

Notes: Very rare in both spring and fall, with widely scattered observations, though observed at least once each fall.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005															0.1		0.02
2006										0.1						0.1	0.03
2007												0.3				0.1	0.04
2008													0.7	0.4	0.1		0.1
2009										0.3	0.3	0.4	0.9	0.9	0.1		0.3
Mean										0.1	0.1	0.1	0.3	0.3	0.1	<0.1	0.1

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	0.1	0.1	0.1					0.1									0.01
2006																	
2007						0.1	0.1										0.02
2008										0.3							0.02
2009	0.3	0.3	0.3	0.1													0.01
Mean	0.1	0.1	0.1	<0.1		<0.1	<0.1	<0.1		0.1							0.01

Notes: Rare in spring, with some records representing one or two individuals that lingered for extended periods. At least one individual may have remained present throughout summer in 2005 and 2009, but no breeding evidence was recorded. Very rare in fall, with scattered records from early August to mid-September.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005														0.1	0.1		0.03
2006																	
2007																	
2008													0.1		0.1	0.1	0.04
2009																	
Mean													<0.1	<0.1	<0.1	<0.1	0.01

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006																	
2007				0.1					0.1								0.02
2008																	
2009																	
Mean				<0.1					<0.1								<0.01

Notes: Very rare migrant in late spring and the first half of fall, with only 7 records to date.

COMO: Common Moorhen / Gallinule poule-d'eau (*Gallinula chloropus*)

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006																	
2007						0.1											0.01
2008																	
2009																	
Mean						<0.1											<0.01

Notes: A single individual on Stoneycroft Pond on 18 August 2007.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006																	
2007										0.1			0.1				0.03
2008																	
2009																	
Mean										<0.1			<0.1				0.01

Notes: Observations limited to two single cranes observed flying over MBO in April and May 2007.

SEPL: Semipalmated Plover / Pluvier semipalmé (*Charadrius semipalmatus*)

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006															1.4		0.2
2007																	
2008																	
2009																	
Mean															0.3		0.04

Notes: Observations limited to a single flock of 10 plovers flying over MBO on 28 May 2007.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005								0.2	0.4	1.3		0.4	0.3	0.6	0.3	0.6	0.5
2006							0.7	0.5	0.6	0.9	1.3	1.4	1.7	1.1	1.1		0.9
2007							0.3	0.4		1.0	0.3	0.6	1.1	0.6	0.6	0.3	0.5
2008								1.1	0.4	0.7	0.4	0.3	0.4	0.6	0.1	0.3	0.4
2009					0.1	0.03	0.6	0.3	0.1	0.9	0.1	0.9	0.6	0.4	0.4	0.1	0.5
Mean					<0.1	0.01	0.4	0.5	0.3	1.0	0.4	0.7	0.8	0.7	0.5	0.3	0.6

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005		0.1	0.06									0.1	0.3				0.03
2006																	
2007	0.2		0.08			0.4		0.1	0.1								0.05
2008				0.1								0.1					0.02
2009															0.1		0.01
Mean	<0.1	<0.1	<0.1	<0.1		0.1		<0.1	<0.1			<0.1	0.1		<0.1		0.02

Notes: A rare to uncommon spring migrant and rare fall migrant. Spring numbers most often peak from mid-April to mid-May, while fall numbers are too small to detect a pattern.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005															0.4		0.05
2006													0.1				0.01
2007													0.1		0.1		0.03
2008													0.1	0.3	0.3		0.07
2009															0.1		0.01
Mean													0.1	0.1	0.2		0.03

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006				0.4													0.02
2007										0.1							0.01
2008							0.1										0.01
2009									0.1								0.01
Mean				0.1			<0.1		<0.1	<0.1							0.01

Notes: Rare in spring, with observations concentrated in a narrow period around the middle of May. Very rare and more scattered in fall, with just 6 individuals observed, ranging from early August to mid-September.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005												0.1	1.7	1.9	1.0	0.2	0.6
2006												0.4	0.7	1.0	0.6		0.3
2007													0.1	0.7	0.1		0.1
2008											0.1	0.9	3.7	3.1	0.4		0.8
2009										0.3		1.3	1.1	0.6	0.1		0.4
Mean										0.1	<0.1	0.5	1.5	1.5	0.4	<0.1	0.4

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005				0.1	0.3		0.1										0.05
2006					0.3												0.02
2007							0.6	0.9	0.7	1.1	1.1	0.1					0.4
2008						0.3	0.7	0.9	0.9	0.3	0.3						0.2
2009				0.3			0.1	0.9	0.3	0.1	0.1						0.1
Mean				0.1	0.1	0.1	0.3	0.5	0.4	0.3	0.2	<0.1					0.2

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006																	
2007																	
2008														1			1
2009																	
Mean														0.2			0.2

Notes: 1 individual banded in May 2008, the only shorebird banded at MBO to date. Rare to uncommon in spring, with migration peaking in early to mid-May. Less common in fall, with observations ranging from early August to late September, and on average a weak peak of movement in early September.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005															0.1		0.02
2006												0.7	0.4	0.1			0.1
2007													0.3				0.03
2008																	
2009																	
Mean												0.1	0.1	<0.1	<0.1		0.03

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005													0.3				0.02
2006									0.3						0.3		0.04
2007																	
2008										0.1							0.01
2009																	
Mean									0.1	<0.1			0.1		0.1		0.01

Notes: Rare spring and fall migrant, with no regular pattern of occurrence. Seen annually except in 2009.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006																	
2007																	
2008													0.1				0.01
2009																	
Mean													<0.1				<0.01

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006																	
2007																	
2008					0.1												0.01
2009																	
Mean					<0.1												<0.01

Notes: Very rare, with only one individual seen in spring on 12 May 2008, and one in fall on 10 August 2008.

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

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006																	
2007					0.1												0.01
2008																	
2009							0.4										0.03
Mean					<0.1		0.1										0.01

Notes: Observations limited to a single individual in mud near the C nets on 11 August 2007 and an overhead flock of 3 on 28 August 2009.

DUNL: Dunlin / Bécasseau variable (*Calidris alpina*)

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005													5.0				0.3
2006																	
2007																	
2008																	
2009																	
Mean													1.0				0.1

Notes: A single sighting, of a flock of 30 flying over MBO on 8 October 2005.

WISN: Wilson's Snipe / Bécassine des marais (*Gallinago delicata*)

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006																	
2007										0.1		0.1	0.3				0.06
2008																	
2009																	
Mean										<0.1		<0.1	0.1				0.01

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005						0.3			0.1								0.03
2006									0.1		0.3						0.03
2007				0.1		0.1	0.1	0.1								0.1	0.05
2008																	
2009														0.1			0.01
Mean				<0.1		0.1	<0.1	<0.1	<0.1		0.1			<0.1		<0.1	0.02

Notes: Scattered sightings of migrants, very rare in spring and rare in fall.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006																	
2007																	
2008								0.3	0.4	0.1							0.09
2009								0.2									0.01
Mean								0.1	0.1	<0.1							0.02

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005		0.1	0.06	0.1													0.01
2006	0.1	0.2	0.1	0.3	0.1	0.1											0.04
2007																	
2008					0.1	0.1											0.02
2009	0.3		0.2			0.1	0.1		0.1	0.3	0.1						0.07
Mean	0.1	0.1	0.1	0.1	<0.1	0.1	<0.1		<0.1	0.1	<0.1						0.03

Notes: Very rare in spring, with observations limited to a brief period in early/mid-April in 2008 and 2009. Somewhat more records in fall, but still very rare overall, with most observations in August except for a few later sightings in September 2009.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005	0.5				1.3	0.5		6.0	4.9	5.3	9.7	10.3	39.4	48.0	33.4	18.6	19.9
2006	2.1	0.1			0.5	0.6	17.4	69.3	77.7	51.1	34.9	96.9	98.9	22.9	43.0	9.7	51.9
2007	0.2	0.4	0.3		1.1	0.4	16.9	13.4	7.6	31.6	6.4	24.4	24.3	11.1	9.0	4.7	14.9
2008	18.9					6.0	2.7	5.7	19.4	70.6	21.9	13.9	21.3	12.0	18.0	9.1	19.5
2009	0.1				5.4	2.2	26.1	22.0	10.0	19.4	18.9	5.9	18.1	78.7	40.9	14.1	25.5
Mean	4.4	0.1	0.1		2.1	1.9	15.5	23.3	23.9	35.6	18.4	30.3	40.4	34.5	28.9	11.2	26.3

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	4.9	1.6	3.2	0.9	1.1	1.4	0.3	0.3		1.9	4.7	6.3	0.5	0.7	22.6	19.6	4.7
2006	6.4	0.3	3.0	0.6	0.4	0.9	0.4	1.0	1.7	6.9	0.7	4.1	10.9	1.3	1.9	3.6	2.6
2007	1.7	3.0	2.3		7.3	6.6	3.0	0.7	1.6	1.7	2.0	2.1	0.9	4.1	4.0	3.7	2.9
2008	7.8	0.6	4.2	0.1	1.6	4.1	0.4	0.4	0.1	2.6	5.7	0.3	3.8	1.8	58.0	9.1	6.8
2009				1.6	0.1	6.3	0.7	1.6	5.1	0.4	1.4	4.1	0.7	6.0	1.4	1.3	2.4
Mean	4.2	1.1	2.5	0.6	2.1	3.9	1.0	0.8	1.7	2.7	2.9	3.4	3.4	2.8	17.6	7.5	3.9

Notes: Regular from late March through November. Common to abundant throughout most of spring, peaking in late April in 2007 and 2008, and in mid-May in other years. Uncommon to fairly common throughout summer and fall, with a distinct peak in October in some years, and in mid-August in others.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005								0.3		0.6	0.5				0.1		0.2
2006	0.1		1.6			0.3		0.7		1.7		0.3	0.4				0.3
2007		0.1			0.2	0.07	1.0	0.3		1.0	0.3		1.7	0.4		0.3	0.5
2008	0.1	1.5				0.3		0.1	0.1	1.3	0.1	0.1	0.4	0.1		0.1	0.3
2009	0.1					0.03					0.1						0.01
Mean	0.1	0.3	0.4		<0.1	0.1	0.3	0.3	<0.1	0.9	0.2	0.1	0.5	0.1	<0.1	0.1	0.3

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005					0.1						0.1		0.2	1.0	0.1	0.3	0.1
2006									0.3	0.3				0.3	0.1	0.1	0.09
2007					0.1				0.1	0.1	0.1	0.1			0.4	1.4	0.2
2008				0.1											0.3	0.1	0.04
2009							0.3									1.1	0.1
Mean				<0.1	<0.1		0.1		<0.1	0.1	0.1	<0.1	<0.1	0.3	0.2	0.6	0.1

Notes: No summer records, but otherwise rare throughout the year, with a small peak of spring migration in late April, and a fall peak at the end of October.

ICGU: Iceland Gull / Goéland arctique (*Larus glaucooides*)

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005								0.2									0.02
2006																	
2007																	
2008																	
2009																	
Mean								<0.1									<0.01

Notes: A single individual observed flying over MBO in early April 2005.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005								0.5		0.3							0.08
2006			0.4		0.2	0.1				0.1			0.3				0.05
2007		1.0				0.2											
2008				0.1		0.04										0.3	0.03
2009				0.3		0.08											
Mean		0.2	0.1	0.1	<0.1	0.08		0.1		0.1			0.1			0.1	0.03

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005											0.1		0.2	0.5			0.06
2006									0.1				0.1				0.02
2007											0.3				0.3	0.1	0.06
2008												0.1					0.01
2009															0.7		0.06
Mean									<0.1		0.1	<0.1	0.1	0.1	0.2	<0.1	0.04

Notes: Rare and scattered occurrences from mid-September through to late May. Like all other gulls, all observations have been of individuals flying over MBO or on the adjacent farm field.

CATE: Caspian Tern / Sterne caspienne (*Hydroprogne caspia*)

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006					0.1												0.01
2007																	
2008																	
2009																	
Mean					<0.1												<0.01

Notes: A single individual heard as it flew over MBO on 13 August 2006.

BLTE: Black Tern / Guifette noire (*Chlidonias niger*)

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006																	
2007																	
2008													0.1				0.01
2009												0.3					0.03
Mean												0.1	<0.1				0.01

Notes: Very rare spring migrant, with observations limited to one individual flying over MBO on 15 May 2008 and another two passing overhead on 8 May 2009.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005	0.5					0.1		0.8		1.3	0.7		1.0	0.3			0.5
2006	0.1	10.7	3.0	0.5	0.7	3.2	0.3	0.7	2.0	2.6	7.6	5.1	5.1	2.3	3.0	3.4	3.2
2007	0.1	1.4	1.2		0.2	0.5				1.4	0.9	0.4	2.4	0.9	2.1	0.9	0.9
2008	0.5	1.0		0.4		0.4	0.3	0.4	0.6	0.7	1.6	0.6	0.9				0.5
2009		5.0				0.3		0.3	0.1	0.4	0.3		7.0	0.9	0.1	0.1	0.9
Mean	0.2	3.6	1.1	0.2	0.2	0.9	0.2	0.4	0.5	1.3	2.2	1.2	3.3	0.9	1.0	0.9	1.2

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	0.4	0.2	0.3	0.6		1.0	3.3	0.4	0.4	0.4	0.4	3.3	1.8	12.3	4.9	3.7	2.4
2006	0.1	1.0	0.6	1.7	1.1	2.0	1.7	1.1	2.1	3.3	0.7	0.6	1.9	0.6	1.3	1.4	1.4
2007	1.2		0.6		0.7	0.6	2.4	3.9	2.6	0.7			0.1	0.3		2.4	1.1
2008				1.0	1.0	2.0			0.4	0.7	0.1	1.0	0.6		0.4	0.3	0.6
2009				0.3	0.7	0.9	2.1		2.3	0.1	0.3	0.1		3.4	4.1	2.7	0.6
Mean	0.3	0.2	0.3	0.7	0.7	1.3	1.9	1.1	1.6	1.0	0.3	1.0	0.9	3.3	2.1	2.1	1.2

Notes: Uncommon throughout the year. No clear patterns of occurrence, as those observed are expected to be residents of the surrounding area. To date all observations have been of individuals flying over MBO.

MOD0: Mourning Dove / Tourterelle triste (*Zenaida macroura*)

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005	0.5	1.5		0.3	2.0	1.0		0.7	0.6	1.3	0.3	1.4	1.1	1.9	0.7	0.8	1.0
2006	8.4	3.4	4.4	7.1	2.2	5.1	0.4	3.3	2.3	3.7	6.1	3.4	1.1	1.0	1.3	0.7	2.3
2007	4.8	10.7	15.7	5.0	3.8	7.0	0.6	0.6	0.7	3.6	1.1	1.6	1.3	1.9	1.7	0.1	1.3
2008	1.4					0.4	0.6	0.3	1.0	1.7	1.1	1.1	1.6	1.1	0.1	0.6	0.9
2009	1.9	11.0	3.3	2.0	1.3	2.4	0.6			0.1	0.6	0.1		0.4	0.4		0.2
Mean	3.4	5.3	5.9	2.9	2.3	3.2	0.6	1.0	0.9	2.1	1.8	1.5	1.0	1.3	0.8	0.4	1.1

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	0.3	0.7	0.5	0.3	1.4	1.6	1.0	1.3	1.1	0.6	2.3	2.0	1.7	6.7	22.3	36.3	6.1
2006	0.4	1.4	1.0	1.4	1.1	0.6	4.0	1.6	4.1	2.7	2.1	2.0	2.3	3.9	4.1	3.0	2.5
2007	0.2	0.2	0.2	1.6	1.1	1.0	2.9	0.7	1.6	2.1	3.4	1.6	2.7	2.1	4.6	6.9	2.5
2008				0.7	0.3	1.1	1.0	0.6	0.4	0.3	1.9	1.7	0.4	0.9	2.1	0.6	0.9
2009	0.3	0.3	0.3	1.6	0.9	0.3	1.1	0.6	1.6	2.4	2.7	2.7	1.7	3.7	5.4	6.0	2.4
Mean	0.2	0.5	0.4	1.1	1.0	0.9	2.0	1.0	1.8	1.6	2.5	2.0	1.8	3.5	7.7	10.6	2.9

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005	1				1	2						1					1
2006	8		1	1	1	11											
2007	4	1	1			6											
2008																	
2009																	
Mean	4.3	0.3	1.0	0.5	0.3	4.8						0.2					0.2

Notes: 20 individuals banded, all but one of them in winter, despite comparable or even higher mean abundance in parts of fall. Observed weekly throughout spring and fall except in spring 2009, reflecting a much below average abundance of Mourning Doves in that season, corresponding to unusually low numbers the previous fall. Generally uncommon in spring with a peak in late April on average, and remaining uncommon through most of fall until numbers increase briefly in the second half of October.

YBCU: Yellow-billed Cuckoo / Coulicou à bec jaune (*Coccyzus americanus*)

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																0.2	0.02
2006																	
2007																	
2008																	
2009																	
Mean																<0.1	<0.01

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005														0.2			0.01
2006																	
2007																	
2008																	
2009																	
Mean														<0.1			<0.01

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005														1			1
2006																	
2007																	
2008																	
2009																	
Mean														0.2			0.2

Notes: 1 individual banded. Very rare, with only one record each from spring (31 May 2005) and fall (12 October 2005). The fall bird was banded, and was part of a large northward push of Yellow-billed Cuckoos reported throughout much of southern Quebec and the Maritimes, believed to have been the result of the aftermath of a large hurricane moving up the east coast of the United States.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006															0.3	0.1	0.05
2007														0.1			0.01
2008															0.6	0.4	0.1
2009																	
Mean														<0.1	0.2	0.1	0.03

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005		0.1	0.03														
2006				0.1													0.01
2007							0.3	0.1									0.03
2008	0.2		0.1	0.1		0.1		0.1									0.03
2009									0.1	0.1							0.02
Mean	<0.1	<0.1	<0.1	<0.1		<0.1	0.1	<0.1	<0.1	<0.1							0.02

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006				1													1
2007							1										1
2008						1		1									2
2009										1							1
Mean				0.2		0.2	0.2	0.2		0.2							1.0

Notes: 5 individuals banded, all in fall, and missed only in 2005. Generally very rare from late spring through mid-fall, with not enough records to identify any seasonal peaks.

EASO: Eastern Screech-Owl / Petit-duc maculé (*Megascops asio*)

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006																	
2007																	
2008																	
2009																	
Mean																	

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005										0.1							0.01
2006																	
2007																	
2008																	
2009																	
Mean																	

Notes: None banded during the five-year period, but one was banded during the first season of owl banding in October 2004, and two more in November 2009 near the end of the 2009 owl banding season. The only diurnal record of Eastern Screech-Owl is from an individual heard responding to a human imitation of a screech-owl whistle on 18 September 2005. Additionally, vocalizations have occasionally been heard during owl banding efforts in fall of 2005, 2007, and 2009.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005											0.2						0.02
2006								0.3	0.1			0.1		0.1			0.07
2007																	
2008																	
2009																	
Mean								0.1	<0.1		<0.1	<0.1		<0.1			0.02

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005								0.1	0.3	0.3							0.06
2006																	
2007					0.1											0.1	0.02
2008																	
2009							0.1										0.01
Mean					<0.1		<0.1	<0.1	0.1	0.1						<0.1	0.02

Notes: Rare, with only 6 spring records (all in 2005 and 2006), and 8 fall records (none in 2006 or 2008), mostly of lone individuals heard or seen as volunteers arrive to open nets for migration monitoring. In addition, there are a few records of distant Great Horned Owls heard vocalizing during owl banding efforts in fall of 2005, 2007, and 2009.

BDOW: Barred Owl / Chouette rayée (*Strix varia*)

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006																	
2007																	
2008																	
2009												0.1					0.01
Mean																	

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006																	
2007																	
2008																	
2009												0.1			0.1		0.02
Mean																	

Notes: Very rare during diurnal operations, with only three scattered records in 2009. However, Barred Owl has been heard fairly regularly vocalizing in the Arboretum woods during owl banding efforts in fall 2005, 2007, and 2009.

GGOW: Great Gray Owl / Chouette lapone (*Strix nebulosa*)

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005					0.3	0.07											
2006																	
2007																	
2008																	
2009																	
Mean					0.1	0.01											

Notes: A single individual seen periodically in the back pond area in March area, possibly present there as early as January according to some undocumented reports. Part of a massive influx of Great Gray Owls into the Montreal area (and elsewhere in southern Quebec and Ontario) in the winter of 2004-2005.

LEOW: Long-eared Owl / Hibou moyen-duc (*Asio otus*)

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006																	
2007																	
2008																	
2009							0.1										0.01
Mean							<0.1										<0.01

Notes: The only individual observed during diurnal programs was seen briefly just before dawn on 27 August 2009. However, Long-eared Owls have been heard quite frequently during owl banding efforts in fall of 2005, 2007, and 2009.

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

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006																	
2007																	
2008																	
2009																	
Mean																	

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006																	
2007																	
2008	2																(2)
2009																	
Mean																	

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005												1	3	2	7	4	17
2006																	
2007												1	4	6	2		13 (15)
2008																	
2009												2	6	42	7	9	66 (76)
Mean												1.3	4.3	16.7	5.3	4.3	32.0

Notes: 96 individuals banded during the five-year period, with another 10 banded at the end of the 2009 season, which carried on into November. Banding was not attempted in 2006 or 2008. Results were comparable in 2005 and 2007, but substantially greater in 2009. Fall migration appears to extend from very late September to early November, with a strong peak around the second week of October.

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

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006																	
2007																	
2008							0.1										0.01
2009																	
Mean							<0.1										<0.01

Notes: A single individual observed near the gate before dawn on 27 August 2008.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005												0.3					0.03
2006														0.1	0.3		0.05
2007														0.4			0.04
2008													0.7	0.1	0.3		0.1
2009														0.1	0.1		0.03
Mean												0.1	0.1	0.1	0.1		0.05

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005		0.1	0.03	0.4	0.9	0.3	0.3				0.1						0.2
2006		0.3	0.2	1.7	0.6	0.7	1.1										0.3
2007				2.0	1.4	1.0	0.6		0.1								0.4
2008				0.9	1.4	0.9		0.1									0.3
2009					0.3	3.7	2.3										0.5
Mean		0.1	<0.1	1.0	0.9	1.3	0.9	<0.1	<0.1		<0.1						0.3

Notes: Rare in spring, with a small number of migrants usually seen around mid-May. Uncommon in August, quickly tapering off by the end of the month with only three September records.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005														0.6	1.9	0.4	0.3
2006													0.9	0.9	2.3	0.7	0.5
2007													0.1	0.4	1.9	0.6	0.3
2008												0.1	0.3	1.9	2.1	0.7	0.5
2009													1.0	2.3	0.9	1.0	0.5
Mean												<0.1	0.5	1.2	1.8	0.7	0.4

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	0.3	0.4	0.3	2.3	5.3	2.6	2.6	2.7	3.1	0.7							1.5
2006	0.7	0.7	0.7	3.4	6.1	7.0	5.4	4.0	1.0	0.3							2.1
2007	0.8	0.2	0.5	2.7	3.1	2.0	3.0	1.3	1.0								1.0
2008	0.6	1.0	0.8	3.6	4.0	6.1	4.0	2.9	2.7								1.8
2009	2.0	1.7	1.8	3.7	3.7	4.7	3.7	3.9	2.0	0.1							1.7
Mean	0.9	0.8	0.8	3.1	4.4	4.5	3.7	3.0	2.0	0.2							1.6

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006																	
2007																	
2008																	
2009																	
Mean																	

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006																	
2007																	
2008																	
2009																	
Mean																	

Notes: None banded, due to special permits and equipment required for hummingbirds. However, captures during the fall season have been recorded, along with sex and age where easily determined, and are summarized below. Note, however, that individuals may have been captured on multiple occasions if they were stopping over at MBO for an extended period.

2005: 59 total (1 AHY-F, 1 AHY-M, 19 HY-M, 21 HY-F, 17 U-U)

2006: 20 total (1 AHY-F, 7 HY-M, 7 HY-F, 5 U-U)

2007: 33 total (5 AHY-F, 3 AHY-M, 6 HY-M, 7 HY-F, 12 U-U)

2008: 35 total (1 U-M, 4 U-F, 30 U-U)

2009: 61 total (14 M, 21 F, 26 U)

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005								0.3		0.3	0.5	0.3	0.3				0.2
2006									0.3	0.1		0.4	0.6	0.1	0.1	0.3	0.2
2007									0.3	0.1	0.1				0.1		0.07
2008									0.1	0.6	0.3	0.1	0.1				0.1
2009										0.6	0.6	0.1				0.1	0.2
Mean								0.1	0.1	0.3	0.3	0.2	0.2	<0.1	<0.1	0.1	0.2

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005								0.1									0.01
2006				0.4	0.3	0.3		0.3	0.1								0.1
2007							0.1	0.1		0.1							0.03
2008				0.1				0.1			0.1						0.03
2009				0.1	0.4	0.1			0.1	0.3	0.1	0.1					0.1
Mean				0.1	0.1	0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1					0.05

Notes: Rare throughout most of spring and the first half of fall, with no distinct or consistent peak in either season.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005									0.3	1.3	1.2	1.3	1.0	0.7	0.3	0.4	0.7
2006								0.2	0.7	1.7	2.3	2.9	0.9	0.7	1.1	0.6	1.1
2007								0.1		0.6	1.3	2.0	1.3	0.9	0.3	0.1	0.7
2008										1.6	1.3	1.7	1.1	1.1	0.6	0.1	0.8
2009									0.6	1.9	1.3	1.6	1.9	0.7	1.1	0.3	0.9
Mean							0.1	0.3	1.4	1.5	1.9	1.2	1.2	0.8	0.7	0.3	0.8

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	0.3	0.5	0.4			0.1			0.3	0.1	0.1	0.5	0.3				0.1
2006	0.1	0.3	0.2	0.3	0.6	0.1	0.4	0.4	0.7		0.3	0.7					0.3
2007	0.2	0.3	0.3	0.4					0.1	0.4	1.3	0.3	1.0				0.3
2008	0.4		0.2	0.3	0.1	0.1		0.1	0.3	0.1	0.4	0.3	0.6				0.2
2009	0.3		0.2	0.3	0.1	0.1		0.1				0.4	0.1	0.1			0.1
Mean	0.3	0.3	0.3	0.3	0.2	0.1	0.1	0.1	0.3	0.1	0.4	0.4	0.4	<0.1			0.2

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005													1		1		2
2006															1		1
2007																	
2008											2	1					3
2009													2			1	3
Mean											0.4	0.2	0.6		0.4	0.2	1.8

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006				1								1					2
2007													1				1
2008				2		1				1		2					6
2009				1								1	1				3
Mean				0.8		0.2				0.2		0.8	0.4				2.4

Notes: 21 individuals banded, with only slightly more in fall, though mean abundance is much lower in fall than spring. Generally uncommon in spring, typically peaking in early May, and rare in fall, peaking around late September. One pair usually breeds at or near MBO.



Hatch-year Yellow-bellied Sapsucker, October 2009 (Photo by Marcel Gahbauer)

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005	0.3			0.8	0.5	0.4		0.8	1.1	1.0	0.7	1.1	1.0	0.7	0.1	0.4	0.8
2006	0.9	0.5		0.3	0.3	0.4	0.3	0.8	1.0	2.1	3.1	3.1	1.3	1.7	2.1	0.7	1.7
2007	1.1	0.9	0.5	0.3	0.9	0.8	1.6	1.3	1.0	2.3	0.9	3.0	1.3	0.7	1.4	0.7	1.4
2008	1.0	1.3	0.2	0.4		0.7	1.3		0.7	2.4	2.7	1.7	3.0	1.0	0.9	0.3	1.4
2009	0.7	1.0	0.5	0.4	1.3	0.9	0.7	0.5	1.3	2.1	1.6	1.1	1.0	0.9	0.4	0.3	1.0
Mean	0.8	0.7	0.3	0.4	0.8	0.6	1.0	0.7	1.0	2.0	1.8	2.0	1.9	1.0	1.0	0.5	1.3

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	0.2	0.8	0.5	2.0	1.3	2.4	2.1	2.6	2.3	2.6	3.0	2.3	3.3	1.7	2.6	2.3	2.3
2006	0.4	1.1	0.8	4.0	3.7	2.9	3.1	2.6	3.3	3.6	3.1	3.6	3.7	2.7	3.1	2.6	3.2
2007	1.0	1.7	1.3	2.7	3.6	3.0	1.7	1.9	2.3	3.3	3.3	3.1	4.0	3.7	3.1	3.3	3.0
2008	0.6	1.8	1.2	2.9	2.6	2.6	1.9	1.7	2.6	1.9	3.4	2.3	2.7	3.3	1.7	1.9	2.4
2009	0.3	0.3	0.3	2.6	1.7	2.9	3.0	3.0	2.1	2.1	3.0	2.6	2.6	2.0	2.4	3.1	2.6
Mean	0.5	1.1	0.8	2.8	2.6	2.6	2.4	2.4	2.5	2.7	3.2	2.8	3.2	2.7	2.6	2.6	2.7

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005				1		1				1	1			1			3
2006	2					2			1	3		1					5
2007										3		2	2				7
2008										2	1		1		1		5
2009																	
Mean	0.7			0.5		0.8			0.5	1.8	0.4	0.6	0.6	0.2	0.2		4.0

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005						2		1		1	1	1	1	1			8
2006				5	3					1		1	2	1	1		14
2007				5	9		1			1		1		1		1	19
2008				1	4	2		2			1						10
2009		6	6	4	1	1	3				1					2	12
Mean		1.2	1.2	3.0	3.4	1.0	0.8	0.6		0.6	0.6	0.6	0.6	0.6	0.2	0.6	12.6

Notes: 92 individuals banded; the majority (68%) in fall, but one of 5 species banded in every season. Uncommon throughout the year, and most sightings are likely of local residents, therefore peaks in abundance are more reflective of levels of activity than actual changes in numbers.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005	0.3	0.1		0.8	0.3	0.5		0.7		0.4	0.7	0.7	0.3	0.3	0.3	0.4	0.4
2006	0.1	0.2		0.1	0.1	0.1	0.3	0.5	0.6	2.1	1.3	1.4	1.1	1.4	0.9	0.1	1.0
2007	0.6	0.1		0.2	0.4	0.3	0.6	0.7	0.1	0.3	0.1	1.0	1.0	1.1	0.9	0.3	0.6
2008	1.0	0.8	0.6	0.7		0.8	0.6	0.7	0.6	1.6	1.4	1.7	1.6	0.6	0.4	0.4	1.0
2009	1.1	1.0	0.5	0.6	0.7	0.8	0.6	1.0	0.6	0.4	0.6	0.4	0.9	0.4	0.4	0.6	0.6
Mean	0.6	0.4	0.3	0.5	0.4	0.5	0.5	0.7	0.4	1.0	0.8	1.0	1.0	0.8	0.6	0.4	0.7

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	0.1	0.4	0.2	0.6	0.4	0.6	0.7	0.9	1.4	1.1	1.3	1.3	1.3	0.8	1.3	2.0	1.0
2006	0.1	0.4	0.3	0.4	0.9	0.4	0.7	1.0	0.9	1.1	0.7	0.9	1.6	0.6	1.6	1.0	0.9
2007		0.2	0.08	1.1	0.7	1.1	0.3	0.9	1.3	1.4	2.1	2.6	2.3	2.6	1.4	2.9	1.6
2008	0.4		0.2	0.9	1.3	1.1	1.7	1.6	1.1	1.0	2.9	1.7	1.9	3.3	2.3	2.6	1.8
2009				0.3	1.7	0.9	1.4	0.6	0.9	1.0	2.0	1.9	1.0	1.4	1.7	1.3	1.2
Mean	0.1	0.2	0.2	0.7	1.0	0.8	1.0	1.0	1.1	1.1	1.8	1.7	1.6	1.7	1.7	2.0	1.3

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005				1		1				1				1			2
2006					1	1				1							1
2007												1	1		1		3
2008														1			1
2009														1			1
Mean				0.5	0.3	0.5				0.4		0.2	0.2	0.6	0.2		1.6

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005						2		1									3
2006														1			1
2007				1						1		1	1	1	1	2	8
2008					1			1									2
2009					2												2
Mean				0.2	0.6	0.4		0.4		0.2		0.2	0.2	0.4	0.2	0.4	3.2

Notes: 26 individuals banded; twice as many in fall as in spring. On average, rare from winter through summer, and uncommon in fall, likely reflecting the addition of young-of-the-year to the local population.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005				0.3		0.07		0.3	1.0	1.9	3.3	2.1	1.1	0.9	0.9	1.2	1.4
2006		0.1				0.02		0.7	2.4	2.3	2.9	2.1	1.7	1.0	1.0	1.1	1.7
2007	0.1					0.04		0.1		1.9	2.9	2.1	1.1	0.7	1.4	1.0	0.9
2008								0.1	0.3	3.7	3.9	3.4	2.0	1.9	0.9	0.7	1.7
2009	0.1					0.03	0.4		0.3	2.7	3.4	2.0	0.9	0.9	0.9	0.4	1.2
Mean	<0.1	<0.1		0.1		0.03	0.1	0.2	0.8	2.5	3.3	2.3	1.4	1.1	1.0	0.9	1.4

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	0.8	0.8	0.8	1.1	1.1	0.6	0.6	2.3	3.3	2.7	4.4	3.0	2.8	2.7	0.1		1.9
2006	1.2	2.4	1.9	2.7	4.4	2.6	2.1	1.3	2.4	4.0	4.7	5.0	3.1	1.1	1.0	0.4	2.7
2007	0.7	1.3	1.0	2.3	3.0	2.6	1.9	3.0	2.0	3.1	2.7	1.4	1.1	0.9	0.7	0.1	1.9
2008	1.2	4.0	2.6	2.3	2.7	2.6	1.9	2.4	2.4	2.4	2.6	1.7	1.0	0.3	0.3	0.1	1.8
2009	0.7	1.0	0.8	2.9	3.0	2.1	3.4	2.0	3.4	4.0	5.0	3.6	2.9	2.4	0.4	0.3	2.7
Mean	0.9	1.9	1.4	2.3	2.8	2.1	2.0	2.2	2.7	3.2	3.9	2.9	2.2	1.5	0.5	0.2	2.2

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005												1					1
2006																	
2007																1	1
2008										1							1
2009										1		1					2
Mean										0.4		0.4				0.2	1.0

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005											1						1
2006					1												1
2007					1												1
2008					1		1					1					3
2009		1	1	3			5						1				9
Mean		0.2	0.2	0.6	0.6		1.2				0.2	0.2	0.2				3.0

Notes: 21 individuals banded, including one in summer, and a quarter of the remainder in spring. Banded in unusually high numbers in 2009, accounting for 57% of the five-year total. Uncommon from mid-April through late October, and seen almost weekly during the period, sometimes with a few sightings earlier or later, including a couple of mid-winter records. Spring migration consistently peaks in the last week of April, while in fall numbers tend to peak in the second half of September.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005	0.8	0.5		0.3	0.3	0.4		0.7	0.4	0.3	0.8	0.3	0.6	0.4	0.1	0.6	0.5
2006	0.1		0.1	0.2	0.3	0.1	0.7	0.8	0.6	0.4	0.7	2.4	1.0	1.4	1.1	0.1	0.9
2007	0.2	0.3	0.3	0.2	0.3	0.2	0.6	0.4	0.1	1.1	0.6	1.1	1.7	0.9	0.9	0.3	0.8
2008	1.1	0.3		0.1		0.4	0.4	0.4	1.1	1.0	0.7	1.3	1.3	1.4	0.4	0.3	0.8
2009	0.1	0.5	0.5		0.4	0.3	0.3	1.2		1.6	0.9	0.9	0.7	1.3	0.9	0.7	0.8
Mean	0.5	0.3	0.2	0.2	0.3	0.3	0.5	0.7	0.4	0.9	0.7	1.2	1.1	1.1	0.7	0.4	0.8

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	0.3	0.1	0.2	0.1	0.1	0.1	0.1	1.1	1.3	1.3	0.9	0.7	0.7	0.1		0.1	0.6
2006	0.1		0.05	0.1	0.9	0.6	0.9	0.7	2.6	1.6	2.0	1.3	1.4	1.4	1.0	0.1	1.1
2007	0.2	0.2	0.2	1.0	1.6	1.7	0.9	1.7	1.3	1.1	1.0	1.1	1.4	1.6	1.6	1.3	2.0
2008	0.2	0.2	0.2	0.6	0.9	0.6	0.6	1.4	1.7	1.4	1.7	1.0	0.3	1.3	1.4	0.6	1.0
2009	0.7	0.3	0.5			0.6	0.6	0.7	0.4		0.4	1.6	1.6	0.9		0.6	0.6
Mean	0.3	0.2	0.2	0.4	0.7	0.7	0.6	1.1	1.5	1.1	1.2	1.1	1.1	1.1	0.8	0.5	1.1

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006								1									1
2007										1							1
2008																	
2009																	
Mean								0.5		0.2							0.4

Notes: 2 individuals banded, both in spring. Rare to uncommon year-round resident, with the vast majority of observations likely involving the resident family.

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

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005					0.1												0.01
2006								0.1									0.01
2007																	
2008						0.1		0.1									0.02
2009					0.1			0.4									0.04
Mean					<0.1	<0.1		0.1									0.02

Notes: Very rare migrant, with only 8 fall records in August and early September, and no spring observations to date.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006															0.4	0.1	0.06
2007														0.6	0.6	0.1	
2008															0.3	0.3	0.06
2009														0.1		0.4	0.06
Mean														0.1	0.1	0.3	0.06

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	0.8	0.6	0.7	1.1	0.9	0.9	0.6	1.0	0.6	0.3							0.4
2006	0.1	0.1	0.1	0.1				0.1									0.02
2007				0.3		0.4	0.1				0.1	0.1	0.1				0.1
2008								0.1									0.01
2009				0.1	0.4	0.3	0.1	0.3			0.1			0.1			0.1
Mean	0.2	0.1	0.2	0.3	0.3	0.3	0.2	0.3	0.1	0.1	<0.1	<0.1	<0.1	<0.1			0.1

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005					1	2		1									4
2006								1									1
2007																	
2008																	
2009						1		1									2
Mean					0.2	0.6		0.6									1.4

Notes: 7 individuals banded, all in fall. Rare and late spring migrant, beginning to arrive only in mid-May and peaking in the final week of the season. Observed in summer in some years, likely breeding in the woods along the northern edge of MBO. Fall observations scattered from early August to mid-October and somewhat more frequent in August, but with no distinct peak in migration.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																0.2	0.02
2006														0.1	0.4	0.3	0.09
2007																	
2008															0.1	0.1	0.03
2009																	
Mean														<0.1	0.1	0.1	0.03

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005					0.3	0.3		0.9	0.1	0.4							0.2
2006				0.1	0.6	1.4	0.4	0.7	0.1								0.3
2007								0.1	0.3								0.03
2008					0.9	0.4		1.1	0.7			0.1					0.3
2009					0.6	1.3	1.3	1.3									0.2
Mean				<0.1	0.4	0.5	0.3	0.8	0.2	0.1			<0.1				0.2

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																1	1
2006															2		2
2007																	
2008																1	1
2009																	
Mean															0.4	0.4	0.8

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005					2	1		3	1	3							10
2006					3	3	1	3	1								11
2007								1									1
2008					6	2		7	4			1					20
2009					2	7	6	6									15
Mean					2.2	1.6	1.6	4.0	1.2	0.6		0.2					11.4

Notes: 61 individuals banded, all but 4 of them in fall. A rare to very rare spring migrant, with only a few records from mid-May to early June. Generally rare in fall, peaking in late August and early September. The majority of observations are through banding, as there are few visual sightings even on days when multiple individuals are banded.

TRFL: Traill's Flycatcher

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

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005														0.3	0.1	1.4	0.2
2006													0.1		0.9	0.9	0.2
2007														0.4	0.9	1.6	0.3
2008															0.4	2.0	0.1
2009														0.6	1.4	1.3	0.3
Mean													<0.1	0.3	0.7	1.4	0.2

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	0.3	0.1	0.2	0.3		1.0	0.7	0.7	0.1	0.1							0.2
2006				1.7	1.1	0.9	0.6	0.4	0.3	0.1							0.4
2007	2.3	0.3	1.3	0.7	1.4	0.7	1.4	0.1	0.1								0.4
2008				1.6	2.9	0.7	0.4	0.6		0.1	0.1						0.5
2009	0.7		0.3		1.4	1.1	1.0	1.1	0.1	0.1							0.4
Mean	0.7	0.1	0.4	0.9	1.4	0.9	0.8	0.8	0.1	0.1	<0.1						0.4

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005														2		3	5
2006													1		3	2	6
2007														3	2	2	7
2008															3	6	9
2009														3	8	4	15
Mean													0.2	1.6	3.2	3.4	8.4

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005						5	4	2	1								12
2006				5	4	4	2	1	1	1							18
2007				5	10	1	4	1	1								22
2008				10	13	2	2	2		1							30
2009	1		1		8	8	4	3	1								24
Mean	0.2		0.2	4.0	7.0	4.0	3.2	1.8	0.8	0.4							21.2

Notes: 149 individuals banded; most likely Alder Flycatchers except for two measured as Willow Flycatchers on 12 September 2008 and 11 August 2009. Rarely vocal at MBO, even in spring, therefore most sight records are also classified as Traill's Flycatcher, though both species have on occasion been heard giving distinct calls in late spring and early summer. A late spring migrant, usually peaking in early June, and an early fall migrant, peaking in the first half of August, and rare beyond the first week of September.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005													0.7	1.1	1.4	0.6	0.4
2006													0.7	1.9	0.4		0.3
2007													1.0	1.3	0.6		0.3
2008												0.3	0.7	0.4	0.4	0.3	0.2
2009													0.3	1.7	0.4	0.3	0.3
Mean												0.1	0.7	1.3	0.6	0.2	0.3

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005				0.1	0.3	0.7	1.7	0.1									0.2
2006		0.1	0.05	0.1	0.7	0.7	0.9	0.3	0.3	0.3							0.3
2007	0.2		0.08		0.3	0.3	1.3	0.4	0.6	0.1							0.2
2008				0.4	0.4	0.4	0.4	1.0	0.7	0.1							0.3
2009				0.1	0.6	0.4	0.4	0.4									0.2
Mean	<0.1	<0.1	<0.1	0.1	0.5	0.5	0.9	0.5	0.3	0.1							0.2

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005													2	5	1	1	9
2006														3	1		4
2007													3	3	1		7
2008												1			1		2
2009													1	7	1	1	10
Mean												0.2	1.2	3.6	1.0	0.4	6.4

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005						3	5										8
2006		1	1		2	3	3		2	1							11
2007					2		6	3	3								14
2008				2	1	2	2	4	2								13
2009		1	1	1	1	1	2	1									6
Mean		0.4	0.4	0.6	1.2	1.8	3.6	1.6	1.4	0.2							10.4

Notes: 86 individuals banded. The earliest of the *Empidonax* flycatchers in spring, peaking in mid-May. Similar to Yellow-bellied Flycatcher in fall, peaking in late August, but more numerous and observed more consistently from early August until early/mid-September.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005	0.9	1.2						2.7	1.3	1.4	1.0	1.3	1.3	1.6	1.0	0.8	1.4
2006							0.7	1.3	2.1	1.3	1.6	1.6	2.0	1.3	1.3	1.3	1.4
2007							1.3	0.7	1.3	2.0	1.1	1.1	1.3	0.9	0.4	0.3	1.0
2008								0.1		0.1				0.3	0.1	0.1	0.09
2009									0.9	2.0	0.7	1.6	1.6	0.9	1.0	1.0	1.0
Mean							0.5	1.0	1.1	1.4	0.9	1.1	1.2	1.0	0.8	0.7	1.0

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	0.9	1.2	1.1	0.3	0.6	0.1	0.6	0.6	1.3	1.3	1.0	1.5	1.0				0.6
2006	0.9	0.4	0.6	0.7	0.1		0.1	0.4			0.4	0.3	0.4				0.2
2007	1.0		0.5			0.9	0.6		0.3		0.1	0.3	0.7	0.3	0.1		0.3
2008	0.2	0.2	0.2	0.6			0.4	0.4	0.4	0.1	0.6	0.4	0.4	0.1	0.1		0.3
2009	0.3		0.2	0.7	1.6	0.9	0.3		0.3	0.3	0.7	0.6	0.4	0.3			0.5
Mean	0.7	0.4	0.5	0.5	0.5	0.4	0.4	0.3	0.5	0.3	0.6	0.6	0.6	0.1	<0.1		0.4

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005								1			1						2
2006									3			1	1				5
2007										3							3
2008																	
2009										1				2			3
Mean								0.5	1.5	0.8	0.2	0.2	0.2	0.4			2.6

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005										4		1	1				6
2006				1	1												2
2007						1	1		1				1	1	1		6
2008							3		2		1	1	1				8
2009				1	1						1			2			5
Mean				0.4	0.4	0.2	0.8		0.6	0.8	0.4	0.4	0.6	0.6	0.2		5.4

Notes: 40 individuals banded, roughly twice as many in fall as spring. Rare to uncommon from early April to early October, with most sightings likely related to the one or two pairs that breed on site most years.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005													0.1	0.4	0.9	4.2	0.5
2006													0.3	1.0	1.9	1.4	0.5
2007													0.6	0.7	1.7	1.1	0.4
2008													0.1	0.6	2.4	1.1	0.4
2009												0.6	2.1	3.9	2.6	2.4	1.2
Mean												0.1	0.6	1.3	1.9	1.8	0.6

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	0.5	0.8	0.7	0.7	1.1	1.7	0.6	1.3		0.4	0.6						0.5
2006	2.1	0.8	1.4	0.3	1.3	1.6	0.6	1.1									0.4
2007	0.5	0.3	0.4	1.3	2.0	1.6	0.9	0.1	0.1								0.5
2008	0.6	0.4	0.5	4.0	3.0	2.4	1.3	0.9	0.9	0.1							1.0
2009	2.0	1.3	1.7	0.7	1.1	0.1		0.3							0.1		0.2
Mean	1.1	0.7	0.9	1.4	1.7	1.5	0.7	0.7	0.2	0.1	0.1				<0.1		0.5

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005													1			1	2
2006																1	1
2007																	
2008																	
2009														2		1	3
Mean													0.2	0.4		0.6	1.2

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005				1	3	1				1							6
2006						1											1
2007						1											1
2008					1	4											5
2009		2	2														
Mean		0.4	0.4	0.2	0.8	1.4				0.2							2.6

Notes: 21 individuals banded. Usually beginning to arrive in the second week of May, then uncommon through the end of spring. Similarly uncommon for the first three weeks of fall, becoming rare in late August and early September, and then occasional to the end of September, with one unusually late record from the third week of October.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005	0.1												0.4	1.4	0.9	0.8	0.4
2006												0.6	0.9	1.3	1.9	0.4	0.5
2007													2.1	1.7	2.7	1.9	0.8
2008												1.7	2.7	3.1	2.7	1.6	1.2
2009											0.7	1.3	1.9	2.0	2.1	1.6	1.0
Mean											0.1	0.7	1.6	1.9	2.1	1.3	0.8

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	0.1	0.1	0.1	0.7	3.3	3.9	4.9	0.1									1.0
2006	0.8	1.0	0.9	3.3	5.0	3.6	1.4	0.3									1.0
2007	3.5	3.0	3.3	4.3	3.4	1.7	0.1										0.7
2008	1.0	2.0	1.5	2.9	1.7	2.1	0.3	0.1									0.6
2009	1.0	1.0	1.0	3.3	1.9	1.0	0.7	0.1			0.1						0.6
Mean	1.3	1.4	1.4	2.9	3.1	2.5	1.5	0.1			<0.1						0.8

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005														1	1		2
2006															1		1
2007														1	1		2
2008																	
2009													1	1			2
Mean													0.2	0.6	0.6		1.4

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005						1											1
2006				1													1
2007	4		4														
2008					1												1
2009				1													1
Mean	0.8		0.8	0.4	0.2	0.2											0.8

Notes: 15 individuals banded, including 4 nestlings in summer; one of 12 species banded more frequently in spring than fall. Uncommon from around mid-May to late August, then abruptly becoming rare, with only one record beyond the first week of September. Both arrival and departure dates appear to have shifted earlier over the past few years.

NSHR: Northern Shrike / Pie-grièche grise (*Lanius excubitor*)

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005	0.3			0.8			0.3	0.3									0.03
2006	0.3	0.1	0.2				0.1	0.1	1.2	0.9	0.1						0.2
2007	0.3		0.2				0.1	0.1									0.01
2008	0.3						0.1			0.1	0.7	0.1					0.1
2009			0.3	0.2	0.4	0.2	0.1	0.1	0.5	0.3	0.4						0.09
Mean	0.2	<0.1	0.2	0.2	0.1	0.2	0.1	0.1	0.4	0.3	0.2	<0.1					0.09

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																0.9	0.07
2006													0.1		0.1	0.4	0.05
2007															0.6	0.9	0.1
2008														0.3		0.1	0.03
2009																0.4	0.03
Mean													<0.1	0.1	0.1	0.5	0.06

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005				1		1											
2006			1			1											
2007																	
2008										1							1
2009																	
Mean			0.5	0.5		0.5				0.2							0.2

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																1	1
2006																	
2007															2	1	3
2008														1			1
2009																1	1
Mean														0.2	0.4	0.6	1.2

Notes: 9 individuals banded, mostly in late fall, and all except one hatch-year/second-year birds. Rare from mid-October to late April, with some records reflecting individuals that lingered for a period of days or weeks.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005													0.1		0.3	0.2	0.07
2006											0.1	0.3	0.3	1.1	0.1		0.2
2007												0.1	0.4	0.4	0.1	0.1	0.1
2008										0.7	0.3	1.4	1.1	0.7	1.3	0.1	0.6
2009											0.4	0.4	1.0	0.9			0.3
Mean										0.1	0.2	0.4	0.6	0.6	0.4	0.1	0.3

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005							0.3	0.3	0.3	0.3	0.6	1.2	1.7	0.5		0.1	0.4
2006									0.4	0.7	1.0	0.6	1.3	0.7			0.4
2007								0.3	0.3	0.7	0.3	2.1	1.3	0.1			0.4
2008				0.3		0.1	0.1	0.1	0.9	0.6	0.6	4.0	3.7	0.7		0.1	0.9
2009						0.9				1.0	1.3	4.4	3.9	0.9			1.0
Mean				0.1		0.2	0.1	0.1	0.4	0.7	0.8	2.5	2.4	0.6		<0.1	0.6

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006														1			1
2007													1				1
2008												1	3				4
2009											1			2			3
Mean											0.2	0.2	0.8	0.6			1.8

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005							2	1		2	3	5	5	1		1	20
2006									1	2	1	2	6	3			15
2007								1	1	2	1	8	5				18
2008									2	4	3	18	8	1			36
2009										2		21	15	3			41
Mean							0.4	0.4	0.8	2.2	1.6	10.8	7.8	1.6		0.2	26.0

Notes: 139 individuals banded, all but 9 of them in fall. A rare but regular spring migrant, with a small peak in abundance around mid-May. Also rare for much of fall, with migration commonly ranging from early September to mid-October, but with a distinct peak at the end of September and beginning of October.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005														0.1	0.3	0.4	0.08
2006											0.6	0.4	1.1	1.9	1.3		0.5
2007													1.4	2.3	4.0	0.9	0.9
2008												0.6	2.6	3.0	2.7	1.3	1.0
2009												0.3	0.7	1.3	1.7	2.6	0.7
Mean											0.1	0.3	1.2	1.7	2.0	1.0	0.6

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	0.2	0.1	0.1	0.4	0.3	0.1	0.1			0.3	0.4						0.1
2006	0.4		0.2	0.3	0.1		0.1	0.3	0.3		0.1						0.1
2007	0.7	1.0	0.8	1.0	0.4	0.3	0.4	0.3	0.1	0.1	0.1						0.2
2008	1.8	0.2	1.0	0.4	0.4	0.6	0.6	0.9	0.6	0.4	0.1						0.3
2009	0.3		0.2	0.4	0.1	0.1	0.7	0.1	0.7		0.1						0.2
Mean	0.7	0.3	0.5	0.5	0.3	0.2	0.4	0.3	0.3	0.2	0.2						0.2

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006																	
2007													3	4	2		9
2008													2		1		3
2009														2			2
Mean													1.0	1.2	0.6		2.8

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005						1				1	1						3
2006					1		1	1	2								5
2007				2	2		1										5
2008				2	2	1	2	4	2	2							15
2009				2			1										3
Mean				1.2	1.0	0.4	1.0	1.0	0.8	0.6	0.2						6.2

Notes: 45 individuals banded, roughly twice as many in fall as in spring. Migrants begin arriving as early as beginning of May, peaking in mid/late May. Usually at least one pair breeds at MBO, often in the area along the back ponds. Fall numbers tend to average somewhat lower, with Warbling Vireos rare but regular throughout most of August and September, without any apparent peaks of migration.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	0.02
2006																	
2007																	
2008														0.3			0.03
2009												0.1	0.1	0.1	0.1	0.1	0.07
Mean												<0.1	<0.1	0.1	<0.1	<0.1	0.02

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005				0.1	0.1	0.1	0.1	0.3	0.9	0.7	0.7	0.7					0.3
2006					0.1		0.4	0.4	0.7			0.3				0.1	0.2
2007					0.6			0.3				0.3					0.09
2008				0.1			0.1	1.1	0.6	0.1	0.1	0.1					0.2
2009						0.3			0.4								0.06
Mean				<0.1	0.2	0.1	0.1	0.2	0.5	0.2	0.2	0.3				<0.1	0.2

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006																	
2007																	
2008														1			1
2009																	
Mean														0.2			0.2

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005								2	3	3	2	1					11
2006					1			1	1			2					5
2007								1									1
2008							1	5	2		1						9
2009									1								1
Mean					0.2		0.2	1.8	1.4	0.6	0.6	0.6					5.4

Notes: 28 individuals banded, all but one of them in fall. Very rare in spring, with only 8 observations in total, including 5 in 2009. Rare in fall, but with observations scattered across most of August and September, and in most years a slight peak in abundance in early September. One unusually late record from the last week in October in 2006.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005														0.7	2.4	2.6	0.6
2006														0.9	1.9	1.3	0.4
2007														0.1	2.3	2.3	0.5
2008														0.3	1.3	1.7	0.3
2009														0.7	0.6	1.9	0.3
Mean														0.5	1.7	2.0	0.4

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	1.3	0.8	1.0	1.0	2.0	2.3	3.1	6.3	4.0	8.4	7.0	2.0	0.2				2.9
2006	2.0	2.8	2.4	3.1	3.3	2.1	3.9	4.4	2.4	3.6	1.7	1.7	0.1		0.1		2.0
2007	3.5	1.0	2.3	2.4	2.6	3.6	5.3	4.9	4.1	0.7	0.6	0.4	0.3	0.1		0.1	1.9
2008	1.6	1.8	1.7	4.1	5.0	2.9	1.9	4.7	4.3	1.1	0.1	1.9	0.6	0.1			2.1
2009	0.3	0.7	0.5	2.7	1.6	4.1	5.9	2.1	1.9	0.9	1.0	1.0	0.6				1.7
Mean	1.7	1.4	1.6	2.7	2.9	3.0	4.0	4.5	3.3	2.9	2.1	1.4	0.4	<0.1	<0.1	<0.1	2.1

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005														1	1	1	3
2006															1	1	2
2007															3		3
2008															1	1	2
2009														1		2	3
Mean														0.4	1.6	1.0	2.6

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005					7	2	4	27	5	35	33	3	1				117
2006				1		2	6	8	6	10	4	5					42
2007				3	8	5	11	13	16	1	2	1	1			1	62
2008				4	12	5	4	14	14	7		9	1				70
2009		4	4	10	4	9	14	2	5	4	2	4	2				56
Mean		0.8	0.8	3.6	6.2	4.6	7.8	12.8	9.2	11.4	8.2	4.4	1.0			0.2	69.4

Notes: 364 individuals banded, all but 17 of them in fall. A late spring migrant, with no records prior to week 8, and usually peaking only in early June. Uncommon to fairly common from summer through to mid-September, then tapering off toward the end of the month, with only a few records beyond the first week of October. The peak of fall migration is variable between late August and mid-September, and has been getting earlier over the past five years.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005	3.8	1.5		2.8	4.3	3.3		6.0	2.3	1.9	3.0	2.7	2.3	2.3	0.7	4.0	2.7
2006	4.9	3.6	3.6	1.8	2.7	3.4	4.3	10.5	5.7	8.1	9.1	11.6	7.4	8.0	5.0	2.9	7.2
2007	6.6	5.1	2.0	2.2	2.9	5.0	10.0	7.0	9.0	8.7	5.4	5.4	4.7	3.6	3.6	2.6	6.0
2008	4.4	1.8	2.0	0.3		2.2	3.1	4.6	3.4	6.6	6.6	5.9	7.9	5.6	8.1	3.4	5.5
2009	5.3	6.5	2.3	6.2	7.1	6.0	3.0	3.7	4.4	6.7	3.4	3.7	3.4	2.4	1.9	4.1	3.7
Mean	5.0	3.7	2.5	2.7	4.2	4.0	5.1	6.4	5.0	6.4	5.5	5.9	5.1	4.4	3.9	3.4	5.0

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	1.3	4.0	2.7	4.3	7.1	6.0	12.4	11.7	15.7	9.9	25.7	34.2	24.3	16.0	15.0	18.7	15.2
2006	1.4	2.4	2.0	7.6	10.6	9.6	13.1	15.9	21.6	23.4	23.6	19.1	22.9	19.3	13.9	14.0	14.7
2007	0.7	2.0	1.3	5.4	5.4	5.9	7.3	5.9	13.6	27.4	17.7	28.4	16.4	8.0	8.0	7.4	13.0
2008	1.2	0.6	0.9	6.7	12.9	8.1	15.3	12.6	12.9	14.4	23.4	18.0	18.1	16.3	11.9	7.7	13.7
2009	0.7	0.3	0.5	2.0	2.7	3.6	4.9	7.6	12.9	16.7	25.7	26.7	18.0	11.7	9.7	13.0	11.9
Mean	1.1	1.9	1.5	5.2	7.7	6.6	10.6	10.7	15.3	18.4	23.2	25.3	19.5	14.3	11.7	12.2	13.7

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005	3			2	1	6											
2006					1	1			1			3	2				6
2007	1					1							1	1	2		4
2008													1	1			2
2009											1						1
Mean	1.3			1.0	1.0	1.6			0.5		0.2	0.6	0.8	0.4	0.4		2.6

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005				1			2	3	3		7	5	1		2	2	26
2006							1	1	1	2	1	1	1	5	3		16
2007											2	4	2				8
2008					2		4	2	2	9	7	1	1				28
2009							1	2	3	4	1	2	3		1	1	18
Mean				0.2	0.4		1.6	1.6	1.8	3.0	3.6	2.6	1.6	1.0	1.2	0.6	19.2

Notes: 117 individuals banded, mostly in fall, with only 13 banded in spring and 8 in winter. Uncommon to fairly common from winter through mid-August, then increasing to common throughout the rest of fall. One of only 4 species recorded during all observation periods over five years. There is no consistent peak to spring migration, but in fall there is always a distinct peak in late September.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005	128.8	3.0		4.0	13.3	42.1		17.0	10.7	19.7	13.2	8.3	17.7	9.4	10.6	16.4	13.5
2006	18.2	19.4	5.5	5.2	23.7	14.7	23.7	17.7	27.1	35.3	42.6	26.9	27.6	31.4	22.7	9.3	26.0
2007	40.0	40.4	35.5	8.8	13.3	29.6	17.3	22.1	19.9	32.7	25.4	28.3	18.9	21.6	20.6	19.9	22.7
2008	18.6	6.3	3.4	3.7		8.7	14.1	13.0	14.3	18.7	23.6	20.6	20.7	15.7	14.0	13.6	16.8
2009	31.1	16.5	1.0	6.2	11.5	13.1	19.9	17.3	15.6	26.1	19.1	18.3	10.6	15.3	19.0	13.1	17.4
Mean	47.3	17.1	11.3	5.6	15.5	21.6	18.8	20.0	17.5	26.5	24.8	20.5	19.1	18.7	17.4	14.5	19.3

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	5.2	8.2	6.8	4.9	27.4	42.4	18.1	27.4	59.1	44.6	57.4	73.7	115.2	113.7	100.6	115.3	55.6
2006	5.3	1.8	3.3	12.3	21.6	26.9	41.4	70.6	178.6	243.6	243.9	126.3	67.5	131.3	152.0	144.0	93.6
2007	14.0	7.2	10.6	13.3	26.4	54.0	84.6	132.3	74.0	139.3	137.9	106.0	106.3	110.0	179.3	167.3	102.4
2008	5.6	20.8	13.2	13.3	17.3	20.0	26.0	33.3	82.6	85.6	143.6	206.5	105.6	154.4	196.9	174.3	96.9
2009	4.3	3.3	3.8	5.4	17.0	11.3	21.7	17.7	31.0	21.0	80.7	47.0	40.0	112.6	103.3	142.9	50.1
Mean	6.9	8.3	7.5	9.8	21.9	30.9	38.4	56.3	85.1	106.8	132.7	111.9	86.9	124.4	146.4	148.8	79.7

Notes: Common throughout the year, increasing to abundant in September and October. One of only 4 species recorded during all observation periods over five years. Spring numbers consistently peak in late April. Fall flocks are most often largest near the end of October, but in 2006 and 2008 the peak was in late September instead.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005								0.2		0.1							0.03
2006	0.1	0.1	0.2		0.2	0.1	0.1				0.3	0.6	0.9	0.9	1.0	0.1	0.4
2007	0.1		0.3	0.2	0.4	0.2				0.3	0.3	1.0	0.1	0.4		0.3	0.2
2008			0.2	0.6		0.2	0.3	0.1	0.1	0.3	0.9	0.6	0.1	0.6	0.4	0.3	0.4
2009	0.1	0.5	0.8	0.7		0.3				0.6	0.3	0.4	0.1	0.1	0.1	0.1	0.2
Mean	0.1	0.1	0.4	0.3	0.2	0.2	0.1	0.1	<0.1	0.3	0.4	0.5	0.2	0.4	0.3	0.2	0.2

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005							0.1	0.4	0.1	0.4	0.3	0.8	0.7	1.2	0.9	0.9	0.4
2006		0.2	0.1	0.7	0.3	0.4	0.3	0.3	0.6		0.1	0.3	0.7	0.6	0.1	0.4	0.4
2007		0.2	0.1	0.4	0.3	0.4	0.7	1.1	1.0	0.7	0.7	0.7	0.9	0.1	1.3	0.3	0.7
2008					0.3			0.4	0.3	0.7	0.6	0.7	0.1	0.1	1.1	0.1	0.4
2009	0.7	0.3	0.5		0.6	0.1	0.1	0.3	0.3		0.9	0.3	0.6	0.6	1.0	0.6	0.4
Mean	0.1	0.1	0.1	0.2	0.3	0.2	0.2	0.5	0.5	0.4	0.5	0.6	0.6	0.5	0.9	0.5	0.5

Notes: Rare throughout the year without any consistent or significant peaks in abundance.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006					0.1	0.02											
2007	1.3	0.7				0.6											
2008																	
2009								0.3									0.03
Mean	0.3	0.1			<0.1	0.1		0.1									<0.01

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006																	
2007																	
2008															2.9		0.2
2009																	
Mean															0.6		0.04

Notes: Very rare, observed on just five occasions over five years, all between mid-October and early April.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005														0.7	0.1		0.1
2006													0.1				0.01
2007														0.1		0.1	0.03
2008														0.1	0.3		0.04
2009													0.1				0.01
Mean													<0.1	0.2	0.1	<0.1	0.04

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005				0.7	3.0	0.6	0.3										0.4
2006	0.2		0.1	3.1	3.6	3.1	0.4	0.1									0.8
2007						5.1	0.3										0.4
2008		0.2	0.1	4.9	1.3	1.4		0.1									0.6
2009																	
Mean	<0.1	<0.1	<0.1	1.7	1.6	2.0	0.2	<0.1									0.4

Notes: Rare in spring, with scattered observations in mid/late May. Usually uncommon in early/mid-August, then quickly disappearing by the end of the month; not observed at all in fall 2009.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005								2.3	5.3	11.0	12.0	19.3	18.7	20.9	17.7	17.4	14.0
2006								1.3	7.6	15.9	16.6	15.1	23.1	12.6	12.7	10.0	11.8
2007									5.7	16.0	26.6	27.9	22.4	22.4	16.1	13.7	
2008									2.6	13.0	12.5	14.7	15.1	13.4	14.4	11.6	9.7
2009									1.9	4.9	13.9	14.7	17.3	14.0	12.6	9.4	9.0
Mean								0.7	3.5	10.1	14.2	16.1	20.4	16.7	16.0	12.9	11.6

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	8.7	2.1	5.3	0.1	2.9	2.4	1.0	0.6	1.4	0.4	2.1	0.3					1.0
2006	10.7	5.9	8.0	2.1	2.4	2.1	1.9	0.3			0.1			0.1			0.7
2007	16.3	5.7	11.0	0.7	1.1	10.7	1.3			0.6	0.1						1.1
2008	7.6	4.8	6.2	0.3	2.9	1.6	0.3										0.4
2009	9.3		4.7	0.9		0.3	0.3	0.3	0.4								0.2
Mean	10.5	3.7	7.1	0.8	1.9	3.4	1.0	0.2	0.4	0.2	0.4	0.1		<0.1			0.7

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005										1		3	1	1	3	1	10
2006										3		1	2		1	1	8
2007										1	1	1	7	1	3		14
2008										1	5	4	1	2	4	1	18
2009												4	4	3	1		12
Mean										1.2	1.2	2.6	3.0	1.4	2.4	0.6	12.4

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	1		1														
2006	6		6														
2007	20	4	24														
2008	10	4	14														
2009	23		23														
Mean	12.0	1.6	13.6														

Notes: 130 individuals banded, over half of them in summer; most of those being nestlings from the boxes monitored at MBO. Generally common in spring, tapering off to fairly common by July, uncommon in August, rare in September, and very rare in October. Spring migration usually peaks in the second week of May, while fall numbers are highest around mid-August.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005															0.1		0.02
2006												3.4	4.3	0.4	0.6		0.9
2007												0.1	0.7	0.3	1.9	0.4	0.3
2008													1.3	1.4	0.1		0.3
2009												0.1				0.1	0.03
Mean												0.7	1.3	0.4	0.5	0.1	0.3

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005		0.2	0.1						0.1								0.01
2006																	
2007						0.4											0.03
2008				1.1	1.0												0.2
2009																	
Mean		<0.1	<0.1	0.2	0.3				<0.1								0.05

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005															1		1
2006																	
2007															1		1
2008																	
2009																	
Mean															0.4		0.4

Notes: 2 individuals banded, both in spring. Uncommon in spring, typically peaking around mid-May and becoming scarce by the end of the month. Rare in summer and early fall, with only a few scattered sightings, and none at all in 2006 or 2009.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005										0.1				0.1			0.03
2006																	
2007											0.1				0.6	0.3	0.1
2008															0.3		0.03
2009													0.3	0.4			0.07
Mean										<0.1	<0.1		0.1	0.1	0.2	0.1	0.05

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005					0.1	0.9											0.08
2006																	
2007																	
2008																	
2009																	
Mean					<0.1	0.2											0.02

Notes: Rare in spring, with scattered observations from mid-April to late May, and no regular pattern to their occurrence. Very rare in fall, with only a few observations in mid-August in 2005.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005												1.0		0.6	4.3		0.7
2006												1.4	37.4	6.9	1.7	2.9	5.1
2007											7.1	20.7	13.4	7.6	13.4	5.7	6.8
2008										1.3	1.1	21.7	30.4	16.1	32.3	8.9	11.2
2009										2.3	5.0	4.1	35.3	22.1	20.6	7.9	9.9
Mean										0.7	2.6	9.8	23.3	10.7	14.5	5.1	6.7

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005		0.5	0.2	2.1	1.0				1.4								0.4
2006	6.3	12.2	9.7														
2007	3.2	1.2	2.2			3.1											0.2
2008	6.2	11.8	9.0	3.0													0.2
2009																	
Mean	3.1	5.1	4.2	1.0	0.2	0.6			0.3								0.2

Notes: Common in May, especially since 2006. Fairly common in summer, but rapidly becoming scarce after July, with only a few scattered fall records. Most of the individuals observed are from the large colony on the McGill radar station just south of MBO, which come to feed over Stoneycroft Pond.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005										0.3		0.4	0.6	2.6			0.5
2006										0.4	0.1	1.3	2.0	1.0	0.4		0.5
2007										0.1	0.4	1.4	1.7	1.6	1.0	0.1	0.6
2008										0.1	0.3		1.4	2.0	0.4	0.1	0.4
2009									0.1			0.4	0.7	0.3	0.7		0.2
Mean									<0.1	0.2	0.2	0.7	1.3	1.5	0.5	<0.1	0.4

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	0.1		0.03		0.1	0.6	0.4		0.3								0.1
2006		0.1	0.05	2.0	0.3	1.6		0.1	0.4								0.3
2007				1.4	0.9	3.0	4.4	0.1									0.8
2008		0.8	0.4	0.4	1.1	1.0											0.2
2009				0.1	0.3	0.4	0.3										0.09
Mean	<0.1	0.2	0.1	0.8	0.5	1.3	1.0	<0.1	0.1								0.3

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006													1				1
2007																	
2008																	
2009																	
Mean													0.2				0.2

Notes: 1 individual banded in May 2006, after it flew into the banding cabin and was trapped against the window. Rare to uncommon in spring and early fall, with a spring peak around mid-May, and a fall peak around mid-August.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005	13.8	8.0		18.5	21.3	16.4		13.3	6.3	6.9	13.5	10.0	6.3	4.0	5.1	5.8	7.8
2006	17.8	18.8	16.3	13.9	12.1	16.0	12.9	16.5	8.7	7.3	9.4	10.3	8.6	7.9	5.6	6.7	9.1
2007	13.5	13.3	12.8	7.3	10.1	11.8	6.4	8.6	8.9	14.0	8.5	10.6	9.0	9.1	6.4	4.1	8.6
2008	5.9	12.2	5.6	7.7		7.1	9.7	6.1	7.6	12.0	9.3	9.7	9.3	7.4	4.4	4.0	8.0
2009	10.0	14.5	13.3	9.0	9.8	10.3	10.4	8.7	8.9	10.7	8.9	8.6	7.1	7.6	6.0	5.3	8.2
Mean	12.2	13.4	12.0	11.3	13.3	12.3	9.9	10.6	9.7	10.2	9.9	9.8	8.1	7.2	5.5	5.2	8.3

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	3.4	7.6	5.6	18.1	18.0	15.3	18.4	20.9	26.1	24.6	21.4	29.3	45.7	24.8	24.9	34.1	24.5
2006	5.6	5.6	5.6	15.4	15.7	10.7	11.7	17.4	21.6	21.0	16.4	15.7	16.9	15.9	11.9	13.7	15.7
2007	3.8	8.3	6.1	16.4	14.7	16.7	16.7	17.4	14.9	15.0	18.6	21.9	25.7	18.4	15.1	16.1	17.5
2008	4.2	1.8	3.0	11.0	14.9	16.0	14.7	20.1	20.6	16.6	16.3	14.7	16.7	15.4	21.7	14.6	16.4
2009	2.0	1.7	1.8	13.7	15.9	17.0	19.7	22.0	22.7	18.7	16.4	20.7	14.6	18.1	26.1	26.9	19.6
Mean	3.8	5.0	4.4	14.9	15.8	15.1	16.2	17.6	21.2	19.2	17.8	20.5	23.9	18.5	19.9	21.1	18.7

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005	7			12	7	26		1	1							1	3
2006	14	11	7	8	11	51		2	1	1		2				2	8
2007	3	4	6		4	17				3		1	4	1	1		10
2008																	
2009					3	3				1				1			2
Mean	8.0	5.0	6.5	10.0	6.3	19.4		1.5	1.0	1.0		0.6	0.8	0.4	0.2	0.6	4.6

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005				9	2	5	4	9	5	5	8	38	54	15	37	31	222
2006				6	3	2		1	7	4	1		1	2			27
2007				7	7	4	1	2	2	4	7	16	52	34	21	15	172
2008				9	7	5	4	6	2	1	4		1		9	1	49
2009	2	9	11	5	1	3	11	6	4	5	6	2	2	15	31	44	135
Mean	0.4	1.8	2.2	7.2	4.0	3.8	4.0	4.8	4.0	4.8	5.2	11.2	22.0	13.2	19.6	18.2	121.0

Notes: 736 individuals banded, most (82%) in fall, but one of 5 species banded in all seasons. One of only 4 species recorded during all observation periods over five years. Spring abundance peaks in April, while fall abundance usually peaks in October, except around mid-September in 2006. Residents are fairly common to common throughout the year, supplemented significantly by fall migrants in odd-numbered years; this is more clearly reflected by banding numbers than observation data.

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

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005															0.1		0.01
2006																	
2007																	
2008																	
2009																	
Mean															<0.1		<0.01

Notes: None banded. A single individual observed near the winter nets on 20 October 2005 with migrant Black-capped Chickadees.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006		0.1	0.4	0.4	0.3	0.2	0.1					0.3		0.3	0.3		0.1
2007												0.1					0.1
2008										0.1	0.3		0.7			0.4	0.1
2009					0.1	0.03							0.3		0.1		0.04
Mean		<0.1	0.1	0.1	0.1	0.05	<0.1			<0.1	0.1	0.1	0.2	0.1	0.2	<0.1	0.09

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005					0.1	0.4	1.1	0.6	0.6	0.6	0.6	0.5	1.0	0.5	0.6	0.4	0.6
2006				0.1	0.4	1.1	0.1	0.1	0.3					0.1			0.2
2007		0.2	0.08	0.4	0.1	0.9	0.1	0.4	0.3		0.3		0.6	0.1		0.1	0.3
2008		0.2	0.1	0.1		0.6	0.1	0.6	0.3	0.7	1.1	0.4	0.9	0.3	0.1		0.4
2009				0.1	0.3		0.6	0.1	0.6		0.3	0.1	0.4	0.4	0.3	0.3	0.3
Mean		0.1	<0.1	0.1	0.2	0.8	0.3	0.4	0.4	0.3	0.5	0.2	0.6	0.3	0.2	0.2	0.4

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006			1			1											
2007																	
2008																	
2009																	
Mean			0.5			0.3											

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005						1											1
2006																	
2007																	
2008																	
2009					1							1	1	1			4
Mean					0.2	0.2						0.2	0.2	0.2			1.0

Notes: 6 individuals banded, two-thirds of them in fall 2009. Rare and irregular in spring, with no clear seasonal pattern. Also generally rare in fall but occurring more frequently, and showing a slight peak of activity around mid-August. Irregular in summer and winter.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005	0.5			0.5	0.3	0.4		0.8	1.6	1.1	0.7	1.3	1.0	0.9	0.6		0.9
2006	0.4	0.4	0.6	0.6	0.2	0.4	0.4	0.3	0.6	0.7	0.9	0.9	0.4	1.4	1.3	0.7	0.8
2007	0.9	0.9	0.5		0.5	0.7	0.6	1.0	0.1	0.6	0.4	1.0	0.9	0.4	0.1	0.1	0.5
2008	0.3	0.3	0.4	1.3		0.6		0.1	0.1	0.3	1.1	0.4	0.7	0.1	0.1	0.1	0.3
2009	0.4	0.5		0.3	0.5	0.4		0.7	0.1	0.1	0.6	0.1	0.3		0.1	0.1	0.2
Mean	0.5	0.4	0.4	0.5	0.4	0.5	0.3	0.6	0.5	0.6	0.7	0.7	0.7	0.6	0.4	0.2	0.5

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	0.1	0.3	0.2	1.3	1.7	1.3	1.4	1.1	0.9	1.0	2.1	0.8	1.7	0.8	0.4	1.1	1.2
2006	0.7	1.4	1.1	1.9	2.0	2.9	3.1	1.1	1.7	1.6	1.4	1.3	1.1	1.2	2.1	1.4	1.8
2007	0.2	0.5	0.3	0.7	1.9	1.6	1.3	1.1	1.3	0.7	0.6	0.9	0.7	0.6	0.9	0.3	1.0
2008				0.1	0.3	0.4	0.1	0.1	0.3	0.3	1.0	0.9	1.1	1.3	0.7	0.3	0.5
2009	0.3		0.2	1.3	1.3	0.9	1.7	1.0	0.9	0.1	0.4	0.6	0.4	0.4	0.9	1.3	0.9
Mean	0.3	0.4	0.4	1.1	1.6	1.4	1.5	0.9	1.0	0.7	1.1	0.9	1.0	0.9	1.0	0.9	1.1

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005														1			1
2006											1						1
2007																	
2008																	
2009																	
Mean											0.2			0.2			0.4

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005															1		1
2006							1										1
2007																	
2008																	
2009																1	1
Mean							0.2								0.2	0.2	0.6

Notes: 5 individuals banded. Rare to uncommon throughout the year, more regular than Red-breasted Nuthatch. Most observations are likely of local residents, reflected by the lack of any seasonal pattern of abundance in spring and fall.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005				0.3		0.07		0.2	0.4	0.1	0.2						0.1
2006		0.1	0.1			0.03	0.6	0.3	0.3	0.7	0.4						0.2
2007	0.3					0.1		0.1		0.1				0.1			0.04
2008		0.3				0.04				0.6	0.1						0.07
2009				0.7	0.1	0.2	0.1			0.4	0.1						0.07
Mean	0.1	0.1	<0.1	0.2	<0.1	0.09	0.2	0.1	0.1	0.4	0.2			<0.1			0.1

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005									0.4	0.1	0.3	0.2	1.0	1.0		0.3	0.2
2006											0.1		0.7	0.1	0.1	0.4	0.1
2007				0.1		0.1			0.1	0.3	0.3	0.3	0.1				0.1
2008								0.1	0.1	0.3	0.1	0.4	0.3	0.1		0.1	0.1
2009					0.1			0.1		0.3	0.9	0.4	0.4	0.1	0.1		0.2
Mean				<0.1	<0.1	<0.1		<0.1	0.1	0.2	0.3	0.3	0.5	0.3	<0.1	0.2	0.1

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005											1						1
2006								1									1
2007																	
2008										1							1
2009										2							2
Mean								0.5		0.6	0.2						1.0

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005									2	1	2		4	2		1	12
2006													3	1			4
2007									1	1	2	1	1				6
2008								1	1	1	1	1	2			1	8
2009					1					1	2	2			1		7
Mean					0.2			0.2	0.8	0.8	1.4	0.8	2.0	0.6	0.2	0.4	7.4

Notes: 42 individuals banded, all but 5 in fall. Rare in the first half of spring, with only one May record. Also rare in fall, with a few scattered August records, but most observations from mid-September to mid-October. Observed at least once each winter. No summer records, though a recently-fledged juvenile banded in early August 2009 suggests breeding nearby.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006																	
2007																	
2008																	
2009																0.1	0.01
Mean																	

Notes: A single observation on 2 June 2009, though one had previously been observed near the MBO gate in 2003 before official records for MBO began to be kept.



Brown Creeper, April 2005 (Photo by Marcel Gahbauer)

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005														0.9	1.0	1.6	0.4
2006												0.1		0.1		0.1	0.04
2007													1.4	1.0	0.7	0.9	0.4
2008										0.1	0.6	2.4	3.9	4.6	3.7	4.1	1.9
2009											1.1	3.7	3.9	3.1	3.1	3.0	1.8
Mean										<0.1	0.3	1.2	1.8	1.9	1.7	1.9	0.9

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	0.6	0.6	0.6	0.7	0.6	0.9	0.9	0.6	0.7	0.9	1.1	0.8	0.2				0.6
2006		0.3	0.2	2.7	1.9	2.0	0.6	1.6	1.1	1.9	0.9	0.6	0.6		0.1		1.0
2007	2.3	2.8	2.6	6.0	6.0	5.9	6.0	2.9	3.0	2.4	1.7	2.0	0.1	0.4			2.8
2008	4.6	3.2	3.9	5.1	4.7	3.9	3.4	2.3	1.6	1.7	0.7	1.3	0.4				1.9
2009	2.0	0.7	1.3	8.3	8.4	7.6	4.4	3.3	3.6	2.0	2.1	2.0	0.6	0.3			1.9
Mean	1.9	1.7	1.7	4.6	4.3	4.1	3.1	2.1	2.0	1.8	1.3	1.3	0.4	0.1	<0.1		1.6

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006																	
2007													1				1
2008													1	3			4
2009														1	1	1	3
Mean													0.4	0.8	0.2	0.2	1.6

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005				2		1	2	1	1	2	3	1	1				14
2006		1	1	4	2	4	1	1	1	3	1						16
2007	6		6	11	3	4	5	6	3		1	2		1			36
2008				3	7		2	2	3	1		2					20
2009		2	2	13	4	4		4	1	1	3	1		1			32
Mean	1.2	0.6	1.8	6.6	3.2	2.6	2.0	2.6	1.8	1.4	1.6	1.2	0.2	0.4			23.6

Notes: 135 individuals banded, 87% of them in fall. Uncommon in spring and summer, fairly common in early fall, then tapering off to uncommon in September and rare by early October, with only a few later records in mid-October. Much more abundant since 2007 (in summer and fall) and 2008 (in spring).

WIWR: Winter Wren / Troglodyte mignon (*Troglodytes troglodytes*)

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006	0.1					0.02	0.1		0.1	0.1	0.1				0.1		0.07
2007	0.1					0.02				0.1				0.1			0.03
2008																	
2009							0.3			0.1							0.04
Mean	<0.1					0.01	0.1		<0.1	0.1	<0.1			<0.1	<0.1		0.03

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005								0.1	0.1	0.1	0.4	0.3	1.7	0.7	0.6	0.6	0.3
2006									0.1	0.3	0.7	0.3	1.9	0.9	1.1	0.6	0.5
2007										0.1	0.9	0.1	1.1		0.3	0.1	0.2
2008						0.1				0.1	0.3	0.4	0.4		0.3		0.1
2009											0.3	0.3	0.6	0.4			0.1
Mean						<0.1		<0.1	<0.1	0.1	0.5	0.3	1.1	0.4	0.5	0.3	0.2

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005											2	1	2	1			6
2006										2	2		6				10
2007										1	1		2				4
2008										1			1				2
2009											1		1				2
Mean										0.8	1.2	0.2	2.4	0.2			4.8

Notes: 24 individuals banded, all in fall. Very rare and irregular in spring, not observed at all in 2005 or 2008. Also very rare from mid-August to mid-September, then rare for most of the rest of fall, increasing to a brief but distinct and consistent peak in the first week of October.

SEWR: Sedge Wren / Troglodyte à bec court (*Cistothorus platensis*)

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006																	
2007																	
2008														0.3	0.9	1.1	0.2
2009																	
Mean														0.1	0.2	0.2	0.04

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005					0.1	0.1			0.1								0.03
2006																	
2007																	
2008	0.6		0.3														
2009																	
Mean	0.1		0.1		<0.1	<0.1			<0.1								0.01

Notes: Very rare from late spring to mid-fall. The 2008 records likely all pertain to the same two territorial males in the field adjacent to MBO, but no further breeding evidence was recorded.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005															0.3		0.03
2006																	
2007																	
2008																	
2009																	
Mean															0.1		0.01

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005				0.1			0.3					0.3	0.2				0.07
2006		0.1	0.05	0.1													0.01
2007					0.1												0.01
2008																	0.01
2009					0.1												0.01
Mean		<0.1	<0.1	<0.1	<0.1		0.1					0.1	<0.1				0.02

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006																	
2007					1												1
2008																	
2009																	
Mean					0.2												0.2

Notes: 1 individual banded in August 2007. Very rare in spring, observed only in late May 2005. Also very rare in summer and fall, with 10 records scattered between late July and early October.



Ruby-crowned Kinglet, April 2008 (Photo by Marie-Anne Hudson)

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005	0.5					0.1		5.8	2.0	1.0	0.7						1.0
2006	0.1					0.03	4.1	4.0	3.4	1.0	1.3						1.4
2007	1.0					0.4	0.1	2.6	1.4	0.4	0.6						0.5
2008								1.0	0.7	0.4	0.3						0.2
2009	0.4					0.08	0.6	2.8	0.7	2.0	0.1	0.1					0.6
Mean	0.4					0.1	1.2	3.2	1.6	1.0	0.6	<0.1					0.7

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005									0.3		8.0	5.8	34.7	23.2	3.1	3.7	5.5
2006											2.6	10.0	2.9	17.4	12.1	16.7	4.0
2007											0.7	3.7	6.3	2.9	3.0	1.6	1.4
2008				0.3							2.6	2.3	2.9	0.3	0.9	0.1	0.7
2009						0.3					1.1	0.9	5.0	1.1	3.1	1.9	1.0
Mean				0.1		0.1			0.1		3.0	4.5	10.4	9.0	4.4	4.8	2.5

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005										1							1
2006								2	5								7
2007										2							2
2008										1							1
2009										2	1						3
Mean								1.0	2.5	1.2	0.2						2.8

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005									2		12	11	14	7	2	6	54*
2006											4	17	7	15	28	2	73
2007											3	3	6	3	5	2	22
2008				2							8	8	14	2	1	1	36
2009											3	3	10		6	3	25
Mean				0.4					0.4		6.0	8.4	10.2	5.4	8.4	2.8	42.0

Notes: 224 individuals banded, all but 14 of them in fall. An uncommon spring migrant, with numbers peaking in the first two weeks, before nets are open. Fall migration consistently peaks in early October as for Ruby-crowned Kinglet, but overall the timing of Golden-crowned Kinglet migration is slightly later. In fall 2005 the total number banded would have been 163, had bands not run out of stock on the Thanksgiving weekend. Numbers from 2007 to 2009 have been much lower than in 2005 and 2006 in both spring and fall.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005									0.1	2.7	5.3	4.0	2.9	0.7			1.8
2006									1.1	6.3	13.6	16.3	0.3	1.9		0.1	4.0
2007			0.4			0.1				3.1	11.6	17.7	4.1	1.4			3.8
2008									0.3	28.0	10.7	6.7	7.9			0.1	5.4
2009										2.1	17.4	2.0	1.9	0.1			2.4
Mean			0.1			0.02			0.3	8.4	11.7	9.3	3.4	0.8		<0.1	3.5

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005						0.1			0.4	3.1	14.0	27.7	69.2	43.5	3.9	1.4	11.4
2006					0.1	0.3	0.1	0.1	1.3	14.0	30.3	42.0	49.1	41.3	20.4	7.6	15.9
2007									0.1	0.3	4.3	14.7	29.7	38.1	20.4	2.1	8.5
2008						0.1			0.9	1.7	9.4	33.1	48.7	21.4	6.0	3.7	9.6
2009									0.1	1.1	4.0	16.6	37.4	15.0	4.0	1.4	6.1
Mean					<0.1	0.1	<0.1	<0.1	0.6	4.0	12.4	26.8	46.8	31.9	10.9	3.2	10.3

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005										6	8		2	4			20
2006									4	15	3	32	1	3			58
2007										6		31	10	5			52
2008										56	6	10	20				92
2009										5	53	7	7	1			73
Mean									2.0	17.6	14.0	16.0	8.0	2.6			59.0

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005										12	46	89	66	26	4	2	245*
2006					1				2	19	42	114	115	71	57	14	435
2007									1		12	44	98	145	73	1	376
2008									2	8	24	111	126	34	5	9	319
2009										2	6	45	159	33	8	4	257
Mean					0.2				1.0	8.2	26.0	80.6	112.8	61.8	29.4	6.0	326.4

Notes: 1927 individuals banded (ranked 2nd), 85% of them in fall. The total would be higher still if the band supply had not run out over the Thanksgiving weekend in 2005; the count for that season would otherwise have been 487. Taking that into consideration, the number banded each fall has declined at a remarkably steady rate averaging 14% annually. Fall migration consistently peaks in early October, while the peak of spring migration is more variable between late April and early May, and also more intense.

BGGN: Blue-gray Gnatcatcher / Gobemoucheron gris-bleu (*Polioptila caerulea*)

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006																	
2007																	
2008																0.1	0.01
2009																	
Mean																<0.1	<0.01

Notes: A single observation on 1 June 2008, along the census trail.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005	3.5					1.0				0.1							0.02
2006								0.1									0.1
2007																	
2008	0.1					0.04				0.1	2.0	1.1		0.1			0.3
2009					0.2	0.08		0.2		0.1			0.1				0.04
Mean	0.7				<0.1	0.2		0.1		0.1	0.4	0.2	<0.1	<0.1			0.1

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005											0.1		0.1		0.1	0.4	0.07
2006													0.1		1.3	0.9	0.2
2007										0.1		2.4	0.9	0.7	0.3	2.0	0.5
2008															0.6		0.04
2009																	
Mean										<0.1	<0.1	0.5	0.2	0.1	0.5	0.7	0.2

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006																	
2007																	
2008												1					1
2009																	
Mean												0.2					0.2

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006																	
2007													2				2
2008																	
2009																	
Mean													0.4				0.4

Notes: 3 individuals banded. Rare and irregular in spring, except for 2008 when a pair investigated one of the nest boxes for a while in late April and early May. Generally rare in fall, beginning in mid-September and extending into early winter, tending to peak slightly in late October.

TOSO: Townsend's Solitaire / Solitaire de Townsend (*Myadestes townsendi*)

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006																	
2007																	
2008																	
2009																0.1	0.01
Mean																	

Notes: A single individual observed on the final day of the 2009 fall season, which subsequently lingered into November.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005													0.1	0.3	0.4	2.0	0.3
2006														0.3	2.1	2.4	0.5
2007														0.1	1.7	0.7	0.3
2008													0.3	0.4	0.4	0.7	0.2
2009												0.1	1.3	1.9	0.9	0.3	0.5
Mean												<0.1	0.3	0.6	1.1	1.2	0.4

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	1.1	1.2	1.1	0.6	0.3	0.6	1.0	0.6	0.1	0.4	0.3						0.3
2006	2.1	2.9	2.6	2.1	1.4	1.4	2.7	1.4	0.6	0.1							0.8
2007	0.7	1.5	1.1	0.9	0.7	0.6	0.4	0.6	0.1								0.3
2008	0.8	0.6	0.7	1.3	1.3	0.9	0.9	0.4	0.4	0.3	0.3						0.4
2009	0.7	0.3	0.5	2.4	0.6	0.7	1.0	0.4					0.1				0.4
Mean	1.1	1.3	1.2	1.5	0.9	0.8	1.2	0.5	0.2	0.2	0.1		<0.1				0.4

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005															1		1
2006															1		1
2007															1		1
2008													1				1
2009														2	2		4
Mean													0.2	0.4	1.2		1.6

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005		4	4	1	1	2	3	3		2							12
2006				2	2	1	1										6
2007				1			2										3
2008				3	4	1	5	1	2	2							18
2009		4	4	8	1	3	5	2									19
Mean		1.6	1.6	3.0	1.6	1.4	3.2	1.2	0.4	0.8							11.6

Notes: 74 individuals banded, only 8 of them in spring and another 8 in summer. A relatively late spring arrival, in most years rare until late May, then uncommon through summer and most of August, tapering off to rare in September, and with only one October record. Peak numbers most often occur in the final week of spring and first week of fall.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																0.2	0.02
2006															0.1		0.01
2007																	
2008																	
2009														0.1	0.1		0.03
Mean														<0.1	<0.1	<0.1	0.01

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005										0.1	1.0	0.8	0.5				0.2
2006										0.1	0.4	0.1					0.05
2007											0.4	0.4	0.3				0.09
2008												0.1					0.01
2009											0.4	0.4					0.07
Mean										<0.1	0.4	0.4	0.2				0.08

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																1	1
2006															1		1
2007																	
2008																	
2009															1		1
Mean															0.4	0.2	0.6

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005										1	6	4					11
2006										1	1	1					3
2007											3	1	2				6
2008												1					1
2009											3	3					6
Mean										0.4	2.6	2.0	0.4				5.4

Notes: 30 individuals banded, all but 3 in fall. Very rare spring migrant, with only 4 records. Rare in fall, with all observations falling within a narrow window from mid-September to early October, and the vast majority of banding records and observations from weeks 8 and 9.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005															0.1		0.02
2006																	
2007																	
2008																	
2009																	
Mean															<0.1		<0.01

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006																	
2007																	
2008													0.1				0.01
2009																	
Mean													<0.1				<0.01

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005															1		1
2006																	
2007																	
2008																	
2009																	
Mean															0.2		0.2

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006																	
2007																	
2008													1				1
2009																	
Mean													0.2				0.2

Notes: 2 individuals banded. Very rare in both spring and fall, with records limited to the two birds banded, on 27 May 2005 and 6 October 2008.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																0.2	0.02
2006														0.3	0.1		0.04
2007															0.3	0.1	0.04
2008														0.1	0.6		0.07
2009															0.1		0.01
Mean														0.1	0.2	0.1	0.04

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005						0.1		0.6	0.3	2.4	1.9	0.8	0.5				0.5
2006								0.1	0.1	0.3	0.3	0.4		0.1			0.1
2007						0.6	0.1	0.3		0.4	0.6	0.6	0.4	0.1	0.1		0.3
2008				0.1	0.1				0.1		0.7	0.4	1.1				0.2
2009				0.1	0.1			0.1		0.3	0.1	0.3	1.0	0.1			0.2
Mean				<0.1	<0.1	0.1	<0.1	0.2	0.1	0.7	0.7	0.5	0.6	0.1	<0.1		0.3

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																1	1
2006														1			1
2007															2		2
2008															1		1
2009															1		1
Mean														0.2	0.8	0.2	1.2

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005						1		3	2	13	10	5	2				36
2006								1		2	2	2					7
2007						4		2		2	1	3	2	1			15
2008				1	1				1		4	3	5				15
2009				1	1			1		2		2	7				14
Mean				0.4	0.4	1.0		1.4	0.6	3.8	3.4	3.0	3.2	0.2			17.4

Notes: 93 individuals banded, all but 6 in fall. Rare spring migrant, with all observations in mid/late May. Also rare in fall, but with a much broader window of migration extending from early August to mid-October, though there tends to be somewhat of a peak around mid/late September. Early August arrivals appear to be adult moult migrants.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005											0.2	0.1					0.03
2006											0.1			0.1			0.03
2007			0.2				0.07				0.1			0.4	0.1		0.07
2008										0.1		0.1	0.1				0.04
2009											0.1			0.1			0.03
Mean			0.1				0.01			<0.1	0.1	<0.1	<0.1	0.1	<0.1		0.04

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005											0.1	1.2	1.5	5.3	1.7	0.4	0.8
2006												0.6	1.4	3.6	3.6	0.6	0.8
2007					0.1	0.3			0.1	0.3	0.3	0.6	2.0	4.4	2.4	0.6	0.9
2008					0.1		0.1				0.3	0.4	2.7	3.3	0.4	0.4	0.6
2009					0.1	0.1						1.4	6.7	10.1	1.9	0.1	1.6
Mean				<0.1	<0.1	0.1	<0.1		<0.1	0.1	0.1	0.8	2.9	5.3	2.0	0.4	0.9

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006																	
2007																	
2008																	
2009											1						1
Mean											0.2						0.2

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005												2	4	11	4	1	22
2006												4	10	14	8	1	37
2007											1	4	7	21	3		36
2008					1		1				2	1	12	13	1	2	33
2009						1						8	37	34	5	1	86
Mean					0.2	0.2	0.2				0.6	3.8	14.0	18.6	4.2	1.0	42.8

Notes: 215 individuals banded, all but one of them in fall. Rare in spring, with only two or three individuals observed most years. Much more numerous and regular in fall, uncommon to fairly common from late September to mid/late October, consistently peaking in the second week of October. Since 2007, some early migrants have been recorded each August; unlike Swainson's Thrushes that are adult moult migrants at this time, all of the Hermit Thrushes have been hatch-year birds. Fall numbers were consistent from 2005 through 2008, then more than doubled in 2009.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005													0.1	0.1	0.1		0.05
2006												0.1	0.1	0.4			0.07
2007														0.1			0.01
2008												0.1				0.4	0.06
2009														0.4			0.04
Mean												<0.1	<0.1	0.2	<0.1	0.1	0.05

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	0.1		0.03						0.1					0.3			0.03
2006																	
2007					0.1												0.01
2008												0.1					0.01
2009					0.3				0.1								0.03
Mean	<0.1		<0.1	0.1	<0.1				<0.1			<0.1		0.1			0.02

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006																	
2007					1												1
2008												1					1
2009					1												1
Mean				0.2	0.2							0.2					0.6

Notes: 3 individuals banded, all in fall. Rare but fairly regular in spring, mostly around mid-May. Very rare and irregular in fall, with only 8 records, and none at all in 2006.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005	30.5			1.0		9.0		10.0	15.7	8.4	17.7	6.9	3.9	2.9	3.9	2.6	8.0
2006	9.6	0.1			0.5	2.2	8.6	21.0	23.4	22.4	14.1	12.3	9.6	6.4	7.1	4.1	12.8
2007	28.9	6.3	0.5		0.6	11.8	13.3	10.0	12.6	26.0	10.6	7.3	5.6	4.1	5.6	3.4	9.8
2008	91.5	2.0	0.2	2.6		30.4	4.0	9.6	16.3	14.9	8.0	7.0	6.4	5.4	4.3	5.3	8.1
2009	18.0	25.5	0.8	2.6	5.7	7.8	14.7	18.0	17.1	18.4	20.4	7.4	4.0	6.6	5.6	1.9	11.3
Mean	35.7	6.8	0.4	1.2	1.7	12.2	10.2	13.7	17.0	18.0	14.2	8.2	5.9	5.1	5.3	3.5	10.0

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	3.1	6.9	5.0	9.7	10.1	8.9	6.7	5.0	4.4	8.0	17.6	27.7	99.8	318.3	239.7	106.0	63.5
2006	5.3	12.4	9.4	13.4	18.0	13.1	5.4	6.7	8.3	15.8	31.7	31.1	99.1	419.0	321.7	136.3	86.1
2007	4.5	3.7	4.1	11.3	15.4	9.0	4.9	6.4	6.0	7.0	28.1	42.4	115.9	347.4	333.4	234.3	89.4
2008	3.8	5.0	4.4	16.1	10.9	13.3	11.1	7.9	20.4	6.9	16.7	33.9	105.6	260.0	263.9	259.0	78.9
2009	2.3		1.2	13.7	8.6	8.1	8.0	5.4	12.7	24.7	36.9	68.4	153.9	403.0	321.4	173.9	95.3
Mean	3.8	5.6	4.8	12.8	12.6	10.5	7.1	6.3	10.4	12.5	26.2	40.7	114.9	349.5	296.0	181.9	82.6

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005	4					4		2	2	1	3	2			6		16
2006								2	6	3	2	3	1			1	18
2007										8		1	1	1		1	12
2008										2			2	2		2	8
2009										1	2	2					5
Mean	1.3					1.0		2.0	4.0	3.0	1.4	1.6	0.8	0.6	1.2	0.8	11.8

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005				4	4	2	2			2	2	2	2	34	47	18	119
2006				4	3	1				3		1	28	82	143	34	299
2007				2	2				1	1	5	6	54	80	68	99	318
2008				1	6	1	4		2		3	2	28	103	101	95	346
2009	1	12	13	11	2				2	2	2	3	22	51	96	9	200
Mean	0.2	2.4	2.6	4.4	3.4	0.8	1.2		1.0	1.6	2.4	2.8	26.8	70.0	91.0	51.0	256.4

Notes: 1358 individuals banded, 94% of them in fall. Fairly common to common throughout spring, summer, and the first half of fall, then becoming abundant from late September through October before tapering off again in November; usually a small number overwinter. One of only 8 species observed weekly throughout all spring and fall migration periods. Spring numbers show a small peak in mid/late April, while fall migration peaks more distinctly in mid-October. Numbers banded and observed in fall appear to not be strongly correlated.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005													1.0	1.4	3.6	3.6	1.0
2006													0.9	3.3	3.4	1.7	0.9
2007												0.7	1.7	4.4	5.9	1.4	1.4
2008												0.9	1.0	4.1	3.3	2.9	1.2
2009												0.1	1.1	4.0	3.3	2.4	1.1
Mean												0.3	1.1	3.4	3.9	2.4	1.1

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	2.9	2.7	2.8	2.7	4.7	5.1	5.1	5.9	7.4	6.3	6.3	5.2	3.8	1.2	0.7	0.1	4.3
2006	1.9	2.1	2.0	5.1	4.6	7.0	7.1	5.0	7.6	6.7	5.4	6.3	2.9	1.3	0.1		4.6
2007	1.2	1.0	1.1	3.9	6.1	7.7	4.9	4.9	5.9	6.4	6.4	4.3	1.9	0.1			4.0
2008	2.4	2.2	2.3	7.3	6.3	5.9	5.1	5.4	5.7	5.3	5.6	3.3	3.1	0.7			4.1
2009	1.3	1.0	1.2	5.9	8.4	6.3	8.4	7.4	7.9	6.3	9.7	9.1	3.0	1.1			5.7
Mean	1.9	1.8	1.9	5.0	6.0	6.4	6.1	5.7	6.9	6.2	6.7	5.6	2.9	0.9	0.2	<0.1	4.5

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005													2	2	3	2	9
2006														7	2		9
2007													1	5	8		14
2008												1	2	6	3		12
2009													3	6	2	1	12
Mean												0.2	1.6	5.2	3.6	0.6	11.2

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005		2	2	4	6	4	6	6	8	9	7	2	5			1	58
2006				8	2	4		2	8	6	3	8					41
2007				4	7	2		2	5	10	6	3					39
2008				12	3	3	1	3	4	3	4	7	5				45
2009		4	4	10	11	9	4	4	2	5	10	2	5	1			63
Mean		1.2	1.2	7.6	5.8	4.4	2.2	3.4	5.4	6.6	6.0	4.4	3.0	0.2		0.2	49.2

Notes: 308 individuals banded, 80% of them in fall. A relatively late spring arrival, mostly from mid-May onward, peaking in the last week of May. Fairly common through most of fall, becoming uncommon in early October, and with only a few records in the second half of the month. Both spring arrivals and fall departures appear to have shifted earlier over time.

NOMO: Northern Mockingbird / Moqueur polyglotte (*Mimus polyglottos*)

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005											0.2						0.02
2006																	
2007													0.1	0.1			0.03
2008																	
2009																	
Mean											<0.1		<0.1	<0.1			0.01

Notes: Very rare, with only three spring records, all in 2005 or 2007.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005									0.1		0.5	0.3	1.1	2.0	2.3	1.2	0.9
2006											0.9		0.3	0.7	1.0	0.6	0.4
2007											0.4	0.3	0.9	0.4	0.1	0.1	0.2
2008											0.9	0.4	1.0	0.6	0.6	0.1	0.4
2009											0.3	0.3	0.7	0.4	0.6	0.7	0.3
Mean									<0.1		0.6	0.3	0.8	0.8	0.9	0.5	0.4

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	0.3	0.2	0.2		0.6	0.1		0.3	0.4	1.1	1.1	0.7	0.3				0.4
2006	0.2	0.2	0.2	0.1	0.3	0.1	0.1	0.6	0.9	0.7	0.9	0.7					0.3
2007	0.2		0.1	0.1	0.1	0.1			0.4	0.4	0.1	0.1					0.1
2008		0.2	0.1		0.3	0.1		0.1	0.7	0.3		0.3	0.1				0.2
2009	0.3		0.2	1.1	1.3	0.1	0.3		0.3	0.4	1.7	0.9	0.6	0.1			0.5
Mean	0.2	0.1	0.2	0.3	0.5	0.1	0.1	0.2	0.5	0.6	0.8	0.5	0.2	<0.1			0.3

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005														3	1		4
2006											1		1		1	1	4
2007											1		2				3
2008											1		1				2
2009															1		1
Mean											0.6		0.8	0.6	0.6	0.2	2.8

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005					1							1					2
2006							1		1	4	1						7
2007						1			1	1							3
2008					1				1	1		1	1				5
2009				2			1		1		2	1	1				8
Mean				0.4	0.4	0.2	0.4		0.8	1.2	0.6	0.6	0.4				5.0

Notes: 39 individuals banded. Rare to uncommon in spring, beginning in late April, and with a slight peak around mid-May. One pair usually breeds at MBO, but tends to be fairly secretive and irregularly observed. Rare through August and October, tapering off to very rare after early October, and with a slight peak in mid/late September.



Brown Thrasher, October 2009 (Photo by Marcel Gahbauer)

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005	2.0			10.3	3.5	4.5		2.5	1.0	0.3	1.0	0.1	1.3	2.0	0.6	2.0	1.2
2006	0.1	12.8	10.3	11.8	2.1	7.3	2.1	8.3	1.3	2.1	2.9	1.6	0.7	1.1	1.7	3.6	2.5
2007	4.3	3.7	17.5	5.2	11.7	7.7	5.0	4.7	1.7	2.3	0.7	6.1	1.3	0.6	1.3	0.3	2.4
2008	30.3	1.5	0.8	5.0		11.5	0.4	3.9	3.0	0.7	1.3	1.6	1.4	1.1	0.1	7.9	2.1
2009	7.1	22.0	44.0	33.4	28.7	27.1	6.0	6.7	2.4	6.4	4.4	1.1	0.7			1.3	2.9
Mean	8.8	8.0	14.5	13.1	9.2	11.6	3.4	5.2	1.9	2.4	2.1	2.1	1.1	1.0	0.7	3.0	2.2

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	2.0	0.6	1.3	0.3				11.4		0.1	5.7	7.7	21.8	22.8	92.4	13.4	13.4
2006	1.6	2.2	1.9	9.9	0.1	5.6	1.4	1.3	4.1	5.0	7.3	10.7	9.1	27.3	169.0	103.6	27.3
2007		6.7	3.3	0.7			0.1	0.9	6.7	3.3	9.6	12.3	31.7	56.1	38.1	63.3	17.1
2008	3.6	19.0	11.3	3.3	1.4	1.7	1.0	0.4	6.9	1.1	5.7	7.6	4.0	49.1	28.3	131.4	18.6
2009				0.1	0.6	0.4	1.4		0.7	25.1	9.0	34.7	74.7	43.1	25.7	14.7	18.5
Mean	1.4	5.7	3.6	2.9	0.4	1.5	0.8	2.8	3.7	6.9	7.5	14.6	28.3	39.7	70.7	65.3	19.4

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005											1			1			2
2006																	
2007					1	1											
2008																	
2009										1							1
Mean					0.3	0.3				0.2	0.2			0.2			0.6

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006															1		1
2007																	
2008																	
2009																	
Mean															0.2		0.2

Notes: 5 individuals banded, scattered across three seasons; one of 12 species banded more frequently in spring than fall. Uncommon for most of spring, summer, and early fall, increasing in abundance starting around mid-September, becoming common to abundant in October, and tapering off to fairly common for winter. In some years a small peak occurs around the first week of April. A stronger peak of fall migration was seen in the second half of October from 2005 through 2008, but the 2009 fall peak was in early October instead.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006											1.4	0.3					0.2
2007																	
2008															0.1		0.01
2009												0.1					0.01
Mean											0.3	0.1			<0.1		0.04

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005									1.9		0.1	0.8	0.3	0.2			0.3
2006									0.3			0.1				3.0	1.1
2007								0.1	0.1								0.02
2008													0.3				0.02
2009											0.1	0.4					0.04
Mean								<0.1	0.5		<0.1	0.3	0.1	<0.1		0.6	0.3

Notes: Very rare and irregular in spring; rare and irregular in fall, mostly from early September to mid-October.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005				33.3	9.3	12.1		35.3	2.3	0.3							3.9
2006			3.7	11.1	1.3	2.9											
2007																	
2008	0.1			25.0		7.0	14.0										1.4
2009			31.0	23.7	35.9	23.7	54.6	13.5	0.1	0.3					0.1		6.8
Mean	<0.1		8.7	18.6	11.6	9.1	17.2	9.8	0.5	0.1					<0.1		2.4

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005															0.1		0.01
2006																	
2007																1.3	0.1
2008																	
2009																	
Mean															<0.1	0.3	0.02

Notes: Very rare in fall, but common in some years from January to early April, with only one late spring record.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005					7.3	2.1		18.0	36.4	27.4	21.8	44.4	5.9	4.6	7.7	12.0	20.0
2006					1.6	0.3		3.2	4.4	3.7	0.3			3.6	14.9	13.0	4.3
2007	1.0				1.3	0.7				2.3			0.7	2.6	9.3	9.0	2.4
2008			3.2	2.4		1.3	16.6	0.1	0.4	0.3	0.7	0.3	0.9	1.4	9.1	11.4	4.1
2009					0.2	0.08		0.8	8.1	3.6	0.6	1.6	2.3	1.9	10.7	7.4	3.7
Mean	0.2		0.8	0.5	2.6	0.9	4.2	4.4	9.9	7.5	4.7	9.3	2.0	2.8	10.3	10.6	6.9

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	8.8	2.5	5.6	5.7	3.0	2.1	3.9	11.4	4.7	8.6	12.7	3.7	5.0	0.8	3.6		5.1
2006	7.8	8.2	8.0	17.7	17.4	14.6	19.4	8.1	13.9	9.4	11.4	13.9	4.3	31.0	23.4	26.6	16.2
2007	7.7	3.7	5.7	13.9	18.3	7.6	13.4	11.6	19.9	11.9	20.7	6.7	5.6	10.1	7.4	2.4	11.5
2008	4.4	5.2	4.8	8.9	13.7	11.7	6.7	9.9	32.9	28.7	22.1	17.3	6.6	3.6	2.4	1.7	12.8
2009	3.0	1.7	2.3	13.3	11.0	15.9	19.6	16.4	25.4	24.0	51.0	23.9	8.7	7.9	2.6	3.1	17.1
Mean	6.3	4.3	5.3	11.9	12.7	10.4	12.6	11.5	19.4	16.5	23.6	13.1	6.0	10.7	7.9	6.8	12.5

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005									7	14	5	15		4		14	59
2006									1					2	8	6	17
2007															10	7	17
2008													1		11	17	29
2009										2					10	2	14
Mean									4.0	3.2	1.0	3.0	0.2	1.2	7.8	9.2	27.2

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005								2		1	5						8
2006				4	6		1		3	1		6				1	22
2007		1	1	6	5				3	1	6						21
2008				2	2				4		3	5					16
2009	3	5	8	12	2	2	7	4	1	1	4	4					39
Mean	0.6	1.2	1.8	4.8	3.0	0.4	1.6	1.2	2.2	0.8	3.6	3.0				0.2	21.2

Notes: 251 individuals banded one of 12 species banded more frequently in spring than fall. Fairly common to common for most of spring, fairly common in summer, and common through most of fall, tapering off to fairly common in October and rare in winter. There appear to usually be two movements in spring, one peaking around mid-April, and another in late May. In fall there is usually a single peak, but timing is variable, most commonly late September, but ranging from early September in 2008 to mid-October in 2006.



Cedar Waxwing, April 2005 (Photo by Marcel Gahbauer)

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005	12.5					3.6											
2006	2.5					0.5											
2007																	
2008																	
2009																	
Mean	3.0					0.8											

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																4.9	0.4
2006																	
2007																	
2008																	
2009																	
Mean																1.0	0.1

Notes: Very rare, with observations limited to three flocks of late fall migrants, one occurring in the last week of October, and two in November. Last observed in November 2005.

BWWA: Blue-winged Warbler / Paruline à ailes bleues (*Vermivora cyanoptera*)

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006																	
2007																	
2008																	
2009													0.1				0.01
Mean													<0.1				<0.01

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005							0.1										0.01
2006																	
2007																	
2008																	
2009																	
Mean							<0.1										<0.01

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006																	
2007																	
2008																	
2009													1				1
Mean													0.2				0.2

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005							1										1
2006																	
2007																	
2008																	
2009																	
Mean							0.2										0.2

Notes: 2 individuals banded. Very rare in both spring and fall, with records limited to the two birds banded, on 27 August 2005 and 14 May 2009.

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

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006																	
2007									0.1								0.01
2008					0.3												0.02
2009																	
Mean					0.1				<0.1								0.01

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006																	
2007									1								1
2008					1												1
2009																	
Mean					0.2				0.2								0.4

Notes: 2 individuals banded. Very rare in fall, with records limited to the two birds banded, on 11 September 2005 and 10 August 2008.



Golden-winged Warbler, September 2007 (Photo by Marie-Anne Hudson)

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring	
2005														0.1	1.6		0.2	
2006														1.4	1.6		0.3	
2007													0.9	7.0	1.4	0.4	1.0	
2008												0.1	0.9	1.9	1.0	0.7	0.5	
2009														0.4	12.9	8.7	1.7	2.4
Mean												<0.1	0.4	4.7	2.9	0.6	0.9	

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005		0.2	0.1	0.4	1.4	1.3	1.7	0.7	1.0	2.1	1.4	0.7	1.2				0.9
2006		0.1	0.05	1.3	1.7	0.3	3.9	3.6	2.9	5.7	0.9	0.1					1.6
2007				0.3	0.3	0.7	0.3	0.7	0.6	0.6	0.9	0.1	0.1	0.1			0.4
2008				1.4	0.7	0.1	1.1	2.1	3.6	4.3	4.0	3.1	0.4				1.6
2009				0.6	0.6	1.1	0.3	0.6	0.1	0.9	1.1	0.1					0.4
Mean		0.1	<0.1	0.8	1.0	0.7	1.5	1.5	1.6	2.7	1.7	0.8	0.3	<0.1			1.0

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005														1	3		4
2006														1	1		2
2007													1	12	3		16
2008														2	1	3	6
2009														36	44	2	82
Mean													0.2	10.4	10.4	1.0	22.0

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005				3	7	3	7	2	1	13	6	2	2				46
2006				5	3	1	10	7	9	20	1	1					57
2007					2	2	1	2	2	3	4		1	1			18
2008				9	3	1	6	6	16	18	16	11					86
2009		1	1	2	1	5	1	1		5	7	1					23
Mean		0.2	0.2	3.8	3.2	2.4	5.0	3.6	5.8	11.8	6.8	3.0	0.6	0.2			46.0

Notes: 341 individuals banded, slightly over twice as many in fall as in spring. Fairly common during the concentrated spring migration in the second half of May. Early migrants begin to arrive in late July, then remain uncommon throughout a prolonged migration window extending to late September, after which there are relatively few records for the first half of October. The fall peak is consistently in the second half of September. Numbers fluctuate dramatically on a two-year cycle, with highs in the fall of 2006 and 2008 and correspondingly the spring of 2007 and 2009.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006														0.4	0.1		0.06
2007																	
2008																	
2009												0.1	0.1	0.3		0.3	0.09
Mean												<0.1	<0.1	0.1	<0.1	0.1	0.03

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005										0.3	0.7		0.2	0.8			0.2
2006										0.3	0.7	0.1		1.0	0.4		0.2
2007										0.1	0.4	1.1	0.9	0.6			0.2
2008							0.1					0.1	0.6	0.3			0.09
2009							0.1			0.3		0.1	0.4	1.0			0.2
Mean							<0.1	<0.1		0.2	0.4	0.3	0.4	0.7	0.1		0.2

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006														1			1
2007																	
2008																	
2009																	
Mean														0.2			0.2

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005										1	3			3			7
2006										1		1		4	1		7
2007										1	2	5	2	2			12
2008												1	3	2			6
2009										1		1	3	2			7
Mean										0.8	1.0	1.6	1.6	2.6	0.2		7.8

Notes: 40 individuals banded, all but one of them in fall. Very rare in spring, with only 10 records, all in 2006 and 2009. Rare in fall, with a couple of unusually early records in August, but all others between mid-September and mid-October, typically peaking in the second week of October.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005													0.3	0.7	1.0	0.4	0.3
2006												0.4	1.4	3.0	0.9		0.6
2007											0.1	0.1	2.6	4.9	0.6		0.8
2008												0.4	2.1	2.4	1.0		0.6
2009											0.1	0.6	4.4	2.0	0.7		0.8
Mean											<0.1	0.3	2.2	2.6	0.8	0.1	0.7

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005		0.2	0.1	2.4	5.9	2.7	4.0	6.7	10.0	9.0	7.0	2.8	1.8				4.0
2006				0.6	1.0	2.1	3.6	2.6	4.1	5.2	5.1	2.6	1.4				2.2
2007				2.3	2.3	1.9	1.1	1.0	2.0	2.7	2.1	0.4	0.3	0.4			1.3
2008				1.1	1.1	2.3	3.1	4.1	6.7	4.3	5.0	6.4	5.7	0.7			3.1
2009				0.1	0.3	0.9	0.6	1.3	0.4	1.9	2.6	3.1	2.1	0.1	0.1		1.0
Mean		<0.1	<0.1	1.3	2.1	2.0	2.5	3.1	4.6	4.8	4.4	3.1	2.3	0.2	<0.1		2.3

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005													1	3	1	1	6
2006												1	2	3			6
2007													5	8	1		14
2008												1	3	4			8
2009											1	1	6	5	1		14
Mean											0.2	0.6	3.4	4.6	0.6	0.2	9.6

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005				2	18	5	16	28	20	38	19	10	8				164
2006				2	2	7	9	7	18	23	15	10	5				98
2007				7	5	4	5	3	5	8	10	1	1	1			50
2008				5	4	6	11	10	22	19	20	36	21	4			158
2009				1	2	4	3	3	2	10	10	13	9		1		58
Mean				3.4	6.2	5.2	8.8	10.2	13.4	19.8	14.8	14.0	8.8	1.0	0.2		105.6

Notes: 576 individuals banded, 92% of them in fall. Spring migrants very rarely arrive as early as the last week in April, regularly peak around mid-May, and have almost all moved through by the last week in May. Like Tennessee Warbler, Nashville Warbler has a much more prolonged fall migration, on average uncommon from the beginning of August into early October, then rapidly becoming rare, with only one record past mid-October. The fall peak is fairly modest, but occurs fairly consistently around mid-September, except delayed until the end of September in 2009.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005														0.4	0.1		0.07
2006														0.9	1.7		0.3
2007												0.1	1.0	1.7	0.4	0.3	0.4
2008													0.3	0.9			0.1
2009												0.1	0.1	1.7	0.4		0.3
Mean												<0.1	0.3	1.1	0.5	0.1	0.2

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005				0.1				0.1	0.4	1.4	0.6	0.1					0.2
2006						0.1		0.6	0.1		0.3	0.3	0.1				0.1
2007								0.1		0.3							0.03
2008								0.3	0.6	0.6		0.1	0.1				0.1
2009								0.3			0.3		0.3				0.07
Mean				<0.1		<0.1		0.3	0.2	0.5	0.2	0.1	0.1				0.1

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006																	
2007														1	1		2
2008													1				1
2009														5	2		7
Mean													0.2	1.2	0.6		2.0

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005									1	5	3	1					10
2006												1	1				2
2007								1									1
2008									1	2		1					4
2009													1				1
Mean								0.2	0.4	1.4	0.6	0.6	0.4				3.6

Notes: 28 individuals banded. Rare to uncommon in spring, with most observations concentrated around mid-May. Fall migration is mostly in September, peaking around mid-month, but with a couple of early records in August, and a few lingering into October. Banded irregularly, with 70% of spring banding records from 2009, and 56% of fall banding records from 2005.

YWAR: Yellow Warbler / Paruline jaune (*Dendroica petechia*)

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005													6.3	16.9	14.6	19.0	6.1
2006												0.6	11.7	15.3	21.1	14.9	6.5
2007												0.6	17.9	15.6	15.1	8.7	5.8
2008												2.7	9.0	17.1	16.9	10.0	5.6
2009											2.0	3.0	9.1	14.1	11.6	8.6	4.9
Mean											0.4	1.4	10.8	15.8	15.9	12.2	5.8

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	11.7	5.5	8.5	7.9	6.0	3.3	1.7	0.3		0.1	0.1						1.6
2006	11.3	5.2	7.8	10.3	9.9	3.7	1.9	0.4	0.6	0.1	0.1						2.1
2007	9.0	5.0	7.0	8.1	5.3	2.3	0.6		0.1								1.3
2008	6.6	3.0	4.8	5.9	5.1	3.3	0.4	0.4									1.2
2009	5.3	1.0	3.2	7.3	7.9	3.4		0.1									1.4
Mean	8.8	3.9	6.3	7.9	6.8	3.2	0.9	0.2	0.1	<0.1	<0.1						1.5

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005													10	27	9	1	47
2006													3	5	13		21
2007													16	5	7	1	29
2008												2	1	24	9		36
2009											2		8	29	3	1	43
Mean											0.4	0.4	7.6	18.0	8.2	0.6	35.2

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005		4	4	6	19	7	5			1	1						39
2006		3	3	23	14	4		1	1								43
2007				27	9	6			1								43
2008				24	4	7	2	2									39
2009	1	9	10	25	18	7											50
Mean	0.2	3.2	3.4	21.0	12.8	6.2	1.4	0.6	0.4	0.2	0.2						42.8

Notes: 407 individuals banded, with relatively comparable numbers in spring and fall. Common from mid-May through June, remaining fairly common until mid-August, and then rapidly becoming scarce, with fewer than a dozen September records. There is a modest spring peak in mid/late May, while fall numbers consistently peak in the first week of August and steadily decline thereafter. Spring numbers have declined slightly over time, though this is not reflected in banding numbers. Both spring arrivals and fall departures appear to be shifting earlier over time.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005														0.1	1.7	1.0	0.3
2006													0.3	2.0	0.7	0.3	0.3
2007													0.6	1.6	2.6	0.3	0.5
2008														0.7	2.7	0.9	0.4
2009												0.3	0.1	1.9	1.6	1.0	0.5
Mean												0.1	0.2	1.3	1.9	0.7	0.4

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	0.3	0.2	0.2	0.4	0.4	0.7	1.6	0.9	0.7	0.6	0.4						0.5
2006					0.7	0.4	0.6	0.6	0.6	0.4	0.4	0.1					0.3
2007	0.3		0.2	0.7	0.4	0.6	0.7	0.3	0.6								0.3
2008				0.4	0.7	2.6	0.7	1.3	1.3	0.6	0.3	0.1					0.6
2009	0.7		0.3	0.4	1.0	1.4	1.3	1.1	0.1	0.1	0.3						0.6
Mean	0.3	<0.1	0.1	0.4	0.6	1.1	1.0	0.8	0.7	0.3	0.3	<0.1					0.5

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005														1	2		3
2006															1		1
2007														1	6		7
2008														1	4		5
2009														5	1		6
Mean														1.6	2.8		4.4

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005						3	6	3	3	1							16
2006					4	1	2	1	2	1	1	1					13
2007				3	1	4	3	1	2								12
2008				3	2	10	3	3	6	1		1					29
2009		2	2		4	5	6	2	1	1							19
Mean		0.4	0.4	1.2	2.2	4.6	4.0	2.0	2.8	0.6	0.4	0.4					17.8

Notes: 113 individuals banded, 79% of them in fall. Uncommon in the second half of May, with a few individuals arriving earlier in the month. Rare in summer and for most of August and September, with a peak in migration in the second half of August, more noticeable among the banding numbers than the observation data.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005														0.6	1.1	0.6	0.3
2006													0.1	8.4	3.7	0.3	1.3
2007												0.1	2.4	3.9	2.7	0.9	1.0
2008												0.3	0.6	3.6	4.1		0.9
2009													0.6	7.4	2.7	0.4	1.1
Mean												0.1	0.7	4.8	2.9	0.4	0.9

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005					0.3	1.4	12.9	11.6	6.3	8.0	4.4	1.2	0.5				3.7
2006				0.1	0.7	2.1	10.1	8.0	11.1	4.1	5.1	1.7		0.3			3.4
2007				0.4	0.9	0.6	4.9	3.1	1.3	3.4	1.0	0.1	0.1				1.2
2008	0.2		0.1		0.3	2.3	3.6	13.6	23.3	9.1	2.9	2.3	0.6	0.1			4.5
2009				0.1		0.4	2.7	6.6	1.9	1.9	5.4	2.0	0.1	0.1			1.6
Mean	<0.1		<0.1	0.1	0.4	1.4	6.8	8.6	8.8	5.3	3.8	1.5	0.3	0.1			2.9

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005														1	3	1	5
2006														10	11	1	22
2007													5	4	5	3	17
2008														7	11		18
2009													1	26	12	2	41
Mean													1.2	9.6	8.4	1.4	20.6

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005					1	7	48	53	20	37	22	3	1				192
2006				1	3	12	39	21	39	18	16	8					157
2007				1	3	2	24	19	5	14	4	1	1				74
2008					2	12	19	62	109	36	10	11	3				264
2009				1		1	11	31	10	12	25	11	1				103
Mean				0.6	1.8	6.8	28.2	37.2	36.6	23.4	15.4	6.8	1.2				158.0

Notes: 893 individuals banded, 88% of them in fall. Fairly common in the second half of May, with a few individuals arriving earlier in the month and late migrants rarely lingering into June. Fall migrants are rare in the first three weeks of August, fairly common to common during the peak of migration from late August to mid-September, then steadily tapering off until very rare in the second week of October. Fall numbers vary considerably from year to year, with highs in 2005, 2006, and 2008, averaging more than double the mean number observed and banded in 2007 and 2009.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006														0.4			0.04
2007													0.3	0.3			0.06
2008													0.1		0.6	0.1	0.09
2009													0.6	0.6	0.4	0.3	0.2
Mean													0.2	0.3	0.2	0.1	0.08

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005						0.1	0.1	0.1		0.3							0.06
2006					0.1		0.3	0.1									0.04
2007								0.1	0.3								0.03
2008																	
2009				0.1					0.1			0.3					0.04
Mean				<0.1	<0.1	<0.1	0.1	0.1	0.1	0.1		0.1					0.03

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006														1			1
2007													1	1			2
2008																	
2009														1			1
Mean													0.2	0.6			0.8

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005							1	1		1							3
2006																	
2007								1	2								3
2008																	
2009									1								1
Mean							0.2	0.4	0.6	0.2							1.4

Notes: 11 individuals banded, at least one each year except in 2008. Rare in spring, with all observations from mid-May to early June, but no distinct peak of migration. Rare and irregular in fall, with scattered observations from early August to the beginning of October, but all banding records concentrated between late August and mid-September.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005													0.3	0.9		0.2	0.2
2006													0.1	4.3	1.3	0.4	0.6
2007													1.1	0.9	0.7	0.1	0.3
2008												0.3	0.3	1.0			0.2
2009												0.1	0.4	0.6	0.3	0.1	0.2
Mean												0.1	0.4	1.5	0.5	0.2	0.3

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005		0.1	0.03	0.3	1.0	1.0	0.4	1.3	0.7	0.6	2.0	2.0	1.5	0.2			0.8
2006					0.1	0.1	0.4	0.4	0.7	0.6	0.4	1.1		0.3			0.3
2007					0.1	0.3	0.7	0.7	0.3	0.9	0.7	0.3	0.3				0.3
2008				0.1	0.1	0.6	1.3	0.9	1.7	0.3	1.1	1.4	2.1	0.1			0.8
2009				1.0	0.4	0.9	0.4	3.1	1.4	0.6	1.4	1.4	1.3	0.3			1.0
Mean		<0.1	<0.1	0.3	0.3	0.6	0.6	1.3	1.0	0.6	1.1	1.2	1.0	0.2			0.6

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005														1			1
2006																	
2007													1				1
2008													1	1			2
2009													1	1		1	3
Mean													0.6	0.6		0.2	1.4

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005				1	2	1	1	4	1	2	8	10	4				34
2006					1		1	2	2	2	2	4		2			14
2007							4	5	2	5	4	2					22
2008						3	5	5	7	1	2	9	10	1			43
2009				4		3	1	8	5	3	10	8	8				50
Mean				1.0	0.6	1.4	2.4	4.8	3.4	2.2	4.8	5.6	4.4	0.6			32.6

Notes: 170 individuals banded, all but 7 of them in fall. Rare to uncommon in May, with a distinct peak during week 8. Fall migration is more prolonged, with status being rare to uncommon from early August to mid-October. The peak of fall migration as shown by numbers observed has shifted earlier by an average of one week per year, though late September has remained the peak for banding.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005											1.3	1.4	2.3	1.9	2.9		1.1
2006											0.6	5.6	8.0	11.3	3.7	0.1	3.0
2007										0.1	0.6	4.4	8.9	5.9	1.7	0.1	2.2
2008	0.1					0.04					0.7	1.3	16.3	6.4	6.0	0.6	3.1
2009											0.1	1.6	2.1	7.6	1.3	0.4	1.3
Mean	<0.1					0.01				<0.1	0.7	2.9	7.5	6.6	3.1	0.2	2.1

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005				0.4			1.3	0.1	1.6	3.7	22.3	15.7	26.7	9.3			5.9
2006				1.7	0.3	1.1	1.4	0.4	6.1	17.4	76.1	76.1	24.6	10.6	3.3	1.4	16.9
2007	0.2		0.1		0.4		0.3	1.0	0.4		3.4	12.4	15.1	6.3	1.0	0.3	3.1
2008					0.6		0.1		0.1	2.4	45.7	155.3	177.6	58.9	9.1	0.9	34.7
2009				0.1	0.1	0.4	0.4		1.7	1.0	4.9	12.0	24.0	4.7	0.1		3.8
Mean	<0.1		<0.1	0.4	0.3	0.3	0.7	0.3	2.0	4.9	30.5	54.3	53.6	18.0	2.7	0.5	12.9

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005											3	2	1	8	11		25
2006											1	1	5	13	2		22
2007													19	6	7		32
2008											2	1	24	11	9		47
2009													5	26	6		37
Mean											0.6	0.4	10.6	12.8	4.8		32.6

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005							2		2	14	76	21	30	12			157
2006							2		8	49	169	241	40	6	6	1	522
2007							1	1				12	46	7	1		68
2008										4	170	688	650	209	11		1732
2009					1				2	3	6	21	70	2	1		106
Mean					0.2		1.0	0.2	2.4	12.0	84.2	196.6	167.2	47.2	4.8	0.2	517.0

Notes: 2748 individuals banded, more than any other species; 94% of them in fall. One of the most prolonged spring migration periods among warblers, with early arrivals in late April, becoming fairly common to common during the peak in mid-May, and tapering off at the end of the month. Early fall migrants are rare in August, becoming uncommon in the first half of September, and then common to abundant from mid-September to mid-October, with a few lingering to late October in some years. Very pronounced two-year cycle in fall numbers with mean abundance 6 times higher and number banded 10 times higher in even-numbered years.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring	
2005														0.3	0.3	0.1	0.2	0.1
2006													0.4	3.0	1.3	0.3	0.5	
2007												0.3	2.0	0.4	0.6	0.1	0.3	
2008												0.4	2.3	1.0	0.1		0.4	
2009												0.1	0.7	0.6			0.2	
Mean												0.2	1.1	1.1	0.4	0.1	0.3	

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005		0.1	0.03	0.4	0.3	0.4	1.0	1.4	2.3	1.0	2.0	0.3	0.5				0.8
2006		0.3	0.2		0.7	0.4	0.7	1.6	1.1	1.6	2.7	0.6	0.1				0.7
2007							0.1	0.3	0.4	0.6	0.9	0.1	0.1				0.2
2008							0.1	0.7	2.0	0.9	1.3	1.3	0.1				0.5
2009							0.3	1.3	0.4	0.6	0.1	0.9	0.4				0.3
Mean		0.1	<0.1	0.1	0.2	0.2	0.4	1.1	1.2	0.9	1.4	0.6	0.2				0.5

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006																	
2007																1	1
2008														1			1
2009																	
Mean														0.2		0.2	0.4

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005				2		1	2	4	6	1	7		1				24
2006		1	1		1	1		1	2	2	11	1					19
2007										1	2						3
2008								2	11	3	3	9					28
2009							1	2	1	1		2					7
Mean		0.2	0.2	0.4	0.2	0.4	0.6	1.8	4.0	1.6	4.6	2.4	0.2				16.2

Notes: 84 individuals banded, all but 3 of them in fall. Rare to uncommon through most of May, peaking mid-month. Fall migration extends from late August to early October in most years, though earlier migrants were observed beginning in late July in 2005 and 2006. The fall peak on average is in late September, though it has been earlier the past two years. Like Magnolia Warbler, fall numbers were much higher in 2005, 2006, and 2008 than in 2007 and 2009.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005														0.1			0.02
2006													0.1	0.7			0.07
2007												0.1	0.1		0.3		0.06
2008														0.3			0.03
2009													0.1	0.1	0.3		0.06
Mean												<0.1	0.1	0.2	0.1		0.05

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006		0.2	0.1		0.3	0.7	0.1	1.1									0.1
2007						0.1	0.1										0.02
2008						0.1	0.1										0.02
2009							0.1	0.3									0.03
Mean		<0.1	<0.1		0.1	0.2	0.1	0.3									0.03

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005														1			1
2006																	
2007																	
2008																	
2009															1		1
Mean														0.2	0.2		0.4

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006					1	3	1	3									8
2007																	
2008							1										1
2009																	
Mean					0.2	0.6	0.4	0.6									1.8

Notes: 11 individuals banded, all but two in fall. Rare in spring, with most observations clustered around mid-May. Also rare in fall, with a fairly narrow window of migration extending from the second week of August to the first few days of September, and a single record of an early fall migrant in late July 2006.

PIWA: Pine Warbler / Paruline des pins (*Dendroica pinus*)

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006											0.1	0.3					0.04
2007																	
2008																	
2009													0.3		0.1		0.04
Mean											<0.1	0.1	0.1		<0.1		0.02

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006							0.1		0.1								0.02
2007												0.1	0.1				0.02
2008																	
2009								0.1									0.01
Mean							<0.1	<0.1	<0.1			<0.1	<0.1				0.01

Notes: One of only two warbler species observed at MBO but never yet banded. Rare and irregular in both spring and fall, with most records along the census trail on the west side of Stoneycroft Pond, likely due to the proximity to the pines in the Arboretum, where Pine Warblers are observed more regularly.

PAWA (WPWA): (Western) Palm Warbler / Paruline à couronne rousse (*Dendroica palmarum palmarum*)

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005														0.1			0.02
2006												0.1					0.01
2007											0.1		0.1				0.03
2008																	
2009																	
Mean											<0.1	<0.1	<0.1	<0.1			0.01

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005							0.3	1.1	3.0	1.3	0.1	0.7	0.2	0.3			0.6
2006										0.6	0.6	0.6	0.6	0.6			0.2
2007										0.1	4.0	1.7	1.4				0.6
2008								0.3	0.9		0.1	0.9	0.6				0.2
2009									0.3	0.3	0.9	0.4	0.6	0.3			0.2
Mean							0.1	0.3	0.8	0.5	1.1	0.9	0.7	0.2			0.4

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005								3	3	2		1	2				11
2006												3					4
2007										1	16	6	6				29
2008								1	4		1	6	3				15
2009									1	1	2	1	1				6
Mean								0.8	1.6	0.8	4.0	3.4	2.4				13.0

Notes: 65 individuals banded, all in fall. Very rare in spring, with only four records, and none in 2008 or 2009. Rare to uncommon in fall, with a migration window ranging from late August to almost mid-October, on average peaking in late September.



Yellow Palm Warbler (left) and Western Palm Warbler (right), October 2005 (Photo by Marcel Gahbauer)

PAWA (YPWA): (Yellow) Palm Warbler / Paruline à couronne rousse (*Dendroica palmarum hypochrysea*)

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006																	
2007												0.1					0.01
2008									0.1	0.1							0.03
2009												0.1				0.1	0.03
Mean									<0.1	<0.1	<0.1					<0.1	0.01

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005								5.4	7.3	7.3	0.9	1.0	0.2	0.2			1.8
2006						0.1				0.3	0.9	0.1	0.3				0.1
2007											1.0	0.6	0.3				0.1
2008											0.6	0.1	0.1	0.3			0.09
2009											0.1	0.1	0.3				0.04
Mean						<0.1		1.1	1.5	1.5	0.7	0.4	0.2	0.1			0.4

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006																	
2007																	
2008										1							1
2009																	
Mean										0.2							0.2

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005									9	31	5	2	1				48
2006										2	2		1				5
2007													1				1
2008											2	1	1	1			5
2009											1		1				2
Mean									1.8	6.6	2.0	0.6	1.0	0.2			12.2

Notes: 62 individuals banded, all but one in fall. Very rare in spring, with only five records, and none in 2005 or 2006. Usually rare in fall, with migration usually a bit later and during a narrower window than Western Palm Warbler, from mid-September to early October. A notable exception was in 2005, when 77% of Yellow Palm Warblers were banded, and they were fairly common for a three-week period beginning at the end of August.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006														0.1			0.01
2007																	
2008														0.4	0.4		0.09
2009												0.6	1.0	0.6		0.1	0.2
Mean												0.1	0.2	0.2	0.1	<0.1	0.1

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005				0.1			0.1	0.3		0.1	0.3						0.08
2006					0.1		0.1	0.9			0.3						0.1
2007							0.3										0.02
2008								0.1	0.4								0.04
2009						0.1		0.1	0.1			0.1					0.04
Mean				<0.1	<0.1	<0.1	0.1	0.3	0.1	<0.1	0.1	<0.1					0.1

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006																	
2007																	
2008															1		1
2009													1	1	1	1	3
Mean													0.2	0.2	0.2	0.2	0.8

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005							1	2			2						5
2006							1	2									3
2007							2										2
2008								1	2								3
2009								1	1								2
Mean							0.8	1.2	0.6		0.4						3.0

Notes: 19 individuals banded, all but 4 in fall. Rare in spring, missed entirely in 2005 and 2007, and with scattered records throughout May in other years. Also rare in fall, occurring irregularly from early August to late September, with only a slight peak in early September.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005														0.1	0.7	2.2	0.3
2006															1.9	1.1	0.3
2007														1.0	9.3	3.6	1.4
2008													0.1		5.1	3.6	0.9
2009														1.4	10.7	4.9	1.7
Mean													<0.1	0.5	5.5	3.1	0.9

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005							0.4	0.1	0.6	1.3	0.4	0.1	0.1				0.3
2006							0.6	0.9	2.1	1.3	0.3						0.4
2007							0.3	0.7	1.1	0.7	0.1						0.2
2008	0.2		0.1				0.3	4.0	2.9	1.4	0.9	0.3					0.8
2009								0.1	0.4	1.1	0.3	0.7	0.1				0.8
Mean	<0.1		<0.1				0.3	1.2	1.4	1.2	0.4	0.2	<0.1				0.5

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005														1	1	1	3
2006															1	2	3
2007														3	34	10	47
2008															17	7	24
2009														7	25	7	39
Mean														2.2	15.6	5.4	23.2

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005							2	1	1	4	1	1	1				11
2006							3	4	8	4	2						21
2007							2	4	4	3	1						14
2008							2	16	11	7	6	2					44
2009								1	3	7		4					15
Mean							1.8	5.2	5.4	5.0	2.0	1.4	0.2				21.0

Notes: 221 individuals banded one of 12 species banded more frequently in spring than fall. A very late spring migrant, with few individuals arriving until after mid-May, and usually remaining uncommon into the first several days of June. Unlike most other warblers, Blackpoll Warbler is somewhat less common in fall than spring, with most observations limited to a narrow period in the first half of September, and occasionally a few beginning in late August and extending into the first few days of October. Spring numbers much higher in 2007 to 2009 compared to 2005 and 2006.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005													0.4	0.6	0.9		0.2
2006												0.4	0.4	3.9	2.6	0.9	0.8
2007												0.1	0.9	1.6	0.1	0.1	0.3
2008												0.6	2.7	2.4	0.4	0.6	0.7
2009											0.3	0.1	1.3	1.6	0.1		0.4
Mean											0.1	0.2	1.1	2.0	0.8	0.3	0.5

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	0.3	0.2	0.2	0.6	1.1	1.0	2.1	0.9	0.3	1.1	0.1	0.3					0.6
2006	0.1	0.1	0.1	0.1	1.0	1.0	1.3	0.7	1.1	1.1		0.3					0.5
2007	0.3	0.3	0.3	1.9	1.9	2.0	1.1	0.3	0.1	0.1							0.6
2008				0.7	0.9	2.3	1.4	0.6	0.9	1.0	0.1		0.1				0.6
2009				1.4	1.0	3.0	2.6	0.3	0.1	0.1							0.7
Mean	0.1	0.1	0.1	0.9	1.2	1.9	1.7	0.6	0.5	0.7	<0.1	0.1	<0.1				0.6

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005														1			1
2006														2			2
2007														3	1		4
2008												1	1	3	1		6
2009														2			2
Mean												0.2	0.2	2.2	0.4		3.0

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005				1	2	3	6	5		4		1					22
2006					3	3	5	2	4	1							18
2007				3	2	1	2	1									9
2008				4	5	5	4	1	3	5			1				28
2009				3	3	10	8			1							25
Mean				2.2	3.0	4.4	5.0	1.8	1.4	2.2		0.2	0.2				20.4

Notes: 117 individuals banded, all but 15 in fall. Rare to uncommon from early May through August, then tapering off to rare, and becoming very rare from late September to early October. The spring peak is consistently around mid-May, while the fall peak is in the second half of August.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005													0.4	1.6	2.1	2.0	0.7
2006													0.1	2.7	2.7	1.4	0.7
2007														0.3	0.9		0.1
2008													0.4	0.6	1.6	1.7	0.4
2009												0.1	0.6	1.3	0.9	0.9	0.4
Mean												<0.1	0.3	1.3	1.6	1.2	0.5

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	0.9		0.4	0.6	3.0	2.4	3.7	4.9	1.9	2.1	0.1		0.2				1.5
2006	0.9	0.2	0.5	0.7	1.7	2.1	5.4	4.0	2.9	0.6	0.3						1.5
2007	1.0	0.3	0.7	1.7	3.3	3.6	5.3	3.0	2.6	0.7	0.7	0.1					1.6
2008	0.2	0.2	0.2	0.6	4.0	7.0	4.3	5.3	5.3	1.4	0.1	0.1					1.8
2009	0.3		0.2	2.9	3.1	4.9	6.9	7.7	2.7	0.3	1.3	0.3	0.1				2.3
Mean	0.7	0.1	0.4	1.3	3.0	4.0	5.1	5.0	3.1	1.0	0.5	0.1	0.1				1.7

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005														1	4	1	6
2006														1	2		3
2007															3		3
2008														1	5		6
2009														5	1		6
Mean														1.6	3.0	0.2	4.8

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005				1	13	7	6	26	6	6	1						66
2006				3	6	6	12	10	8	2	1						48
2007				9	15	12	14	14	10	1	2						77
2008				4	21	22	17	15	11	8		1					99
2009				15	10	20	18	26	7	2	3	2	1				104
Mean				6.4	13.0	13.4	13.4	18.2	8.4	3.8	1.4	0.6	0.2				78.8

Notes: 418 individuals banded, all but 24 of them in fall. Rare in early May, becoming uncommon during the peak of migration in mid/late May, then rare in summer. Uncommon in the first half of August, becoming fairly common for the fall peak in later August and early September, then tapering off to rare in late September, with only two early October records. Fall numbers have been steadily increasing.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005															0.6	1.0	0.2
2006													0.3	1.0	1.3	1.1	0.4
2007													0.3	0.4	1.3	0.6	0.3
2008													0.1	2.0	0.7	0.3	0.3
2009														2.1	2.1	1.1	2.1
Mean													0.1	1.0	1.0	0.6	0.8

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	0.2	0.4	0.3	0.1	0.1	0.7	0.9	1.9	1.4	1.0	0.7						0.6
2006		0.2	0.1	0.6	0.9	2.3	1.9	0.6	1.4	0.6	0.3						0.7
2007	1.0		0.5	0.4	0.3	0.4	0.6	0.7	0.3	0.1							0.2
2008	0.6		0.3	0.3	1.0	1.6	1.0	2.0	2.3	1.3	1.0	0.1		0.1			0.8
2009	0.7	0.3	0.5	1.1	0.6	1.1	1.4	0.6	0.4	0.1	0.7	0.3					0.5
Mean	0.5	0.2	0.3	0.5	0.6	1.2	1.2	1.2	1.2	0.6	0.5	0.1		<0.1			0.6

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006																	
2007														1	1		2
2008														1	1		2
2009																	
Mean														0.4	0.4		0.8

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005				1	1	4	6	7	6	6	3						34
2006		1	1	4	6	8	10	3	9	4	2						46
2007				1	2	2	2	3	2	1							13
2008				1	7	7	5	12	3	3	5	1					44
2009		1	1	8	2	6	8	2	3	1	4	2					36
Mean		0.4	0.4	3.0	3.6	5.4	6.2	5.4	4.6	3.0	2.8	0.6					34.6

Notes: 179 individuals banded, all but 6 of them during fall. Uncommon spring migrant from early/mid-May to the end of the month, with a slight peak in migration, gradually advancing earlier over time. Usually at least one pair breeds in the wooded part of MBO in summer. Fall migration is spread throughout August and most of September, with a protracted but slight peak from mid-August to mid-September, and only one unusually late record in October.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005													0.3	0.7	0.1	0.4	0.2
2006													0.1	0.6	1.3	0.1	0.2
2007												0.1	0.6	0.3	1.9	0.3	0.3
2008												0.3	0.6	0.3	1.9	0.4	0.3
2009											0.4	0.4	0.1	4.6	2.1	0.7	0.9
Mean											0.1	0.2	0.3	1.3	1.5	0.4	0.4

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005		0.1	0.03	0.1	0.3	0.1	0.9	1.0	0.6	0.9	0.1						0.3
2006					0.9	0.3	3.9	1.6	0.6	0.1							0.6
2007				0.1	0.7	0.1	0.9	0.7	0.6	0.4	0.1						0.3
2008					0.3		0.6	1.3	0.7			0.1					0.2
2009					0.7	0.4	1.0	1.6	0.9	0.6							0.4
Mean		<0.1	<0.1	<0.1	0.6	0.2	1.5	1.2	0.7	0.4	<0.1	<0.1					0.3

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005														3		1	4
2006													1		4		5
2007												1	1	2	9	2	15
2008												1	1	2	8		12
2009											2		1	15	7	1	26
Mean											0.4	0.4	0.8	4.4	5.6	0.8	12.4

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005		1	1	1	2		1	4	4	4	1						17
2006					4	2	20	8	4	1							39
2007				1	2	1	5	4	2		1						16
2008					2		3	8	5			1					19
2009					2	2	6	4	3	4							21
Mean		0.2	0.2	0.4	1.2	1.0	7.0	5.6	3.6	1.8	0.4	0.2					22.4

Notes: 175 individuals banded, more in fall than spring despite mean abundance being slightly higher in spring. Uncommon in spring, beginning in the second week of May in 2005 and 2006, but with the first arrivals becoming earlier in subsequent years. Rare to uncommon in fall, spread over much of August and September, but with a fairly distinct peak around the end of August.

CONW: Connecticut Warbler / Paruline à gorge grise (*Oporornis agilis*)

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005								0.1									0.01
2006																	
2007																	
2008																	
2009										0.1							0.01
Mean								<0.1		<0.1							<0.01

Notes: The second of two warbler species observed at MBO but never yet banded. Only two observations to date, on 4 September 2005 and 23 September 2009.



Male Mourning Warbler, May 2007 (Photo by Marie-Anne Hudson)

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005															0.1	0.2	0.03
2006														0.3	0.3		0.06
2007														0.1	0.4		0.06
2008															0.3	0.1	0.04
2009														0.1		0.1	0.03
Mean														0.1	0.2	0.1	0.04

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005				0.1	0.6	0.6		0.4	0.1	0.1			0.1				0.2
2006						0.3	0.5	0.3									0.08
2007						0.7	0.3	0.1	0.1								0.1
2008					0.3	0.4	1.0	0.6	0.1	0.1		0.1	0.1				0.2
2009				0.1	0.4	0.7	0.4	0.4	0.1								0.2
Mean				<0.1	0.3	0.6	0.4	0.4	0.1	<0.1		<0.1	<0.1				0.2

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006																	
2007														1	3		4
2008															1	1	2
2009														1		1	2
Mean														0.4	0.8	0.4	1.6

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005					2	2		3	1	1			1				10
2006						2	2	2									6
2007						5	2	1	1								9
2008					2	1	6	2	1			1					13
2009				1	2	4	3	3	1								14
Mean				0.2	1.2	2.8	2.6	2.2	0.8	0.2		0.2	0.2				10.4

Notes: 60 individuals banded, all but 8 in fall. Rare spring migrant, beginning only after mid-May. Also rare in fall, but with a longer migration window extending from early August to mid-September, with a few records as late as the beginning of October. The fall peak is consistently in the second half of August.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005												0.1	0.4	4.0	7.6	6.0	2.0
2006														2.0	10.7	5.7	1.9
2007												0.3	1.7	5.4	8.9	6.1	2.2
2008												0.6	4.1	6.0	7.1	4.9	2.3
2009											0.1	0.3	3.1	7.3	5.1	3.9	2.0
Mean											<0.1	0.3	1.9	4.9	7.9	5.3	2.1

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	1.6	2.8	2.3	2.7	2.6	1.9	3.6	4.0	8.7	6.3	3.0	1.0	0.8	0.2			2.7
2006	4.6	3.4	3.9	5.4	2.3	3.3	7.1	7.4	9.1	7.3	2.6	2.4					3.6
2007	5.3	2.7	4.0	5.3	4.4	4.9	2.6	3.7	3.7	3.9	2.6	1.3	0.6		0.1		2.5
2008	5.2	5.0	5.1	5.6	3.9	6.1	6.3	8.3	8.0	3.7	4.0	3.3	0.7	0.1			3.9
2009	2.3	1.3	1.8	4.6	3.1	4.0	5.1	4.0	3.0	3.3	3.9	1.3	1.1	0.3			2.6
Mean	3.8	3.0	3.4	4.7	3.3	4.0	4.9	5.5	6.5	4.9	3.2	1.9	0.6	0.1	<0.1		3.1

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005												1		11	9	1	22
2006														11	13	1	25
2007													1	4	4	3	12
2008												2	4	8	10	1	25
2009													5	17	4	2	28
Mean												0.6	2.0	10.2	8.0	1.6	22.4

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005				2	3	3	8	13	19	14	9	3	2				76
2006				1	1	5	7	12	27	15	6	3					77
2007				6	5	8	4	7	9	4	3	4	1				51
2008				7	3	9	14	19	16	9	8	7	1				93
2009		5	5	7	5	10	16	8	6	7	13	3	2				77
Mean		1.0	1.0	4.6	3.4	7.0	9.8	11.8	15.4	9.8	7.8	4.0	1.2				74.8

Notes: 491 individuals banded, 76% of them in fall. Fairly common spring migrant, peaking in late May. Uncommon to fairly common in summer through to late September, then tapering off to very rare by mid-October. The fall peak is variable, but most commonly in the first half of September.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005														0.1	0.3	0.6	0.1
2006														0.7	2.7	0.1	0.4
2007														0.7	1.7	0.4	0.3
2008													0.1	0.3	4.7	1.4	0.7
2009														3.1	2.9	0.9	0.7
Mean													<0.1	1.0	2.5	0.7	0.4

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005				0.1		0.6	1.4	1.6	0.4	1.1	0.4						0.5
2006					0.1	0.6	2.0	2.0	2.6	0.1							0.6
2007						0.1	1.3	2.3	3.0	1.4	0.1	0.1	0.1				0.7
2008						1.0	1.0	4.6	4.0	0.3							0.8
2009							0.3	0.7	0.3	0.7	0.3	0.1					0.2
Mean				<0.1	<0.1	0.5	1.2	2.2	2.1	0.7	0.2	<0.1	<0.1				0.6

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005														1	2	2	5
2006														2	12	1	15
2007														1	7	1	9
2008														1	19	4	24
2009														15	9	4	28
Mean														4.0	9.8	2.4	16.2

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005				1		3	3	9	2	7	2						27
2006					1	3	9	6	9	1							29
2007							8	9	17	5	1	1					41
2008						4	6	22	20	1							53
2009							2	5	2	3	1	1					14
Mean				0.2	0.2	2.0	5.6	10.2	10.0	3.4	0.8	0.4					32.8

Notes: 245 individuals banded, roughly twice as many in fall as in spring. A fairly late and uncommon spring migrant, arriving around mid-May and peaking in late May. Fall migration very rarely begins as early as the first week of August, but becomes regular only after mid-August, with a peak in the first half of September, and then rapidly becoming rare after mid-September, with only one early October observation. Spring 2009 numbers were the highest ever, contrasting sharply with fall 2009 being the lowest on record.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006															0.7		0.07
2007														0.6	0.6	0.1	0.1
2008														0.1	1.1	0.3	0.2
2009												0.1	0.1	0.7	0.3		0.1
Mean												<0.1	<0.1	0.3	0.5	0.1	0.1

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005					0.1	0.9	0.6	0.9	0.1	0.1							0.2
2006					0.1	0.9	0.1	0.6	0.1	0.1							0.2
2007					0.3	0.3	0.9	0.1									0.1
2008					1.6	2.4		0.6	0.6								0.4
2009				0.1		1.1	0.6	0.9									0.2
Mean				<0.1	0.4	1.1	0.4	0.6	0.2	<0.1							0.2

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006															2		2
2007														3	1	1	5
2008															3	1	4
2009														1			1
Mean														0.8	1.2	0.4	2.4

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005					1	6	2	4	1	1							15
2006					6	4	1	1	1								13
2007					2	2	4	1									9
2008					10	9	2	3									24
2009				1		6	3	4									14
Mean				0.2	3.8	5.4	2.0	2.4	1.0	0.2							15.0

Notes: 87 individuals banded, all but 12 of them in fall. A rare spring migrant, with most records from the second half of May, but a few earlier in the month and into the first days of June. A relatively early fall migrant, with most records from the second week of August to mid-September, peaking in the third week of August.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006																	
2007													0.1				0.01
2008																	
2009																	
Mean																	<0.1

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006																	
2007																	
2008																	
2009					0.1			0.1									0.02
Mean					<0.1			<0.1									<0.01

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006																	
2007													1				1
2008																	
2009																	
Mean																	0.2

Notes: 1 individual banded, in May 2007. Very rare in both spring and fall, with only two early fall observations in 2009 in addition to the spring banding record.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005	1.5	4.0		3.8	7.0	4.1		4.5	1.9	0.6	1.0	0.1	0.1				0.9
2006	0.8	0.7	2.5	2.6	4.5	2.1	6.7	6.3	2.3	1.0	0.3						1.6
2007	3.0	8.9	4.3	6.5	5.1	5.0	2.9	1.3	1.6	2.0							0.6
2008	1.0					0.3	0.3	2.1	3.6	1.1							0.7
2009	0.9	0.5	1.8	1.6	3.1	2.0	5.1	5.7	1.6	0.3							1.2
Mean	1.4	2.8	2.2	2.9	4.9	2.7	3.8	4.0	2.2	1.0	0.3	<0.1	<0.1				1.0

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005														0.1	5.3	6.1	0.9
2006														0.4	4.4	8.9	1.1
2007												0.1	0.1	3.4	5.3	6.4	1.2
2008													0.4	0.1	3.6	1.1	0.4
2009														0.3	2.9	16.4	1.5
Mean														<0.1	0.1	0.9	4.3

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005	3	2		3	1	9		2		1							3
2006	5	2	2	1	1	11		2	4	1							7
2007		2			5	7				2							2
2008										2							2
2009					2	2											
Mean	2.7	2.0	1.0	2.0	2.3	5.8		2.0	2.0	1.2							2.8

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005														1	9	15	25
2006															14	15	29
2007														10	16	8	34
2008												1	1	5	6	6	13
2009														1	7	54	62
Mean														0.2	2.6	10.2	19.6

Notes: 206 individuals banded. Fairly common from mid-October to mid-April, then rapidly tapering off, with only a couple of early May records in 2005. A regular winter resident except in 2007-2008, likely corresponding to the absence of feeders that winter. Spring migration usually peaks in early April, before the nets are open, while fall migration peaks in the final week of October and continues into November in most years.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005								0.2		0.6	0.2	1.1	2.1	0.6		0.6	0.6
2006										0.4	1.0	1.3	1.3	1.0	1.3	1.1	0.8
2007										0.3	0.1	0.4	1.1	0.6	1.3	0.3	0.4
2008										0.4	1.4	1.7	1.7	1.7	1.1	0.6	0.9
2009										0.1	0.4	0.9	2.6	1.6	0.7	0.1	0.7
Mean								<0.1		0.4	0.6	1.1	1.8	1.1	0.7	0.5	0.7

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	0.3	0.6	0.5	0.6			0.3	0.1	1.9	2.9	3.1	2.3	2.0	0.2		0.1	1.0
2006	0.7	0.2	0.4	0.7	1.4	0.1	0.6		0.4	0.3	0.6	0.7	0.7				0.4
2007	0.3	0.2	0.3	0.1	0.4	0.1		0.6	0.1	1.1	1.3	0.4	1.7	1.6	0.1		0.6
2008	0.2		0.1	0.1					0.1	0.1	0.7	0.4	1.1	0.6	0.3		0.3
2009				0.4	0.1	0.1			0.1	0.1		0.6	0.3	0.3	0.4		0.3
Mean	0.3	0.2	0.3	0.4	0.4	0.1	0.2	0.1	0.5	0.9	1.1	0.9	1.2	0.5	0.2	<0.1	0.5

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005										1						2	3
2006																	
2007													1			1	2
2008													3	3			6
2009													2				2
Mean										0.2			1.2	0.6		0.6	2.6

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005							1			4	12	1	1	1		1	21
2006				1	1					1			2				5
2007										4	1	2	3	2			12
2008										1		3	6	1			11
2009				1						1		3	1	1	3		10
Mean				0.4	0.2		0.2			2.2	2.6	1.8	2.6	1.0	0.6	0.2	11.8

Notes: 72 individuals banded, 82% of them in fall. Rare to uncommon from mid-April to mid-October, becoming uncommon during peaks of migration in early May and late September to early October. Usually one breeding pair at MBO during the summer.



Chipping Sparrow, May 2007 (Photo by Barbara Frei)

CCSP: Clay-colored Sparrow / Bruant des plaines (*Spizella pallida*)

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006																	
2007						0.1											0.01
2008																	
2009										0.1	0.3						0.03
Mean						<0.1				<0.1	0.1						0.01

Notes: Very rare, with only four scattered fall records in 2007 and 2009.

FISP: Field Sparrow / Bruant des champs (*Spizella pusilla*)

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006														0.3			0.03
2007																	
2008																	
2009															0.1		0.01
Mean														0.1	<0.1		0.01

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	0.1		0.03	0.1					0.1			0.3	0.3				0.07
2006																	
2007											0.3						0.02
2008																	
2009															0.1		0.01
Mean	<0.1		<0.1	<0.1					<0.1		0.1	0.1	0.1		<0.1		0.02

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006														1			1
2007																	
2008																	
2009																	
Mean														0.2			0.2

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005													1				1
2006																	
2007																	
2008																	
2009																	
Mean													0.2				0.2

Notes: 2 individuals banded. Very rare in both spring and fall. Spring records have been limited to mid-May, while fall occurrences are more irregular, ranging from early August to mid-October.



Field Sparrow, October 2005 (Photo by Marcel Gahbauer)

VESP: Vesper Sparrow / Bruant vespéral (*Pooecetes gramineus*)

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006																	
2007										0.3		0.1					0.04
2008																	
2009																0.1	0.01
Mean										0.1		<0.1				<0.1	0.01

Notes: Very rare, limited to three individuals in spring 2007 and another in late spring 2009.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005										0.1	0.8	0.7	0.6	0.3	0.1	0.4	0.3
2006										0.9		0.7	0.3	0.4	0.3	0.1	0.3
2007										0.6	1.4	3.9	2.7	2.0	0.9		1.1
2008										3.1	4.7	5.3	4.6	2.9	0.1	0.1	2.1
2009										0.9	1.1	1.3	1.3	1.0	1.0	0.1	0.7
Mean										1.1	1.6	2.4	1.9	1.3	0.5	0.1	0.9

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005		0.1	0.03									0.2					0.01
2006		0.1	0.05							0.1		0.1					0.02
2007	0.2	0.2	0.2						0.3								0.02
2008		0.8	0.4	0.1								0.7	0.3	0.7	0.3		0.2
2009																	
Mean	<0.1	0.2	0.1	<0.1					0.1	<0.1		0.2	0.1	0.1	0.1		0.05

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006										1		1					2
2007												2	1		2		5
2008										1		1					2
2009																	
Mean										0.4		0.8	0.2		0.4		1.8

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006										1		1					2
2007									2								2
2008												3	2	3	1		9
2009																	
Mean									0.4	0.2		0.8	0.4	0.6	0.2		2.6

Notes: 22 individuals banded. Uncommon in spring, beginning in mid-April and tapering off by late May, with a peak at the beginning of May. Rare and irregular in fall, mostly from mid-September to mid-October. Many spring records pertain to singing males in the field adjacent to MBO, while almost all fall records are of birds caught and banded. None observed in fall 2009.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005								0.2	0.7	1.3	1.3	0.4					0.4
2006	1.4					0.3		0.3	3.7	5.3	7.1	2.9					1.9
2007	0.1					0.02											
2008	0.3					0.08		0.1	1.1	14.0	1.7						1.7
2009								0.5	0.1	2.9	0.1						0.4
Mean	0.4					0.1		0.2	1.1	4.7	2.0	0.7					0.9

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005														2.0	5.7	11.9	1.5
2006													0.6	0.3	1.9	0.1	0.2
2007													0.4	2.3	3.3	2.7	0.7
2008							0.1						0.3	0.4	0.7	0.4	0.2
2009													1.0	0.6	2.3	7.9	0.9
Mean							<0.1						0.5	1.1	2.8	4.6	0.7

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005										4	3	1					8
2006	1					1		1	5	3							9
2007																	
2008										23							23
2009										1	1						2
Mean								0.5	2.5	6.2	0.8	0.2					8.4

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005														1	5	20	26
2006													3		2		5
2007													2	10	9	5	26
2008													1	3	1	3	8
2009													5	1	9	17	32
Mean													2.2	3.2	5.2	9.0	19.4

Notes: 140 individuals banded. Uncommon migrant in the first half of spring, peaking in mid/late April. Uncommon fall migrant, usually present only from mid-October to early November, peaking near the end of October. Fall numbers show a strong two-year cycle, with mean abundance 5 times greater and number banded 4 times greater in odd-numbered years. Conspicuous by its absence in spring 2007, following one of the low fall cycles.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005								13.5	17.3	14.4	15.3	17.7	12.0	12.4	11.9	13.4	14.2
2006							6.7	17.1	21.0	19.1	15.0	14.3	13.4	10.0	11.3	10.0	13.8
2007	0.1	0.1			0.1	0.1	7.0	8.9	6.4	24.1	14.9	16.9	12.7	9.1	8.0	5.7	11.4
2008	0.4					0.1	1.0	7.0	13.0	20.0	11.1	11.7	12.3	9.0	8.0	8.6	10.2
2009					0.6	0.2	10.0	12.7	11.4	16.6	13.4	8.1	9.6	7.9	6.9	6.7	10.3
Mean	0.1	<0.1			0.2	0.1	6.2	11.8	13.8	18.8	13.9	13.7	12.0	9.5	9.2	8.9	12.0

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	9.9	10.6	10.2	20.9	12.9	13.6	9.4	8.6	10.4	8.1	17.6	14.0	17.2	7.7	2.3	2.3	11.1
2006	8.4	16.4	13.0	35.0	47.4	40.9	32.9	22.9	20.0	17.9	12.6	14.7	12.7	21.4	6.9	3.9	22.2
2007	7.0	14.3	10.7	25.0	18.0	9.9	10.4	5.9	8.0	7.7	9.1	8.6	11.3	7.7	6.9	3.4	10.1
2008	6.0	9.2	7.6	13.1	9.0	7.4	7.6	4.4	5.3	5.3	10.0	14.9	15.9	16.6	11.0	4.9	9.6
2009	3.0	2.0	2.5	12.4	12.7	11.6	10.7	5.7	9.9	12.4	16.3	25.9	15.6	10.4	4.3	2.4	11.6
Mean	6.9	10.5	8.8	21.3	20.0	16.7	14.2	9.5	10.7	10.3	13.1	15.6	14.5	12.8	6.3	3.4	12.9

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005								5	3	7	7	2		2	3	1	30
2006								2	5	7		1	2	1	1	1	20
2007					1	1				9			3		2		14
2008										8	2		1	1	2	1	15
2009										1	6	2	1		2	1	13
Mean					0.3	0.3		3.5	4.0	6.4	3.0	1.0	1.4	0.8	2.0	0.8	18.4

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005		4	4	17	17	23	13	24	13	23	27	18	25	9	5	1	215
2006		10	10	34	78	49	27	16	21	16	10	13	11	6	13	8	302
2007		3	3	57	20	9	9	6	7	9	11	15	18	17	16	4	198
2008				22	12	10	8	7	11	10	13	24	32	32	13	5	199
2009	3	7	10	25	32	37	30	10	10	34	28	50	33	12	12	9	322
Mean	0.6	4.8	5.4	31.0	31.8	25.6	17.4	12.6	12.4	18.4	17.8	24.0	23.8	14.8	11.8	5.4	247.2

Notes: 1356 individuals banded, 91% of them in fall. The only species banded at least once each week in fall every year. Common from late March or early April through to mid-October, tapering off to uncommon until the end of the month, and then rare in early winter; one of only 8 species observed weekly throughout all spring and fall migration periods. Spring migration typically peaks just after mid-April. Fall is less predictable, usually with one peak in the first half of August, largely comprising local juveniles, and another in late September of early October as the biggest push of migrants moves through.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005													0.1	0.4			0.07
2006												0.1		0.9			0.1
2007													0.7	0.3		0.1	0.1
2008												0.3	0.7	0.4	0.3		0.2
2009												0.3	0.1	0.1	0.1		0.07
Mean												0.1	0.3	0.4	0.1	<0.1	0.1

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005									0.1	0.6	1.1			0.5	0.1	0.1	0.2
2006								0.6	2.9	0.6	1.1	0.4	0.1	0.4	0.3		0.5
2007					0.1	0.6		0.1	0.6	0.9	0.6	0.6	0.9	0.3			0.4
2008								0.3	0.9	0.3	0.9	1.9	0.3	0.3			0.4
2009										1.1	2.3	0.9	0.9	0.7			0.5
Mean					<0.1	0.1		0.2	0.9	0.7	1.2	0.7	0.4	0.4	0.1	<0.1	0.4

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005													1	1			2
2006												1		4			5
2007													4	1		1	6
2008												2	2	3	2		9
2009												1	1	1	1		4
Mean												0.8	1.6	2.0	0.6	0.2	5.2

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005										4	7						11
2006								1	6	1	5	2	1	1			17
2007								1	4	2	3	4	4	2			20
2008								1	3	2	2	5	1	1			15
2009										5	4	2	2	2			15
Mean								0.6	2.6	2.8	4.2	2.6	1.6	1.2			15.6

Notes: 104 individuals banded, 75% in fall. Rare spring migrant, limited entirely to May, with a small peak mid-month. In both seasons, the majority of records are due to birds being caught and banded; spring migrations very rarely sing. Fall migration is somewhat more spread out, ranging in most cases from early September to mid-October, with a peak in late September.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005								0.5	1.9	3.9	6.3	4.3	2.6	2.7	1.4	1.2	2.8
2006								0.2	1.0	4.7	3.7	3.0	2.7	2.7	2.3	1.4	2.2
2007										0.4	1.3	1.6	0.6	0.6	0.3	0.1	0.5
2008										2.9	3.7	3.6	3.4	3.1	1.4	0.9	1.9
2009										2.0	3.9	4.0	2.9	1.9	1.4	0.7	1.7
Mean								0.1	0.6	2.8	3.8	3.3	2.4	2.2	1.4	0.9	1.8

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	2.0	2.4	2.2	2.6	2.4	1.3	1.3	0.9	1.3	2.0	3.3	2.3	2.7	2.7	0.4	0.1	1.8
2006	1.0	2.1	1.6	4.3	1.4	1.3	0.3	0.4	1.3	1.6	1.3	1.6	1.4	0.7	0.9		1.7
2007	0.3		0.2	2.0	1.9	0.7	0.7	0.6	0.6	0.4	1.3	4.0	3.1	2.0	1.1	0.6	1.5
2008	2.4	1.8	2.1	3.0	1.4	1.1	0.3	0.9	1.1	0.9	2.4	1.6	0.7	0.7	0.3		1.1
2009	1.3	0.3	0.8	1.7	1.3	1.3	0.6	0.3	0.1	1.3	1.3	2.7	2.9	3.1	0.3	0.6	1.3
Mean	1.4	1.3	1.4	2.7	1.7	1.1	0.6	0.6	0.9	1.2	1.9	2.4	2.2	1.8	0.6	0.3	1.5

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005								1	1	4	4	4	1	3	1		19
2006										3	2	1	1	2	2		11
2007										2				1			3
2008										7	6	2	2	1			19
2009										1	6	1		2		1	11
Mean								0.5	0.5	3.4	3.6	1.6	0.8	1.8	0.6	0.2	12.6

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005		2	2	4	6	2	2	2		8	6	2	12	5	2	1	52
2006		4	4	4	3				1	4	2	1	7	3	3		28
2007				10	3	3	1	2		2	7	13	10	5	4	2	62
2008				6	4	1	1	2		2	4	4	2	2			28
2009		2	2	4	2	1		1	1	7	6	7	9	6	1	3	48
Mean		1.6	1.6	5.6	3.6	1.4	0.8	1.4	0.4	4.6	5.0	5.4	8.0	4.2	2.0	1.2	43.6

Notes: 289 individuals banded, 75% of them in fall. Uncommon from mid-April to mid-August, then rare for a few weeks until more northern migrants arrive, making Swamp Sparrow uncommon again until mid-October, after which it becomes rare with the last few sightings in the last week of October. The spring peak is usually around the end of April, while the two fall peaks are in the first week of August for local birds and the first week of October for migrants. There appears to be a weak two-year cycle in fall, with on average twice as many banded in odd-numbered years. Swamp Sparrow was unusually scarce in spring 2007, the same year that Fox Sparrow was completely absent in spring.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005										2.0	23.8	5.6	7.7	1.4	0.1		4.4
2006	0.4	0.1	0.1				0.1	0.2	3.6	10.0	13.4	16.7	4.0	3.4	0.4	0.3	5.3
2007	0.1						0.04		0.1	1.0	8.4	4.9	3.3	1.6	1.0		2.0
2008	0.8						0.2		0.1	6.0	19.9	11.3	17.6	2.3	2.6	0.1	6.0
2009	0.1						0.03			2.0	6.7	5.1	2.0	0.6	0.3		1.7
Mean	0.3	<0.1	<0.1				0.1	<0.1	0.8	4.2	14.4	8.7	6.9	1.9	0.9	0.1	3.9

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	0.3		0.2	0.6	2.7	2.4	3.0	3.7	17.1	28.6	54.3	88.2	111.7	45.0	23.7	16.6	28.8
2006		0.3	0.2	5.1	0.9	2.6	4.0	8.1	10.3	14.1	18.0	32.0	25.0	21.1	23.9	11.0	13.6
2007				1.3	0.9	0.6	0.7	4.4	11.1	31.9	40.7	60.1	38.3	35.6	17.0	7.6	19.2
2008		0.2	0.1	1.1	0.4	1.1	0.4	1.6	4.3	8.1	28.7	27.1	56.6	26.1	14.0	5.9	13.5
2009				2.1	3.6	3.1	4.4	4.1	10.1	18.9	37.0	68.3	103.0	62.9	22.6	21.9	27.9
Mean	0.1	0.1	0.1	2.0	1.7	1.9	2.5	4.4	10.6	20.3	35.7	55.1	66.9	38.1	20.2	12.6	20.6

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005										2	16	5	6				29
2006	2						2		1	6	4	18	7	4		2	42
2007												7	5	1			13
2008										8	27	13	29	2			79
2009										2	7	16	7	2			34
Mean	0.7						0.5		0.5	3.6	10.8	11.8	10.8	1.8		0.4	39.4

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005				3	6	4	3	1	18	44	86	104	67	10	3	5	354
2006				4	2	2	4	2	13	18	14	57	31	13	19	8	187
2007				2	3			2	21	32	60	96	54	25	21	2	318
2008				7	1		3	4	13	20	50	74	100	25	15	3	315
2009				11	11	1		2	18	31	62	100	103	32	35	22	428
Mean				5.4	4.6	1.4	2.0	2.2	16.6	29.0	54.4	86.2	71.0	21.0	18.6	8.0	320.4

Notes: 1801 individuals banded, 89% of them in fall. Fairly common in spring, common during the peak of migration around the end of April. Uncommon in August, becoming common for most of September and October, and abundant during the peak of migration in late September and early October. A few usually linger into November, and there were later winter records in 2005-2006.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005									0.3					0.7	0.4	0.3	0.2
2006		0.1					0.02					1.3	3.6	2.4	0.3	0.1	0.8
2007												0.1	2.0	0.6	0.4		0.3
2008												3.4	8.1	3.4	0.7		1.6
2009											0.1	0.3	1.0	4.1	0.1		0.6
Mean		<0.1				<0.01			0.1		<0.1	1.0	3.1	2.2	0.4	<0.1	0.7

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005											0.4	5.0	5.7	5.8	1.4	0.3	1.3
2006											3.6	17.9	12.1	9.0	5.1		3.7
2007											0.6	10.9	20.3	15.0	1.4	0.4	3.7
2008											1.0	4.3	13.1	3.6	0.9	0.3	1.8
2009											0.9	8.7	42.9	17.6	0.7	0.3	5.5
Mean											1.3	9.4	18.8	10.2	1.9	0.3	3.2

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005													1	3	1		5
2006												3		5			8
2007													3	3			6
2008												3	15	10	2		30
2009													5	20			25
Mean												1.2	4.8	8.2	0.6		14.8

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005											2	6	4	7	1		20
2006											2	27	17	2	2		50
2007											2	22	35	18	3		80
2008											6	7	19	7			39
2009											1	14	46	9		1	71
Mean											2.6	15.2	24.2	8.6	1.2	0.2	52.0

Notes: 334 individuals banded, 78% of them in fall. Uncommon in spring, mostly around the mid-May peak of migration. Fall migration also fairly concentrated, beginning just after mid-September and ending by late October, with a distinct peak in the first week of October. One winter record from December 2005. Much more common in spring in the past two years compared to 2005-07.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005	4.5	6.0		5.0	3.5	4.6		3.3	1.6	2.0	1.3	0.3					0.9
2006	9.6	16.5	15.2	7.7	8.3	11.7	12.0	20.0	22.6	24.4	24.7	6.1					10.9
2007	5.9	5.4	8.7	6.7	7.1	6.5	4.4	3.0	0.3	3.0	0.7	0.1					1.2
2008	3.6	1.5		1.7		1.9	4.1	2.6	4.9	11.4	3.4	0.6					2.7
2009	8.9	10.0	7.0	3.9	5.1	6.0	6.6	5.0	2.3	15.1	0.7	0.1	0.1				3.0
Mean	6.5	7.9	7.7	5.0	6.0	6.1	5.4	6.8	6.3	11.2	6.2	1.4	<0.1				3.7

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005								0.3	0.7	0.7	1.3	5.2	29.0	49.3	57.4	63.1	15.5
2006												0.3	2.6	6.3	8.6	10.7	2.2
2007									0.4	1.0	1.0	4.1	29.3	22.4	36.6	9.6	8.0
2008										0.9	1.1	2.9	9.1	20.6	36.0	48.4	9.2
2009										0.3	0.9	1.9	22.3	33.7	37.1	71.1	12.9
Mean								0.1	0.2	0.6	0.9	2.7	18.5	26.5	35.1	40.6	9.6

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005	13	3		2	2	20			1		3	1					5
2006	26	6	17	3	2	54		3	20	9	14	2					48
2007	7	3	1		6	17											
2008										9							9
2009										8	1	1					10
Mean	15.3	4.0	9.0	2.5	2.3	22.8		1.5	10.5	5.2	3.6	0.8					14.4

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005								2		2	3	17	34	32	22	79	191
2006												1	3	5	15	9	33
2007									2	3	1	6	44	29	38	4	127
2008										1	1	10	23	53	54	94	236
2009										3	7	21	46	109	175	361	
Mean								0.4	0.4	1.2	1.6	8.2	25.0	33.0	47.6	72.2	189.6

Notes: 1111 individuals banded, 85% of them in fall. Fall migrants begin arriving as early as the beginning of September, but remain rare until the end of the month. Juncos are common throughout October, usually peaking in the last week of the month, and remaining fairly common throughout winter and until the end of April, after which they rapidly disappear, with only one observation past the first week in May. On average, spring migration peaks just after mid-April, but a substantial number of individuals may be missed earlier in spring when there is no banding.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005														0.3	0.3	0.4	0.1
2006														0.3	0.1		0.04
2007													0.1	0.3	0.1		0.06
2008													0.1		0.1		0.03
2009													0.1	0.3	0.1	0.3	0.09
Mean													0.1	0.2	0.1	0.1	0.06

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	0.1		0.03					0.1	0.7	0.3							0.09
2006	0.1		0.05		0.1	0.1		0.1	0.1		1.6		0.1				0.2
2007				0.1		0.1	0.3	0.4	0.1		0.3						0.1
2008	0.2		0.1			0.3		0.1									0.03
2009	0.7		0.3	0.1		0.3	0.6	0.3	0.1	0.1							0.1
Mean	0.2		0.1	<0.1	<0.1	0.2	0.2	0.2	0.2	0.1	0.4		<0.1				0.1

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005									3	1							4
2006					1						4						5
2007				1			1		1								3
2008								1									1
2009				1			1										2
Mean				0.4	0.2		0.4	0.2	0.8	0.2	0.8						3.0

Notes: 15 individuals banded, all in fall. Rare spring migrant, mostly occurring in the second half of May. Also rare in fall, but over a longer period of migration extending from early August to mid/late September, without any distinct peak in migration.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005	3.0	2.0		1.0	1.3	1.8		1.2	1.9	1.4	2.8	3.0	2.7	2.1	2.1	1.8	2.1
2006	3.5	5.1	2.2	3.3	2.5	3.3	3.4	4.7	6.7	8.1	7.7	6.3	7.0	5.0	6.3	3.4	5.9
2007	4.8	4.6	3.3	0.2	3.4	3.7	3.7	3.6	3.0	5.1	3.7	4.7	4.6	3.3	3.9	2.9	3.8
2008	2.6	2.5	0.4	0.6		1.5	3.4	2.9	2.3	2.7	3.0	2.7	2.1	2.3	1.6	1.9	2.5
2009	2.7	4.0	1.5	2.1	5.7	3.7	6.6	5.3	3.9	6.4	6.4	5.9	4.4	4.9	4.9	4.6	5.3
Mean	3.3	3.6	1.9	1.4	3.2	2.8	4.3	3.6	3.6	4.7	4.7	4.5	4.2	3.5	3.8	2.9	3.9

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	2.3	2.3	2.3	1.6	2.3	1.6	1.7	2.0	2.9	1.7	3.0	2.8	3.5	3.7	4.1	6.0	2.8
2006	3.8	3.7	3.7	4.1	3.0	3.6	5.0	4.4	4.7	3.9	3.4	2.6	2.3	3.1	3.4	3.3	3.6
2007	1.8	1.5	1.7	3.6	2.9	4.0	3.4	2.1	2.7	3.4	3.0	2.3	2.0	2.6	2.0	3.3	2.9
2008	1.8	2.0	1.9	2.1	2.4	2.0	2.0	2.1	2.0	1.1	2.1	2.1	1.3	3.1	2.4	2.4	2.1
2009	1.0	0.3	0.7	3.4	2.7	1.6	1.1	1.6	1.7	1.3	2.4	1.4	0.6	0.9	1.4	2.9	1.8
Mean	2.1	2.0	2.1	3.0	2.7	2.6	2.6	2.4	2.8	2.3	2.8	2.2	1.9	2.7	2.7	3.6	2.6

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005	5	2				7			1			1		1	2		5
2006	1	1	1	1		4			1		1	2					4
2007	2					2											
2008																	
2009					1	1				3		1					4
Mean	2.7	1.0	0.5	0.5	0.3	3.5			1.0	0.6	0.2	0.8		0.2	0.4		2.6

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005					1		1			1		1	1	2	1	1	9
2006					1		1	1	1					1	2		7
2007				1	1								1	2		2	7
2008				1	1	1							1	3			7
2009	1		1	1		1			1			1			1	2	7
Mean	0.2		0.2	0.6	0.8	0.4	0.4	0.2	0.4	0.2		0.4	0.6	1.6	0.8	1.0	7.4

Notes: 65 individuals banded; one of 5 species banded in every season. One of only 4 species recorded during all observation periods over 5 years. Uncommon throughout the year, and without much variation in abundance since most birds are suspected to be local residents and their offspring.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005												0.3	2.6	3.9	2.1	3.4	1.3
2006												0.1	1.9	4.4	4.3	4.0	1.5
2007												0.4	4.9	5.4	2.6	1.0	1.4
2008											0.1	0.6	3.6	7.9	4.1	1.4	1.8
2009												0.1	3.9	1.1	2.1	1.0	0.8
Mean											<0.1	0.3	3.4	4.5	3.0	2.2	1.4

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	1.6	1.5	1.5	3.4	4.6	3.0	2.0	1.6	1.6	0.6	0.4	0.2	0.2	0.2			1.4
2006	1.3	3.1	2.3	6.6	6.6	2.6	4.9	4.3	2.9	2.4	0.3						2.3
2007	1.0	2.7	1.8	5.1	4.1	3.6	1.4	2.9	0.7	0.9	0.1			0.1			1.5
2008	2.0	1.6	1.8	5.4	5.0	3.4	2.0	1.3	1.6	0.3	0.1	0.3		0.1			1.5
2009	1.0	0.3	0.7	5.0	3.9	4.3	0.9	1.3	1.9	0.6	0.6	0.3		0.1			1.4
Mean	1.4	1.8	1.6	5.1	4.8	3.4	2.2	2.3	1.5	1.0	0.3	0.2	<0.1	0.1			1.6

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005													3	9			12
2006													2	4	3		9
2007													1	3			4
2008													2	5			7
2009													3	2	2		7
Mean													2.2	4.6	1.0		7.8

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005		4	4	2	11	6	6	2		1	1		1				30
2006		3	3	8	17	2	4	5	7	2							45
2007				14	4	8	1	3			1						31
2008				15	8		4	1	1			1					30
2009		5	5	16	5	7		1	1	1	2	1		1			35
Mean		2.4	2.4	11.0	9.0	4.6	3.0	2.4	1.8	0.8	0.8	0.4	0.2	0.2			34.2

Notes: 222 individuals banded, 77% of them in fall. Rare in the first week of May, then uncommon to fairly common through to early September, and tapering off to very rare by early October. Spring migration consistently peaks in mid-May, while fall numbers are highest in the first week of August and decline steadily thereafter. Fall numbers have been very consistent, except for a roughly 50% spike in numbers in 2006.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005														0.1	1.1	2.2	0.3
2006														0.6	0.3	0.1	0.1
2007														0.4	0.3	0.4	0.1
2008														0.6	2.1	0.4	0.3
2009													0.3	1.6	1.9	1.9	0.6
Mean													0.1	0.7	1.1	1.0	0.3

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	0.3	0.6	0.5	2.3	3.6	1.3	0.7	1.7	0.1	1.6	1.3	1.3	0.2				1.1
2006	0.8	2.2	1.6	2.9	1.7	0.7	0.5	2.0	1.9	0.9	0.3					0.1	0.8
2007	0.7	0.5	0.6	0.4	0.3	0.1		0.3	0.4	1.6	1.3	1.3	0.4				0.5
2008	1.2	1.4	1.3	3.4	2.4	1.7	0.9	1.1	1.6	0.1	0.7	1.1	0.9				1.1
2009	0.7	1.0	0.8	4.1	4.0	2.4	1.7	2.1	2.7	3.3	4.6	2.4	0.4				2.1
Mean	0.7	1.1	1.0	2.6	2.4	1.2	0.8	1.4	1.3	1.5	1.6	1.2	0.4			<0.1	1.1

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005														1	2		3
2006															1		1
2007																1	1
2008															4		4
2009														1		1	2
Mean														0.4	1.4	0.4	2.2

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005					13	3		8		7	5	2	1				39
2006		1	1	2	4	1		2	6	2	2					1	20
2007		1	1					2	2	2	2	5					13
2008				4	2	4	3	3	3	2	6	5					32
2009				4	3	2	5	5	6	10	10	6					51
Mean		0.4	0.4	2.0	4.4	2.0	1.6	4.0	3.4	4.2	4.2	3.8	1.2			0.2	31.0

Notes: 168 individuals banded, all but 13 of them in fall. Uncommon from mid-May to mid/late September, rare into the first week of October, and with only one later record from the last week of October. The spring peak on average is in the final week of May, while there appear to be two peaks in fall, one in the first half of August likely reflecting local breeders, and another in the second half of September representing migrants. Unusually scarce throughout 2007.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005												0.1	0.6	0.6	0.6	1.4	0.3
2006													0.3	0.7	0.3		0.1
2007												0.1	1.9	3.9	5.3	2.7	1.4
2008												1.3	3.4	5.4	4.0	2.0	1.6
2009												0.1	1.0	0.6	0.1		0.2
Mean												0.3	1.4	2.2	2.1	1.2	0.7

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	0.1		0.06			0.1											0.01
2006				0.1	8.7	15.3	11.6	8.6	2.4	0.6							3.6
2007	1.3		0.7	0.1			0.7										0.07
2008									0.1								0.01
2009	1.0		0.5														
Mean	0.5		0.3	<0.1	1.7	3.1	2.5	1.7	0.5	0.1							0.7

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006																	
2007																	
2008														1			1
2009																	
Mean														0.2			0.2

Notes: 1 individual banded, in May 2008. Uncommon in spring, with early migrants arriving in the first week of May, and a peak around mid-month. Generally very rare in fall, with none at all observed in 2009. The only exception was in 2006 when migrants were fairly common to common in the fields adjacent to MBO from early August to almost mid-September.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005	2.0					0.6		28.2	20.6	20.3	35.2	28.6	28.1	21.1	23.1	25.2	25.4
2006	1.9	0.1	0.1		0.7	0.6	24.6	37.5	56.4	46.1	79.3	41.4	49.6	36.4	37.6	23.6	43.4
2007	0.4				2.9	0.8	47.1	43.6	31.0	72.6	65.0	96.9	124.6	56.7	48.9	34.9	62.1
2008	3.6					1.2	24.3	41.6	39.6	57.3	49.0	38.9	72.3	54.4	41.3	36.4	45.5
2009				0.1	10.9	4.5	25.1	40.3	30.3	44.3	43.1	36.4	33.0	35.9	28.3	28.0	34.4
Mean	1.6	<0.1	<0.1	<0.1	3.6	1.5	30.3	38.2	35.6	48.1	54.3	48.4	61.5	40.9	35.8	29.6	42.2

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	16.6	14.5	15.5	10.1	25.6	8.1	2.9	0.4	0.3	0.3	19.9	21.0	59.7	50.2	98.4	60.3	26.9
2006	29.4	17.8	22.8	120.1	34.6	0.7	16.7	0.6	3.0	1.1	20.3	7.6	57.0	132.0	174.4	149.6	54.4
2007	42.3	21.5	31.9	71.1	10.6	2.3	0.1	0.4	0.9	5.4	14.9	75.4	36.9	201.9	219.7	699.7	103.0
2008	25.6	10.2	17.9	14.7	2.4	0.9	0.4	7.3		23.9	35.6	31.6	50.3	175.7	275.7	210.9	63.8
2009	10.7	0.7	5.7	6.1	6.4	12.4	7.3	3.9	7.3	15.3	20.7	19.4	60.6	153.3	334.4	465.0	85.6
Mean	24.9	12.9	18.8	44.4	15.9	4.9	5.5	2.5	2.3	9.2	22.3	31.0	52.9	142.6	220.5	317.1	66.7

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005										2	24	21	9	11	5	1	73
2006									4	18	35	42	25	20	21	4	169
2007										4	11	27	65	21	12	6	154
2008										9	11	13	33	20	21	7	114
2009										2	3	5	21	16	2	1	50
Mean									2.0	7.0	16.8	21.6	30.6	17.6	12.2	3.8	112.0

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006		1	1	1											2		3
2007				1											1	1	3
2008														5	1	1	7
2009	22	7	29												30		30
Mean	4.4	1.6	6.0	0.4										1.0	6.8	0.4	8.6

Notes: 633 individuals banded, 88% of them in spring one of 12 species banded more frequently in spring than fall. Common from late March through mid-August, uncommon from mid-August to mid-September, becoming common again, and then abundant throughout October. Spring numbers tend to peak between late April and mid-May. There are two peaks in fall, with the first in early August comprising the last of the local breeders, and the second at the end of October representing the peak of fall migration.

EAME: Eastern Meadowlark / Sturnelle des prés (*Sturnella magna*)

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006																	
2007												0.1		0.1			0.03
2008																	
2009											0.1						0.01
Mean											<0.1	<0.1		<0.1			0.01

Notes: Very rare, with only three spring records ranging from late April to mid-May.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005											0.7	1.3	0.1				0.2
2006		0.3	0.5			0.2		0.2	0.1	0.4	0.1	0.3					0.1
2007	0.2					0.1				0.4	0.4	0.3	0.6				0.2
2008											1.1		0.1		1.0	1.6	0.4
2009							0.1			0.7	0.9	0.4	1.0	0.1			0.3
Mean	<0.1	0.1	0.1			0.1	<0.1	<0.1	<0.1	0.3	0.6	0.5	0.4	<0.1	0.2	0.3	0.2

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005									0.1	1.6	9.6	16.0	7.5	0.7	5.0	0.9	3.0
2006									1.6	1.9	30.3	11.0	5.0	4.7	4.9	1.4	4.7
2007											0.6	9.7	3.1	0.9	7.9		1.7
2008												2.1	2.7	4.3	1.1	0.3	0.8
2009					0.1						5.4	8.9	14.9	10.0	0.9	1.7	3.2
Mean					<0.1				0.3	0.7	9.2	9.5	6.6	4.1	4.0	0.9	2.7

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005											1						1
2006			1			1			1								1
2007																	
2008																	
2009										1	2						3
Mean			0.5			0.3			0.5	0.2	0.6						1.0

Notes: 6 individuals banded, half of them in spring 2009. Rare spring migrant, occurring throughout the season but with a slight peak in late April. Fairly common fall migrant, often joining other blackbirds, and peaking in late September and early October.



Rusty Blackbird, January 2006 (Photo by Marcel Gahbauer)

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005								8.2	0.9	4.1	3.0	3.4	8.9	10.3	7.0	8.0	5.9
2006							0.3	4.8	9.9	5.7	19.0	35.4	23.6	14.3	9.4	5.6	12.9
2007					0.4	0.1	1.6	2.7	0.1	5.3	3.3	8.3	13.4	8.6	9.4	2.7	5.5
2008							1.0	2.3	2.4	38.3	5.3	6.1	8.0	8.7	8.3	4.4	8.5
2009					0.4	0.2	1.6	0.8	5.4	5.4	4.3	8.6	13.9	10.1	9.3	3.9	6.4
Mean					0.2	0.1	1.1	3.8	3.7	11.8	7.0	12.4	13.6	10.8	8.7	4.9	7.8

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	3.5	3.7	3.6	3.7	4.7	10.7	82.0	137.4	427.9	366.3	312.6	150.0	142.0	124.5	132.7	39.9	149.1
2006	5.3	8.4	7.1	12.7	10.1	9.6	48.6	205.0	111.0	65.9	83.6	9.3	21.6	3.0	6.7	9.7	45.9
2007	3.8	3.0	3.4	19.0	14.3	10.3	8.7	10.3	10.4	13.6	48.9	56.0	5.6	20.1	108.4	80.6	31.2
2008	4.6	10.4	7.5	9.0	23.3	19.3	28.4	60.1	42.4	19.1	3.7	26.6	84.6	82.0	104.6	24.7	40.6
2009	4.0	0.7	2.3	42.1	18.1	6.6	6.9	11.9	21.0	13.7	50.0	79.9	24.1	10.0	18.4	2.4	23.5
Mean	4.2	5.2	4.8	17.3	14.1	11.3	34.9	84.9	122.5	95.7	99.8	64.4	55.6	47.9	74.2	31.5	58.1

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005												3	3	6	4	4	20
2006									1		9	24	14	6	4	1	59
2007												5	4	4	5		18
2008													2	1	6	2	11
2009										1		1	12	3	4	1	22
Mean									0.2	0.2		1.8	6.6	4.0	4.6	1.6	26.0

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005		1	1						1		5			1			7
2006								2	33								35
2007															1		1
2008				2	1	1		2				7	8				21
2009	2		2	2								1					3
Mean	0.4	0.2	0.6	0.8	0.2	0.2		0.8	6.8		1.0		1.6	1.8	0.2		13.4

Notes: 200 individuals banded, roughly twice as many in spring as in fall one of 12 species banded more frequently in spring than fall. Uncommon in early spring, becoming common from mid-April to late May, with a variable peak of migration most commonly a bit before mid-May. Common in August, and abundant through most of September and October, tapering off rapidly in the final week of October, with no winter records except for a few returning early in March. One of only 8 species observed weekly throughout all spring and fall migration periods. The fall peak is highly variable, ranging from early September to the third week of October. Fall banded counts were much higher in 2006 and 2008 than in odd-numbered years, but this is not reflected in the observation data, and likely is influenced more by the variability of fall flock behaviour than actual differences in population numbers.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005								4.7	4.9	4.6	5.5	5.3	3.1	3.4	4.6	4.2	4.5
2006		0.1				0.02	0.9	7.0	11.1	13.4	9.7	14.6	6.9	4.9	3.9	2.9	6.5
2007							1.3	1.0	0.4	3.6	0.9	5.1	7.6	3.1	3.6	2.6	2.9
2008									2.3	2.6	5.9	3.0	4.6	3.1	2.9	1.4	2.6
2009							2.4	2.8	3.1	6.0	5.9	5.3	6.3	5.7	3.6	3.1	4.5
Mean		<0.1				<0.01	0.9	3.1	4.4	6.0	5.6	6.7	5.7	5.0	3.7	2.8	4.2

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	2.5	1.8	2.1	1.4	0.3	0.1		0.1			2.1	4.3	0.2	0.2	0.4	0.2	0.7
2006	2.4	0.8	1.5				0.9	0.3			0.1	8.0	0.4	0.1	1.1	0.4	0.3
2007	1.2	1.2	1.2	0.4	0.1						1.0		0.1	0.4	0.7	0.1	0.2
2008	0.2	1.2	0.7	0.3					0.3						0.4		0.08
2009	0.7		0.3	0.1	0.1	0.1			0.1	0.3				0.1	0.6		0.1
Mean	1.4	1.0	1.2	0.4	0.1	<0.1	0.2	0.1	0.1	0.1	0.6	2.5	0.1	0.2	0.6	0.1	0.3

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005											1	2					3
2006									2			3	2				7
2007												1	1		2	1	5
2008													5	1			6
2009									1	2	1	1	1				5
Mean									0.5	0.2	0.6	1.4	1.8	0.2	0.4	0.2	5.2

Notes: 26 individuals banded, all in spring one of 12 species banded more frequently in spring than fall. Fairly common throughout most of spring, with a peak usually between late April and mid-May. Uncommon in summer. Rare through most of fall, in 2005 to 2007 somewhat more regular in October, among mixed blackbird flocks, but irregular throughout fall of 2008 and 2009.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005													3.1	5.6	7.6	7.6	2.6
2006												0.7	5.4	8.7	10.3	6.6	3.2
2007													7.1	7.9	9.3	4.4	2.9
2008												1.7	6.9	10.3	7.6	5.1	3.2
2009												1.1	8.0	8.6	5.6	5.0	2.9
Mean												0.7	6.1	8.2	8.1	5.7	3.0

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	3.4	1.8	2.6	3.3	3.4	4.4	5.9	2.9	1.0	0.4							1.7
2006	5.0	3.8	4.3	9.7	16.1	10.7	9.3	3.3	0.9	0.1	0.1						3.9
2007	6.5	1.5	4.0	7.7	5.4	2.3	2.4	0.4	0.3				0.1				1.4
2008	5.4	1.2	3.3	6.3	5.1	6.0	4.0	2.4	0.1	0.1	0.3						1.9
2009	2.7	1.3	2.0	3.3	4.1	4.9	3.7	0.6	0.1								1.3
Mean	4.6	1.9	3.2	6.1	6.8	5.7	5.1	1.9	0.5	0.1	0.1		<0.1				2.0

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005													3	3	6	2	14
2006													3	6	2		11
2007													8	3	7		18
2008												1	5	7	1		14
2009													7	6	2		15
Mean												0.2	5.2	5.0	3.6	0.4	14.4

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005					6	7	14	4									31
2006	1		1	14	25	18	4	1									62
2007				17	1												18
2008				16	14	9	5	4									48
2009		7	7	7	3	1	1										12
Mean		1.6	1.6	10.8	9.8	7.0	4.8	1.8									34.2

Notes: 251 individuals banded. Fairly common from the second week of May through the end of August, then rapidly dropping off, and very rare beyond mid-September. Spring numbers peak in mid/late May; fall numbers on average peak in the second week of August and decline steadily thereafter.



Baltimore Orioles, May 2008 (Photo by Marie-Anne Hudson)

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005				1.3		0.4											
2006																	
2007																	
2008																	
2009	0.3			2.2		0.6											
Mean	0.1			0.7		0.2											

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																0.1	0.01
2006																	
2007																0.3	0.02
2008																	
2009																	
Mean																0.1	0.01

Notes: Very rare, with only two records during migration monitoring, both in the final week of October, and scattered winter observations.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring	
2005								0.2		0.1	0.8	0.3		0.3	0.1		0.2	
2006											0.1	0.9	0.7	0.1	0.3	0.1	0.2	
2007							0.1	0.6	0.1	0.3	0.1		0.1	0.4			0.2	
2008										0.3	0.6	1.7	0.6	0.1	0.3		0.4	
2009		4.5					0.2			0.4	0.7	0.7	0.3	0.1			0.2	
Mean		0.9					<0.1	<0.1	0.2	<0.1	0.2	0.5	0.7	0.3	0.2	0.1	<0.1	0.2

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005					0.1			0.3	0.1		0.6		1.2	0.7	0.9	0.1	0.3
2006																	
2007				0.3		0.4		0.7	1.0	0.6	1.4	0.9	1.4	0.9	0.4		0.6
2008						0.1	0.1	0.1			0.9	0.1	0.6	0.1	0.6	0.7	0.3
2009					0.3	0.6				0.1		0.3	0.1	0.1	0.3	0.1	0.2
Mean				0.1	0.1	0.2	<0.1	0.2	0.2	0.1	0.6	0.3	0.7	0.4	0.4	0.2	0.3

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005											3			2			5
2006												1	2				3
2007														1			1
2008																	
2009												3					3
Mean											0.6	0.8	0.4	0.6			2.4

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005											1		2				3
2006																	
2007								2	1			2	3	3			11
2008								1			1		2			3	7
2009					1					1		1	1	1			5
Mean					0.2			0.6	0.2	0.2	0.4	0.6	1.6	0.8		0.6	5.2

Notes: 38 individuals banded. Uncommon and relatively irregular in both spring and fall. Spring observations range throughout the season, with on average somewhat of a peak around the end of April and beginning of May. Fall observations are also scattered throughout the whole season, with observations tending to be somewhat more frequent and numerous from late September to mid-October. A single flock in December 2008 represents the only winter observations.

HOFI: House Finch / Roseline familier (*Carpodacus mexicanus*)

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005	21.5	17.5		3.5	3.0	10.5		0.5	0.3	0.3	1.0				0.3	0.2	0.3
2006	4.6	4.3	1.1	0.4	0.4	2.3	0.1			0.3	0.1						0.06
2007	9.6	13.7	12.7	13.5	7.6	10.7				0.1	0.4				0.6	0.1	0.1
2008									0.1	0.6							0.07
2009	0.9	22.5	3.3	2.0	2.7	3.3							0.3			0.1	0.04
Mean	7.3	11.6	4.3	3.9	3.4	5.6	<0.1	0.1	0.1	0.3	0.3		0.1		0.2	0.1	0.1

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	0.2		0.1		0.3		0.6			0.3	0.1	0.2	0.2	1.5	1.6	3.0	0.6
2006				0.1						0.1		0.1					0.03
2007	0.2		0.1	0.4	0.3	0.1	0.3						0.7			0.6	0.2
2008	0.6	0.8	0.7					0.4			0.4			1.9	0.6		0.3
2009				0.1		0.1		0.1	0.1	0.3		0.1			0.3		0.1
Mean	0.2	0.2	0.2	0.1	0.1	<0.1	0.2	0.1	<0.1	0.1	0.2	0.1	0.2	0.7	0.5	0.7	0.2

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005	52	5		1		58											
2006	4		1			5											
2007	16	5				21											
2008																	
2009																	
Mean	24.0	3.3	0.5	0.5		21.0											

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																2	2
2006										1		1					2
2007																	
2008																	
2009																	
Mean										0.2		0.2				0.4	0.8

Notes: 88 individuals banded, all but 4 of them in winter. Rare and irregular throughout spring, summer, and fall, with no consistent patterns of occurrence. Uncommon to common in winters when feeders were stocked, peaking in December, but entirely absent in the winter of 2007-2008 when the feeders were not active.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006																	
2007																	
2008																	
2009			0.5	0.2	0.1	0.2											
Mean			0.1	<0.1	<0.1	<0.1											

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006																	
2007													0.3				0.02
2008							0.1								2.4	0.3	0.2
2009																	
Mean							<0.1						0.1		0.5	0.1	0.4

Notes: Very rare with observations limited to a few scattered observations in fall 2007 and 2008 and late winter 2009.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005	1.3				2.5	1.1											
2006		2.8	9.5	2.7	14.9	5.8											
2007																	
2008	4.8			3.6		2.5											
2009	1.0		15.8	25.9	33.3	21.7			0.1								0.01
Mean	1.4	0.6	6.3	6.4	12.7	6.2			<0.1								<0.01

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																0.6	0.05
2006																	
2007																0.4	0.03
2008																	
2009																	
Mean																0.2	0.02

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005					1	1											
2006			26		15	41											
2007																	
2008																	
2009					21	21											
Mean			13.0		9.3	15.8											

Notes: 63 individuals banded, all in winter. Very rare during migration monitoring periods, with just one spring record on 17 April 2009, and two fall records from the last week of October in 2005 and 2009. Uncommon to common in winter, but highly irregular.



Common Redpoll, January 2006 (Photo by Marcel Gahbauer)

HORE: Hoary Redpoll / Sizerin blanchâtre (*Acanthis hornemanni*)

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006					0.1	0.02											
2007																	
2008																	
2009																	
Mean					<0.1	<0.01											

Notes: A single individual observed among a group of Common Redpolls in March 2006.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005	0.5					0.1											
2006				1.3	1.9	0.6		0.3									0.03
2007																	
2008																	
2009		0.5		13.4	7.1	6.2	0.7	1.7	1.0	5.7	2.7	3.3	0.6	0.4			1.6
Mean	0.1	0.1		2.9	1.8	1.4	0.2	0.4	0.2	1.1	0.5	0.7	0.1	0.1			0.3

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005															1.3	0.1	0.1
2006														0.1			0.01
2007															1.4	2.7	0.3
2008														21.0	4.6	5.1	2.4
2009																	
Mean														4.2	1.5	1.6	0.6

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006				7		7											
2007																	
2008																	
2009					3	3				1	1		1				3
Mean				3.5	0.8	2.0				0.2	0.2		0.2				0.6

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005																	
2006																	
2007																	
2008														14			14
2009																	
Mean														2.8			2.8

Notes: 27 individuals banded. Very rare in spring except in 2009, when lingering winter residents were uncommon until early May and a few sightings continued to mid-May. Uncommon in the last three weeks of October, but irregular, with only one individual observed in fall 2006 and none in fall 2009. Generally rare and irregular in winter, except fairly common to common in February and March 2009.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005	31.8	26.0		3.0	15.8	18.1		7.3	5.9	5.7	11.3	13.0	10.7	12.7	12.1	17.8	10.5
2006	18.2	13.6	5.6	1.4	1.1	8.5	3.3	3.0	6.1	9.7	7.1	17.7	20.9	15.4	21.3	12.7	12.0
2007	4.9	6.1	6.7	0.7	12.1	6.3	2.9	3.3	2.1	14.6	13.0	15.3	19.9	15.7	12.0	10.4	10.9
2008	9.8	2.3	0.4			3.6	0.9	1.9	3.7	6.6	10.9	9.1	15.4	11.7	10.3	11.9	8.2
2009	13.1	14.0	7.8	18.1	4.6	10.4	4.6	3.3	2.9	6.4	8.7	9.6	9.4	10.0	12.9	5.7	7.4
Mean	15.6	12.4	5.1	4.6	8.4	9.4	2.9	3.8	4.1	8.6	10.2	12.9	15.3	13.1	13.7	11.7	9.8

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	8.6	11.4	10.1	15.1	15.0	13.1	8.1	12.4	18.7	23.0	19.7	18.3	22.7	8.8	9.6	6.7	14.8
2006	14.2	16.3	15.4	19.6	21.7	17.7	22.0	19.1	20.9	32.6	14.4	8.3	11.6	7.6	2.7	4.9	13.0
2007	14.3	11.3	12.8	22.7	23.0	23.7	22.6	20.1	25.0	19.4	17.6	14.6	13.7	15.0	10.0	13.3	18.5
2008	8.6	13.6	11.1	17.3	14.9	14.7	10.3	11.6	15.9	13.3	13.9	10.6	13.6	4.9	3.0	2.4	11.2
2009	3.3	1.3	2.3	11.6	13.4	15.7	16.3	12.1	15.6	18.3	20.7	11.3	8.6	1.9	1.6	10.4	12.1
Mean	9.8	10.8	10.3	17.3	17.6	17.0	15.9	15.1	19.2	21.3	17.3	12.6	14.0	7.6	5.4	7.5	13.9

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005	72	21		2	18	113		5	1	4	12	16	7	33	21	12	111
2006	69	20	17	3	2	111			2	4	2	3	8	3	9	1	32
2007	2	5	6		8	21				4	1	6	18	11	8	3	51
2008										8	5	5	6	9	8		41
2009					2	2				2		4	8	13	18	2	47
Mean	47.3	15.3	11.5	2.5	7.5	61.8		2.5	1.5	4.4	4.0	6.8	9.4	13.8	12.8	3.6	56.4

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005						3		2	6	40	5		10	1	11	4	82
2006				1	2	3	7	3	3	14	1	2	4	2	1		43
2007				2	3	1		3	20	4	17	15	16	6	5	2	94
2008				2	2	2	2	1	9	7	4	12	10	1			52
2009		1	1	2	2	7	5	1	2	2	7	3	3		1	1	35
Mean		0.2	0.2	1.4	1.4	3.2	2.8	2.0	8.0	13.4	6.8	6.4	8.6	2.0	3.6	1.4	61.2

Notes: 836 individuals banded, including over 200 in each of spring, fall, and winter, and one in summer (one of 5 species banded in every season). Fairly common to common year-round, and one of only 8 species observed weekly throughout all spring and fall migration periods. Somewhat more abundant in fall than spring, but similar numbers banded in both seasons. Spring migration typically peaks just before mid-May, although the peak for banding is one week later. The fall peak is from mid- to late September, with a noticeable drop-off after the first week of October, despite American Goldfinch being a common winter species at MBO. Especially in spring, American Goldfinch was noticeably more abundant in 2005-2007 than 2008-2009.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005																	
2006									0.1	0.3							0.04
2007																	
2008											0.3						0.03
2009																	
Mean									<0.1	0.1	0.1						0.01

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005													0.5		0.1		0.05
2006																	
2007																0.4	0.03
2008																	
2009																	
Mean													0.1		<0.1	0.1	0.02

Notes: Very rare, limited to five individuals observed in spring 2006 and 2008, and seven individuals in fall of 2005 and 2007.

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

Observed	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005	3.5	0.5		1.5	3.0	2.4		4.3	3.0	3.6	2.2	4.3	1.9	0.7	1.0	2.8	2.6
2006	2.6	1.4	13.5	4.0	5.6	5.3	5.3	7.5	10.4	11.0	11.1	9.4	6.3	3.9	5.1	2.1	6.9
2007	3.8	2.0	1.0	0.5	3.2	2.6	0.9	0.9	1.1	0.9	0.3	3.4	2.6	1.7	3.1	0.9	1.6
2008								0.1		0.1	0.3	0.1					0.07
2009					0.1	0.03								0.1			0.01
Mean	2.0	0.8	3.6	1.2	3.0	2.1	1.6	2.6	2.9	3.1	2.8	3.4	2.2	1.3	1.8	1.2	2.2

Observed	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005	2.1	1.9	2.0	0.7		0.4	0.9				0.4	0.8	0.7	4.8	4.7	8.3	1.7
2006	2.1	0.1	1.0				0.3	0.1			0.1		0.6	0.3			0.1
2007	0.5	0.2	0.3		0.6	0.1		0.3			0.1	0.1	0.1				0.1
2008	0.2		0.1											0.3	0.9	0.1	0.1
2009													0.6			0.1	0.06
Mean	1.0	0.4	0.7	0.1	0.1	0.1	0.2	0.1			0.1	0.2	0.4	1.1	1.1	1.7	0.4

Banded	Nov	Dec	Jan	Feb	Mar	Winter	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Spring
2005	4			1	2	7						1				1	2
2006	1		7		3	11		1	1	1	3	1	1				8
2007	3	1			2	6											
2008																	
2009																	
Mean	2.7	0.3	3.5	0.5	1.8	6.0		0.5	0.5	0.2	0.6	0.4	0.2			0.2	2.0

Banded	Jun	Jul	Summer	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Fall
2005		1	1													2	2
2006														1			1
2007																	
2008																	
2009																	
Mean		0.2	0.2											0.2		0.4	0.6

Notes: 38 individuals banded; one of 5 species banded in every season, and one of 12 species banded more frequently in spring than fall. Very rare throughout the year in 2008 and 2009, in drastic contrast to 2005-2007. Uncommon to fairly common in spring 2005-2007, peaking around the end of April and beginning of May. Uncommon in summer 2005-2007, with usually at least one pair breeding in a Tree Swallow box. Even in 2005-2007, rare and irregular through most of fall, occurring in higher numbers only during the last three weeks of October in 2005. Uncommon to fairly common during the first three winter seasons.

Appendix E: Weather Summaries

Weather can have a significant impact on the operations of MBO in any season, and during spring and fall can also influence the timing and nature of migration. The table below summarizes archived Environment Canada weather data for Montreal (at Trudeau International Airport, 15 km east of MBO). Precipitation reported is rain from late March through the end of November, and snow from December to late March. Seasonal averages (or totals in the case of precipitation) are reported at the bottom of each section. As elsewhere, November and December data pertain to the year before that indicated (e.g. the data for December 2005 can be found in the December 2006 cells).

	Minimum temperature					Maximum temperature					Mean high temperature					Total rain (mm) / snow (cm)				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
Oct 31 – Nov 30	-8.7	-14.2	-4.7	-9.5	-9.8	15.9	17.7	17.5	17.7	17.6	6.6	7.4	7.9	5.2	6.0	88	82	73	48	57
December	-26.7	-22.7	-17.5	-21.3	-21.4	9.5	4.2	11.8	8.7	12.0	-2.7	-2.2	2.4	-3.1	-2.1	50	68	31	113	97
January	-27.7	-18.6	-24.1	-25.0	-28.3	9.3	8.1	11.4	11.3	1.5	-6.4	-0.7	-2.9	-2.0	-8.9	41	54	35	57	72
February	-20.8	-18.8	-23.3	-20.2	-22.5	6.4	6.8	1.8	7.4	7.4	-1.6	-3.2	-6.9	-3.4	-2.3	37	26	30	88	35
March 1 – 27	-17.8	-17.1	-24.3	-15.2	-16.6	9.1	10.4	13.5	7.0	11.4	0.0	1.8	1.1	0.1	3.0	29	4	58	75	3
WINTER	-27.7	-22.7	-24.3	-25.0	-28.3	15.9	17.7	17.5	17.7	17.6	-0.8	0.7	0.4	-0.6	-0.9	245	234	227	381	264
S1: Mar 28 – Apr 3	-0.1	-2.5	-5.4	-10.5	0.3	16.0	22.0	13.5	13.1	16.2	10.3	14.2	9.7	3.9	10.7	45	6	10	9	39
S2: Apr 4 – 10	-2.8	-5.5	-5.2	-1.9	-6.0	16.0	14.9	6.1	15.7	9.5	11.8	7.7	2.8	10.2	6.9	11	19	25	3	26
S3: Apr 11 – 17	-4.1	-0.9	-4.1	-2.5	-3.3	22.6	21.5	7.0	23.7	19.4	14.1	15.9	5.0	10.7	11.7	0	12	19	19	0
S4: Apr 18 – 24	-2.1	3.5	2.3	4.3	-0.2	23.1	24.0	25.8	25.1	19.9	15.8	16.8	19.2	21.8	13.9	45	63	1	3	18
S5: Apr 25 – May 1	3.7	-2.6	1.4	-0.4	0.8	17.8	22.8	15.0	21.3	29.4	13.3	14.7	13.0	15.1	22.2	71	5	16	32	24
S6: May 2 – 8	2.2	-0.2	1.6	1.9	3.6	19.9	21.8	26.2	18.6	20.6	14.4	17.1	18.2	16.4	17.5	3	31	0	18	13
S7: May 9 – 15	-1.2	10.5	14.0	4.7	1.8	27.0	23.8	29.6	25.7	20.5	18.1	19.9	21.4	19.8	17.0	11	32	11	5	17
S8: May 16 – 22	3.4	4.5	2.2	5.0	2.1	19.3	16.8	21.9	21.5	29.0	15.3	13.5	15.7	16.0	18.6	5	85	26	16	18
S9: May 23 – 29	8.2	6.0	9.5	2.9	5.4	22.6	28.1	30.7	22.7	23.7	17.7	23.0	24.2	20.1	18.1	18	2	16	2	28
S10: May 30 – Jun 5	11.7	8.9	6.9	9.5	4.8	30.1	30.8	26.5	23.2	23.5	26.3	23.9	22.4	19.6	18.3	6	39	30	52	10
SPRING	-4.1	-5.5	-5.4	-10.5	-6.0	30.1	30.8	30.7	25.7	29.4	15.7	16.7	15.2	15.3	15.5	215	294	154	159	193
Jun 6 – Jun 30	8.8	8.8	5.5	9.8	5.7	32.7	32.4	32.8	31.1	31.4	26.5	24.3	25.7	25.3	23.5	129	88	41	42	69
July	9.9	12.9	10.5	13.1	10.8	32.8	32.3	31.1	33.0	30.3	27.3	27.5	25.1	26.0	24.2	126	135	106	119	117
SUMMER	8.8	8.8	5.5	9.8	5.7	32.8	32.4	32.8	33.0	31.4	26.9	26.0	25.4	25.7	23.9	255	223	157	161	186
F1: Aug 1 – 7	14.5	12.9	11.7	15.7	11.3	32.1	34.0	32.9	26.8	28.3	28.7	28.5	27.4	24.1	24.5	22	74	38	42	27
F2: Aug 8 – 14	17.8	9.3	11.7	12.4	9.2	30.9	25.5	29.2	25.6	30.0	28.5	23.4	26.0	23.5	27.1	7	8	1	19	7
F3: Aug 15 – 21	8.1	13.4	7.2	9.9	15.4	28.0	29.9	25.7	29.2	32.7	24.6	25.8	22.5	24.5	28.9	19	34	8	15	20
F4: Aug 22 – 28	11.4	8.9	10.7	9.3	7.5	29.5	25.1	28.7	28.8	28.2	25.8	21.4	26.1	25.9	24.0	12	38	22	1	18
F5: Aug 29 – Sep 4	11.6	7.9	9.0	12.2	9.1	28.2	24.4	30.8	30.7	26.2	25.2	20.9	23.9	27.3	22.4	75	14	12	1	10
F6: Sep 5 – 11	6.2	6.3	6.9	6.1	7.6	26.9	25.9	32.4	33.3	26.1	22.5	20.2	23.9	22.5	22.8	29	2	18	21	0
F7: Sep 12 – 18	14.2	6.7	4.4	5.0	6.6	29.4	27.4	21.6	26.8	24.5	24.2	21.1	19.0	21.1	20.2	36	12	8	17	4
F8: Sep 19 – 25	4.4	5.8	10.7	4.0	3.9	25.7	23.2	29.3	25.1	24.6	21.8	17.9	25.8	19.7	20.2	5	24	0	0	16
F9: Sep 26 – Oct 2	5.3	3.7	5.9	6.1	3.3	24.6	21.5	26.5	21.2	18.5	20.1	16.6	20.3	18.1	14.1	42	28	22	14	29
F10: Oct 3 – 9	6.1	1.9	4.3	1.2	7.8	26.7	20.9	25.6	19.6	15.8	20.9	17.0	18.9	14.6	14.3	71	10	17	12	43
F11: Oct 10 – 16	6.9	2.0	1.1	3.7	-2.6	15.1	14.9	16.4	22.6	12.5	13.1	11.8	11.8	17.3	8.3	81	20	12	4	7
F12: Oct 17 – 23	-0.4	-2.5	0.3	-1.8	-3.6	11.5	16.9	25.3	11.3	14.3	9.9	10.1	20.1	9.0	8.9	19	86	58	18	28
F13: Oct 24 – 30	-3.6	-0.9	-3.1	-1.4	-1.3	14.5	8.6	15.8	14.9	13.6	7.9	7.4	12.3	9.6	10.0	28	47	27	62	20
FALL	-3.6	-2.5	-3.1	-1.8	-3.6	32.1	34.0	32.9	33.3	32.7	21.0	18.6	21.4	19.8	18.9	446	397	243	226	229

Appendix F: Foreign recoveries

While the success of migration monitoring does not depend on the recovery of banded birds, such data do provide some interesting insights into the travels of particular individuals. Listed below in taxonomic order are the 14 individuals banded at MBO between 2005 and 2009 that have since been reported elsewhere.

Species	Band number	Date banded	Age	Sex	Date recovered	Location recovered	Distance from MBO / Time elapsed
Sharp-shinned Hawk	1232-58582	5 Aug 08	HY	M	17 Dec 08	Pincourt QC	10 km 4 months
Sharp-shinned Hawk	1272-07831	2 Oct 08	HY	M	30 Nov 08	Pincourt QC	10 km 2 months
Northern Saw-whet Owl	0924-19545	12 Oct 09	ASY	F	15 Nov 09	New Paltz NY	410 km 1 month
Northern Saw-whet Owl	0924-19557	13 Oct 09	HY	F	2 Nov 09	Lamb's Knoll VA	800 km 20 days
Blue Jay	1603-43837	17 Sep 08	HY	U	8 Jun 10	St-Jean-de-Matha QC	115 km 1 year 9 months
Black-capped Chickadee	2490-24914	9 Sep 07	HY	U	6 Nov 07	Lachine QC	15 km 2 months
American Robin	1222-70269	21 Apr 06	SY	F	22 Apr 07	Ste-Anne-de-Bellevue QC	5 km 1 year
American Robin	1232-08355	17 Oct 06	HY	M	1 Oct 09	Ile Perrot QC	10 km 3 years
American Robin	1232-08515	26 Oct 06	HY	M	12 Jul 07	Senneville QC	5 km 8 months
American Robin	1342-00944	22 Oct 09	AHY	F	1 Apr 10	Henderson NC	1080 km 5 months
European Starling	1232-08517	25 Mar 07	AHY	M	12 Dec 08	Harrisville NY	180 km 1 year, 9 months
Yellow-rumped Warbler	2510-81875	30 Sep 06	HY	M	16 Oct 06	Chestertown MD	710 km 16 days
American Redstart	2410-92963	2 Sep 05	HY	F	18 May 10	Laval QC	20 km 4 years, 8 months
American Tree Sparrow	2600-15486	26 Oct 09	AHY	U	22 Apr 10	Lac Megantic QC	240 km 7 months
Red-winged Blackbird	1951-51396	10 May 08	SY	F	31 May 08	Lacolle QC	60 km 21 days

During the same period, 8 birds banded elsewhere have been observed at MBO, as summarized below:

Species	Band number	Date banded	Location banded	Age	Sex	Date recovered	Distance to MBO / Time elapsed
Canada Goose	0998-48777	3 Jul 05	Boucherville QC	HY	M	28 Apr 06	30 km 10 months
Northern Saw-whet Owl	1283-88336	8 Oct 01	Prince Edward Point ON	HY	F	18 Oct 04	290 km 3 years
Northern Saw-whet Owl	0934-86010	1 Jul 08	Whitefish Point MI	SY	F	19 Oct 09	870 km 1 year, 3 months
Northern Saw-whet Owl	0924-37161	5 Nov 08	Bentonville VA	ASY	U	20 Oct 09	820 km 11 months
Traill's Flycatcher	2150-12970	5 Jun 03	Alpena MI	AHY	U	27 May 06	750 km 3 years
Ruby-crowned Kinglet	2410-08206	9 Oct 05	Toronto ON	HY	M	2 May 06	475 km 7 months
Nashville Warbler	2530-77537	14 May 09	Rochester NY	AHY	F	18 May 09	380 km 4 days
American Goldfinch	2330-07413	5 Oct 05	Laval QC	HY	M	18 Nov 05	25 km 1.5 months

Appendix G: MBO Volunteers

Volunteers are essential to the operation of programs at MBO. Between 2005 and 2009, 341 volunteers participated on site, and numerous others have made contributions behind the scenes instead. Volunteers who have participated during all five years are listed in bold, and those who have served as a bander-in-charge are annotated with an asterisk.

Nick Acheson	2007	Gary Clemence	2009	Marcel Gahbauer*	2005-2009
Jessica Adams	2009	Chris Cloutier	2009	Tiffany Gamelin	2007-2008
Josiane Alarie	2009	Amélie Constantineau	2007-2008	Alyssa Gangai	2009
Nadège Allan	2005-2006	Averill Craig	2005-2006	Helen Garland	2005-2006
Chris Alsop	2007	Shawn Craik*	2005-2009	Marie-Hélène Gauthier	2008
Lise Amarasakera	2006	Tiffany Damaglin	2008	Marie-Pierre Gauthier	2009
Alexandre Ancil	2008	Jennifer Cyr-Devine	2005	Nina Gauthier	2009
Sheldon Andrews	2009	Jacinthe Daprato	2006	Chloe Gendre	2009
Evelyn Aponte	2009	David Davey	2008-2009	Marie-Line Gentes	2009
Veronica Aponte	2008-2009	Geneviève D'Avignon	2008	Chris Gibb	2005
Jean Bacon	2008-2009	Anna de Aguayo	2008-2009	Gregor Gilbert	2006
Laura Balanoff	2006	Jessica Deakin	2008	Tiffany Gilchrist	2008-2009
Pierre Bannon	2005-2006	Steven Dedesko	2006	Josée Girard	2006
Lina Bardo	2005-06,2009	Jean De Marre	2009	Raphael Goulet	2006
Marie-Christine Barrette	2005	Alejandro del Peral	2005-2006	Jacinthe Gregoire	2005
Christine Barrie	2009	Diane Demers	2005-2007	Robin Goldstein	2005
Sylvie Bazinet	2007	Jean Demers	2005-2009	Christine Gray	2006-2007
Jean-François Beauchemin	2008	Samuel Denault	2008-2009	Emily Gray	2006-2009
Jean Beaudreault	2005-2009	Andrée-Anne Deschamps	2008	Herb Greenslade	2008
Pierre Beaulé	2009	Victoria Desmarais-Low	2008	Jean Gregson	2009
Mike Beaupré	2009	Cheryl Diamond	2006	Richard Gregson	2009
Louise Bédard	2008	Ross Diamond	2007	Gay Gruner*	2005-2009
Christine Bedra	2006	Diana Dima	2007	Jennifer Gruner	2009
Katrina Bélanger-Smith	2008	Joy Ding	2009	Peter Gruner	2005-2009
Brian Bell	2007-2008	Emilie Dion	2006-2007	Patrick-Jean Guay	2006
Elisa Bernier	2008	Christina Donehower	2005-2006	Joelle Guellet	2007
Melanie Bernstein	2009	Catherine Doucet	2009	Christina Guillemette	2008
Christine Berry	2008	Lena Douris	2005	Peter Hall	2007
David Bird	2005-2009	Tyler Driber	2005	Bana Hamze	2005-2009
Isabelle-Anne Bisson	2009	Amélie Drolet	2009	Jeff Harrison	2007-2009
Susan Black	2006	Melanie Drouin	2007	Kanako Hasegawa	2006
Jose Bnchetrit	2007	Manon Dubé	2006	Isaac Hébert	2007
Elise Bolduc	2005	Andrée Dubois-Laviolette	2005,2007,2009	Lacey Hébert	2007
Bianca Bourdeau	2005	Benoît Duthu	2009	Janina Heim	2008
Martin Bowman	2005-2006	Pierre Duval	2008	Amy Henderson	2006-2007
Mark Brenchley	2008	Simon Duval*	2007-2009	Meggy Hervieux	2006,2008
Sarah Briand	2009	Kate Earl	2006,2008	Annie Hibbert	2005
Jennifer Bridgeman	2006	Bob Edwards	2007-2008	Audrey Hihsigiwi	2009
Kristen Brochu	2007	Matthew Emrich	2009	Vicky Houde	2008
Marcelo Brongo	2009	Jenia Faibusovitch	2009	Lesley-Anne Howes	2008
Chantal Broueou	2008	Luc Farly	2008	Juliane Hudson	2005
Daniel Brown	2005-2006	Kate Farrell	2007	Marie-Anne Hudson*	2005-2009
Duncan Brown	2008	Dominique Fautaux	2007	Keelan Jacobs	2005-2006
Mélisa Brunet	2005	David Fishman	2006-2009	Daniel Jackson	2009
Gilles Burelle	2007-2009	Linda Fishman	2007,2009	Marie-Eve Jacques	2005
Christine Burt	2009	Mike Fleming	2008-2009	Jukka Jantonen	2009
Virginie Cabana-Vaudrin	2008	Nicki Fleming	2008-2009	Stacey Jarema	2008
Leonardo Cabrera	2007	Maura Forrest	2008	Malcolm Johnson	2008-2009
Christine Cadieux	2008	Val Francella	2006-2008	Isabel Julian	2005-06,2009
Marie-Eve Campin	2008	Sarah Fraser	2005-2006	James Junda*	2008-2009
Véronik Campbell	2005-2007	Gérard Fréchette	2006-2007,09	Marie-Melissa Kalamaras	2007-2009
Michèle Carignan	2008	Sara Fréchette-Laflamme	2008	Sharon Kelly	2009
Natalia Castellanos	2006-2008	Barbara Frei*	2005-2009	Tricia Kerr	2005
Sophie Cauchon	2006-2009	Kurt Frei	2007	Kristen Keyes*	2008-2009
Dominic Chambers	2006,2008	Maria Frei	2006-2008	Gillian Kinsman	2006-2008
Victoria Chang	2008	Mike Frei	2005,2007	Demetrios Kobiliris	2007-2008
Anne Chen	2007-2008	Marianne Gagnon	2008	Alessia Kockel	2007-2008

Genki Kondo	2008	Ed Minotti	2009	Clémence Soulard	2005-2009
Julia Kucharski	2005	Sandra Minotti	2006,2009	Cat Spina	2008-2009
Jeremy Labrecque	2006	Julia Mlynarek	2005-2006	Vince Spinelli	2005
Louis-Philip Lafrance	2006	Mahmoud Moghrabi	2009	Laurie St-Onge	2008
Marjolaine Lagacé	2008-2009	Allison Moore	2009	Réal Ste-Marie	2007
Marie-Pier Lambert	2006-2007	Chris Murphy	2005-2009	Stephanie Steeves	2006-2007
Meg Langley	2009	Ted Murphy-Kelly	2009	Alex Stone	2009
Dominique Lantier	2008	Jim Murray	2008-2009	Katie Sullivan	2006
Colette Laprade	2005	Nashat Mustafa	2009	Stephanie Surveyer	2005
Meghan Larivée	2005	Chloé Nadeau-Perrier	2008-2009	Krystal Swift Dumesnil	2007-2008
Gabrielle Laurent	2009	Marie Nicole	2008	Arnaud Tarroux	2005
Lance Laviolette*	2005-2009	Ian Niu	2006	Kim Tendland-Frenette	2005
Meghan Laviolette	2005,2007,2009	Marissa Nolan	2009	Rachel Theoret-Gosselin	2007
Caroline Lecoeur	2006	Ken Nomura	2008	Alain Theriault	2005
Joëlle Lapalme	2007-2009	Mark O'Connor	2006-2007	Raphaëlle Thomas	2009
Noémie Laplante	2005	Robert Oigny	2005-2006	Victor Thomasson	2008
Céline Lecomte	2008	Jennifer Orr	2005	Alexis Thorbecke	2009
Seabrooke Leckie*	2006	Daniel Ouellette	2006	Rodger Titman	2005-2009
Steve Leckman	2006	Daniel Oyama	2006-2007	Gijs van Tol	2005
Melisa Lefebvre	2009	Frederic Paquet	2005	Carine Touma	2008-2009
Marylise Lefevre	2005	Annie-Claude Paradis	2006-2007	Rae Trenchard	2007-2008
Marie-Lise Legaise	2008	Guillaume Passavy	2005	Denis Vachon	2007
Irene Lépine	2006	Jeremy Pauzé	2009	Virginie Vaudine	2008
Helen Leroux	2007-2008	Jennifer Pearson	2007	Rachel Verkade	2005-2007
Steph Letendre	2007	Joe Peck	2008	Kaja Verret-Holding	2009
Stéphanie Levesque	2008	André Pelletier	2006-2009	Matthew von Bornhoft	2009
Alex Liautaud	2007	Julie Pépin	2005-2007	Audrey Wachter	2005-2006
Juliana Lisi	2005-2006	Jérôme Petigny	2007-2008	Guillaume Wachter	2006
Emma Loosigian	2008	Leigh Piercey-Brunet	2007	Roland Wahlgren	2009
Andréanne Lortie	2005	Andrew Plimer	2006-2007	Tegan Wahlgren	2009
Christie Lovat	2008	Majorie Poirier	2005	Maria Waldron	2008
Victoria Lukasik	2005	Kristy Putnam	2005	Sandra Warren	2006-2007
Geneviève Lussier	2007	Fred Racine	2009	Shona Watt	2007
Barbara Macduff	2005-2009	Victor Benjamin Ramos	2009	John Webster	2006
Don Macduff	2005-2009	Greg Rand	2006-2009	Fredella Weil	2008
Alyssa Macleod	2007	Crissy Ranellucci	2005-2008	Mona Wizenberg	2005
Jennifer MacWilliam	2006-2007	Natacha Raymond-Bleau	2005	Davis Wood	2009
Barry Mantal	2008	Limoilou-Amélie Renaud	2005-2006	Sarah Woods	2007
Helen Marchand	2009	Sabrina Richard-Lalonde	2006,2008	James Young	2006
Francine Marcoux	2005-2009	Ian Ritchie	2005-2009	Ryan Young	2009
Melanie Marier	2009	Katleen Robert	2006-2008	Brigitte Zacharczenko	2008
Meghna Marjadi	2009	Mark-André Robert	2007		
Rudi Markgraf	2005	Kate Robinson	2006		
Eve Marshall	2005,2007,2009	Nicole Rose	2005		
Sarah Martinson	2006-2009	Amelie Rousseau	2006		
Dara Mashones	2008	Marie-Claude Roy	2006		
Poonam Maskeri	2006-2007	Emilie Roy-Dufresne	2006-2009		
Laurie Maurais	2006	Brittney Roughan	2007-2008		
Michael Mayerhofer	2005-2009	Michelle Saint-Martin	2005		
Gracey Hlywa Mayta	2008	Christina Saliba	2007		
Sophie Mazowita	2007-2008	France Salvaille	2009		
Melanie McCormack	2008	Audrey Saumure Di Fruscia	2008		
Meaghan McDermott	2009	Kathleen Sary	2008		
Dan McDonough	2009	Helena Scheffer	2006-2007		
Betsy McFarlane	2005-2009	Marylise Schmidt	2008		
Shawn McNamee	2009	Brian Schmucker	2007		
Sandy McNeil	2006	Daniel Schmucker	2007-2009		
Marjorie Mercure	2009	Ted Scodras	2009		
Lynn Miller	2005-2006	Luke Scott	2006		
Christina Miller	2008-2009	Steven Skipper	2005		
Heather Milligan	2007	Jennifer Smith	2008		
Marina Milligan	2007	David Soares	2005		
Richard Milligan	2009	Anna Solecki	2007		
Anthi Mimidakis	2005-2006	Lily Soucy	2009		

Appendix H: Seasonal occurrence of species

The table below summarizes the frequency of all species observed at MBO in each of the time periods throughout the year (weekly in spring and fall, monthly in summer and winter), based on data compiled from 2005 through 2009. The cumulative total number of species observed during each period is listed at the bottom of the chart; note that effort is much more standardized and extensive in spring and fall than in summer and winter, therefore species status estimates are likely to be most accurate during spring and fall. To date only 16 species (Red-tailed Hawk, Rock Pigeon, Mourning Dove, Downy Woodpecker, Hairy Woodpecker, Pileated Woodpecker, Blue Jay, American Crow, Common Raven, Black-capped Chickadee, White-breasted Nuthatch, American Robin, European Starling, Northern Cardinal, Red-winged Blackbird, and American Goldfinch) have been observed during all time periods throughout the year.

Legend:

Very rare	Generally limited to one occurrence (single individual or flock) per period
Rare	Generally occurring in a period in at least two years, but with a mean daily count <1
Uncommon	Generally occurring in a period annually, with a mean daily count between 1 and 4.9
Fairly common	Generally occurring in a period annually, with a mean daily count between 5 and 9.9
Common	Occurring in a period annually, with a mean daily count between 10 and 49.9
Abundant	Occurring in a period annually, with a mean daily count >50

Species	JAN	FEB	MAR	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	JUN	JUL	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	NOV	DEC	
SNGO				Very rare	Very rare	Very rare	Very rare	Very rare	Very rare													Very rare		Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	
BRAN										Very rare																					
CACG										Very rare																					
CANG	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	
WODU			Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	
GADW							Very rare			Very rare		Very rare	Very rare																		
AMWI				Very rare	Very rare					Very rare																					
ABDU				Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	
MALL	Very rare		Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	
BWTE				Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare								Very rare										
NSHO										Very rare		Very rare	Very rare																		
NOPI				Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	
GWTE				Very rare			Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare													Very rare	Very rare	Very rare	Very rare	Very rare	
RNDU					Very rare	Very rare	Very rare	Very rare	Very rare	Very rare																					
GRSC											Very rare																			Very rare	
LESC																															
WWSC											Very rare																				
HOME				Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	
COME				Very rare			Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	
RBME														Very rare											Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	
RUGR	Very rare		Very rare	Very rare																											
COLO							Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	
PBGR						Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	
NOGA																															
DCCO				Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	
AMBI							Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	
GBHE				Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	
GRHE				Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	
BCNH							Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	
TUVU				Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	
OSPR							Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	
BAEA				Very rare			Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	
NOHA				Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	
SSHA	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	
COHA	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	Very rare	
NOGO																															

Species	JAN	FEB	MAR	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	JUN	JUL	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	NOV	DEC		
RSHA																																
BWHA																																
RTHA																																
RLHA																																
GOEA																																
AMKE																																
MERL																																
PEFA																																
VIRA																																
SORA																																
COMO																																
SACR																																
SEPL																																
KILL																																
SPSA																																
SOSA																																
GRYE																																
LEYE																																
LESA																																
DUNL																																
WISN																																
AMWO																																
RBGU																																
HERG																																
ICGU																																
GBBG																																
CATE																																
BLTE																																
ROPI																																
MODO																																
YBCU																																
BBCU																																
EASO																																
GHOW																																
BDOW																																
GGOW																																
LEOW																																
NSWO																																
CONI																																
CHSW																																
RTHU																																
BEKI																																
YBSA																																
DOWO																																
HAWO																																
YSFL																																
PIWO																																
OSFL																																
EAWP																																
YBFL																																
TRFL																																
LEFL																																
EAPH																																
GCFL																																
EAKI																																
NSHR																																
BHVI																																
WAVI																																

Species	JAN	FEB	MAR	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	JUN	JUL	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	NOV	DEC	
PHVI																															
REVI																															
BLJA																															
AMCR																															
CORA																															
HOLA																															
PUMA																															
TRES																															
NRWS																															
BANS																															
CLSW																															
BARS																															
BCCH																															
BOCH																															
RBNU																															
WBNU																															
BRCR																															
CARW																															
HOWR																															
WIWR																															
SEWR																															
MAWR																															
GCKI																															
RCKI																															
BGGN																															
EABL																															
TOSO																															
VEER																															
GCTH																															
BITH																															
SWTH																															
HETH																															
WOTH																															
AMRO																															
GRCA																															
NOMO																															
BRTH																															
EUST																															
AMPI																															
BOWA																															
CEDW																															
SNBU																															
BWWA																															
GWWA																															
TEWA																															
OCWA																															
NAWA																															
NOPA																															
YWAR																															
CSWA																															
MAWA																															
CMWA																															
BTBW																															
MYWA																															
BTNW																															
BLBW																															
WPWA																															
YPWA																															

Species	JAN	FEB	MAR	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	JUN	JUL	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	NOV	DEC	
PIWA																															
BBWA																															
BLPW																															
BAWW																															
AMRE																															
OVEN																															
NOWA																															
CONW																															
MOWA																															
COYE																															
WIWA																															
CAWA																															
EATO																															
ATSP																															
CHSP																															
CCSP																															
FISP																															
VESP																															
SAVS																															
FOSP																															
SOSP																															
LISP																															
SWSP																															
WTSP																															
WCSP																															
SCJU																															
SCTA																															
NOCA																															
RBGR																															
INBU																															
BOBO																															
RWBL																															
EAME																															
RUBL																															
COGR																															
BHCO																															
BAOR																															
PIGR																															
PUFI																															
HOFI																															
WWCR																															
CORE																															
HORE																															
PISI																															
AMGO																															
EVGR																															
HOSP																															

COUNT OF SPECIES OBSERVED DURING EACH TIME PERIOD:

V. Rare	8	5	15	12	9	11	17	21	28	31	20	24	27	17	16	34	27	23	22	18	25	19	18	22	25	17	24	21	13	10	
Rare	15	14	12	21	35	35	38	44	53	51	50	59	53	35	35	41	42	46	51	54	53	55	50	45	46	38	28	33	27	19	
Uncom.	6	8	10	9	9	11	19	18	23	32	37	28	24	20	19	21	25	32	27	28	29	25	26	26	20	18	16	12	7	4	
F. com.	5	4	5	4	6	5	8	7	9	8	13	9	7	5	6	7	7	6	8	7	4	6	4	3	3	3	7	5	5	5	
Common	3	3	4	7	7	6	8	9	7	10	8	9	7	3	3	7	7	7	7	5	8	8	10	9	8	13	6	6	5	5	
Abundant	-	-	-	1	1	2	3	2	3	1	-	-	-	-	-	-	-	-	-	-	2	2	2	3	4	8	2	6	6	-	-
TOTAL	37	34	46	54	67	70	93	101	123	133	128	129	118	80	79	110	108	114	115	114	121	115	111	109	110	91	87	83	57	43	