BRUCE PENINSULA BIRD OBSERVATORY

THE VOICE OF BIRDS ON THE BRUCE

MIGRATION MONITORING AT CABOT HEAD

FALL 2019

by

Stéphane Menu, Ph.D.
121 Sunset Boulevard
Ontario, N0H 2T0
stefmenu@gmail.com

prepared for

BRUCE PENINSULA BIRD OBSERVATORY

Novmber 2019

Table of contents

Citation:
Menu, S. September 2019. Migration Monitoring at Cabot Head, Fall 2019. Unpublished report for Bruce Peninsula Bird Observatory

Preface

Cabot Head is a promontory of the northeast headland of the upper Bruce Peninsula in south-central Ontario. Cabot Head Research Station (CHRS) is situated on the western side of Wingfield Basin (at 45°15'N, 81°18'W) near the community of Dyer's Bay. In 2001, Cabot Head was designated as an Important Bird Area (IBA) by Birdlife International for its significant concentrations of migratory bird species. Both Ontario Parks and Bruce Peninsula Bird Observatory (BPBO) manage the Cabot Head Research Station.

The Breeding Bird Survey (BBS) is the principle method for monitoring bird populations in the United States and southern Canada. However, breeding ranges of many species in northern Canada are inaccessible to roadside surveys and are therefore poorly monitored by the BBS method. The Canadian Migration Monitoring Network (CMMN) is a nation-wide, Bird Studies Canada-led initiative, intended to assess changes in bird populations during migration. There are 25 stations across Canada where data are being collected for each bird species during the fall and fall migrations, typically through a standardized capture and observation protocol. Through continuous data collection since 2001, BPBO has demonstrated that Cabot Head is a significant site for monitoring migratory landbirds. In recognition of its importance and established migration monitoring effort, BPBO became a member of the CMMN in fall 2003.

BPBO was incorporated as a non-profit charitable organization in 2001 to initiate and direct ornithological assessments and monitoring at Cabot Head and the surrounding areas. Migration monitoring has been the primary focus of bird research at Cabot Head since 1998. This document reports on results of the fall 2019 migration monitoring season at the CHRS.

Executive Summary

In this document are summarized the results of migration monitoring at Cabot Head in fall 2019. Fieldwork began on August 15 and ended on October 31 for a total of 78 consecutive days of coverage. A total of 133 species were detected during the monitoring period. A complete list of all species observed, with season Estimated Totals, days with observation, maximum and minimum daily totals, is provided in appendix I (as Table 5). For a casual view on the fall 2019 season, an edited version of the blog is reproduced in Appendix II. A total of 1018 birds of 68 species were banded and 100 birds of 18 species were recaptured. Recapture data suggest that overall stopover rates at Cabot Head are low.

The defining characteristic of fall 2019 was a slow migration overall, reflected both in low numbers of birds banded and in daily observations. Bad weather, mostly strong winds, sometimes accompanied by rain, completely precluding banding for 12 days during the season (quite above the 2003-2018 average of 9 ± 5 first). On the other hand, complete daily coverage for banding (i.e. 90 mist net hours, or six hours for all the 15 nets) was also above average and happened in 46% of the days during the season (36 out of 78 days). In fall 2019, the banding total of 1018 birds was the lowest ever, not far below the 1037 birds banded in 2017 (2002 - 2018 average of 1664 ± 333 banded birds). Almost half (49%) of the banding total is made by four species: Golden-crowned Kinglet, (about 24% of the total), American Redstart, Myrtle Warbler, and Ruby-crowned Kinglet (10%, 8%, and 7% respectively). There were only eight days with banding totals over 30 birds, including just two over 50 birds (53 on October 8 and 71 on October 14). Of the 36 days with full banding coverage (90 mist net hours), banding totals were less than ten birds in eight days and totals were between ten and 19 in 17 days! On September 21, 39 species were detected, the highest diversity of the fall. A new species, American Golden Plover, was observed for the first time ever at Cabot Head, though outside the normal migration monitoring period, in the afternoon of August 24.

The 2019 fall migration monitoring season was a success thanks to the efforts of the twelve volunteer field biologists who contributed their time to this project.

1. Methods

The migration monitoring program at Cabot Head like all CMMN stations follows a field protocol as it is essential for the production of population indices that data collection be consistent over the long term. At CHRS, fifteen mist nets are operated for six hours starting 30 minutes before sunrise, weather permitting. Personnel also complete a census done for one hour along a fixed route starting an hour after sunrise, where all birds seen or heard are recorded. Supplemental surveys such as visible migration counts and bay watches are completed when circumstances permit, but casual observation occurs all throughout the count period of seven hours.

2. Season Summary

Coverage

Fieldwork for fall migration monitoring began at CHRS on August 15 and ended on October 31, for a total of 78 consecutive days. Census and casual observation were performed every day (except during intense rain). Banding is more affected by weather and there was an above-average total of 14 days without any banding. Across the season, 30% of mist netting coverage (in hours) was lost. The number of days with complete coverage (i.e. 15 nets open for six hours) was above average (36 out of 78, i.e. 46%, compared to an average of 41% ± 11; Fig.1).

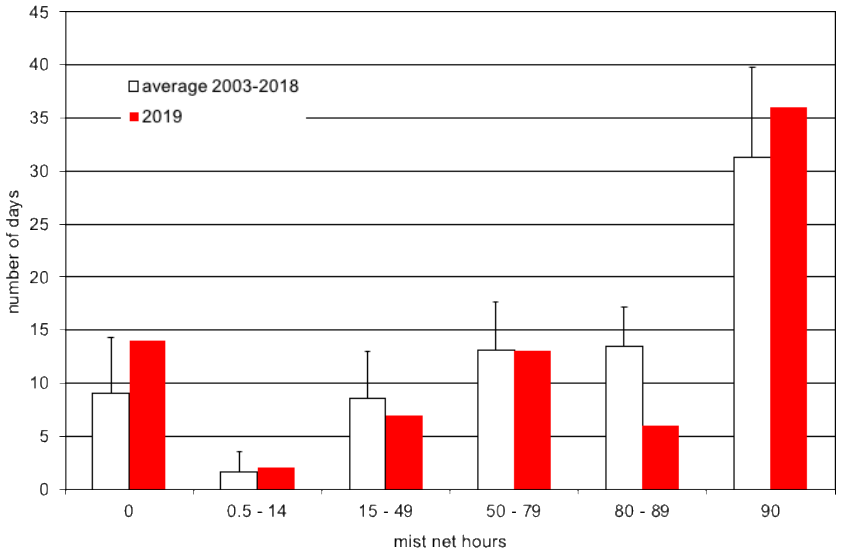

Figure 1. Coverage (in mist net hour) at CHRS, fall 2019.

Weather

Weather in fall 2019 was notably windy and wet. There were 17 days with precipitation, often heavy and lasting all day, other times in the form of short showers, distributed throughout the season. Rain tremendously affects migration, grounding birds and impacting their foraging abilities. It also precludes any banding, for birds' safety. Periods of high wind occurred quite often this fall all throughout the season: 56% of days experienced winds of at least 5 on the Beaufort scale. These strong winds did not always last during the entire morning but they nonetheless affected banding operations, as nets in their paths had to be closed and they were often accompanied by rain.

With rain, wind is a major factor that influences migration. It is difficult to accurately quantify such a dynamic component of the weather, especially because wind strength and direction are recorded only at the start and end of the count period. To characterize wind strength (on the Beaufort scale) and direction, we considered only the strongest wind during the count period of seven hours. Undoubtedly, this method would tend to over-represent strong winds. However, strong winds affect migration tremendously and their effect could probably be felt before they develop into a full windstorm. This fall, strong winds (at least five on the Beaufort scale) were predominantly from the South (39% of the days with strong wind) and occurred on 44 days (56% of the season). Another 31 days (40%) experienced moderate wind (three to four on the Beaufort scale). Therefore, most of the monitoring period experienced strong to moderate winds (Fig.2). North wind occurred much less frequently than winds from other directions this fall, with four days of strong North wind in October and one in September. Most of the strong winds came from the East and South, often accompanied with rain, conditions detrimental to migration. Both during nocturnal migration and diurnal foraging flights, winds can induce migration drifts in birds: Cabot Head being the northeast promontory of the Bruce Peninsula, an East wind has thus the potential to "push" birds away from it. Periods of predominantly East winds (especially being moderate to strong) throughout the season may have been a factor in the low levels of capture this fall.

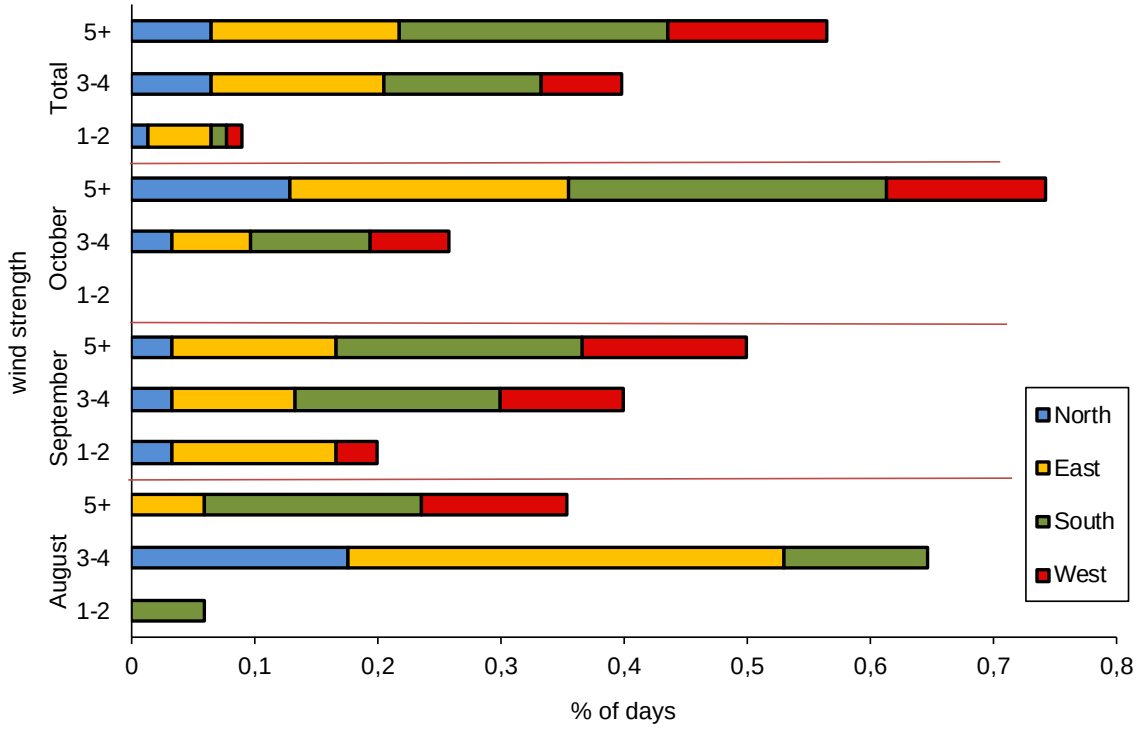

Figure 2. Wind pattern (strength on the Beaufort scale, direction and proportion of time) at CHRS, fall 2019.

Migration Monitoring

Overview

Migration at Cabot Head in fall 2019 was, in general, slow across all taxon and throughout the season. Numbers of birds observed or banded were below average for most species, with a few exceptions. It appears that that was the situation across much of the northeast, from Québec to Massachusetts, and all across Ontario. There are multiple factors influencing bird populations, with weather and food availability likely paramount. Spring 2019 was cold and wet over a broad swath of northeast North America, which could have resulted in breeding failures. It was however followed by an abundance of food in the summer and fall, likely enabling birds to put on extensive fat reserves, allowing long migratory flights and reducing stopover stays, which would have decreased their likelihood of capture.

The seasonal variation in diversity and abundance is presented for a few groups in figure 3.

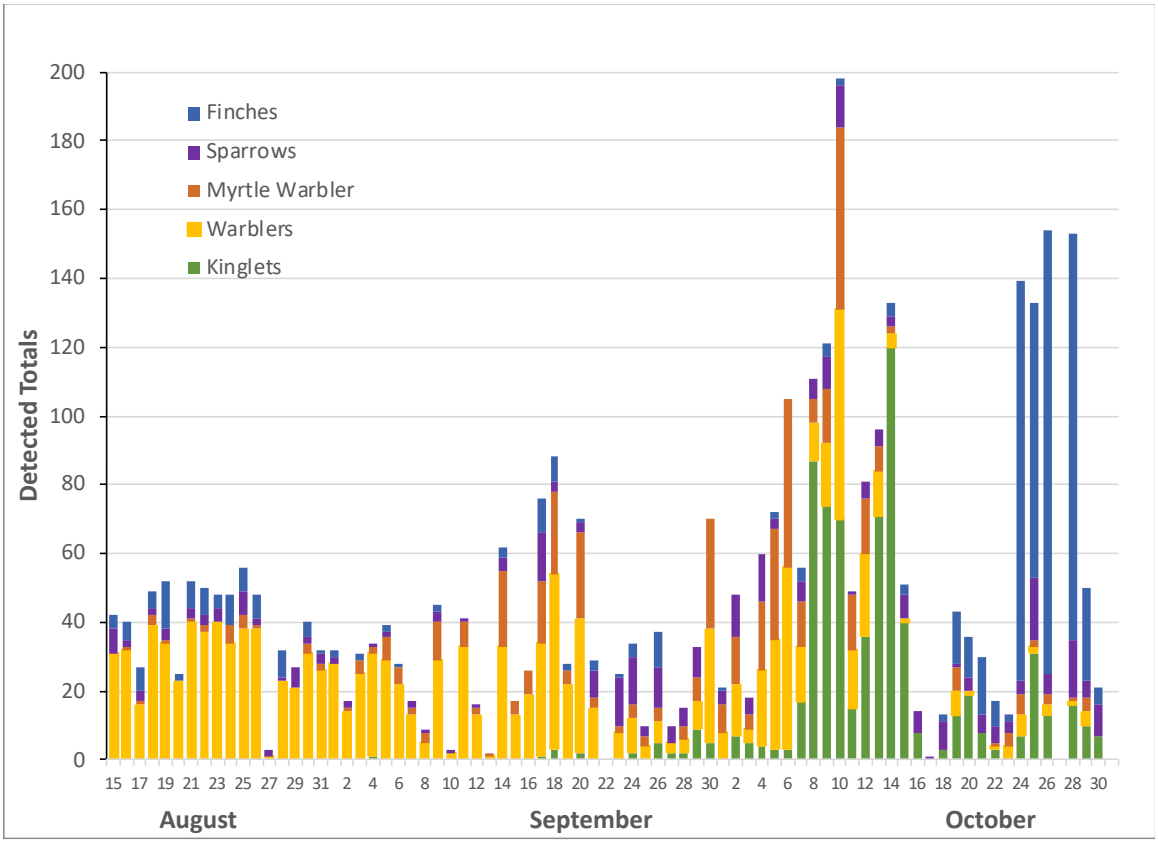

Figure 3. Detected Totals of the most common groups of species throughout the monitoring period at CHRS, fall 2019.

Passerines and near-passerines

Long-distance migrants

Long-distance migrants include a wide variety of birds, from hummingbirds to flycatchers to vireos to warblers. The main characteristics are the long distances flown between their breeding and wintering grounds, which are usually separated by thousands of kilometers. At Cabot Head, this diverse group is already on the move in mid-August when fall monitoring begins, with migration usually peaking in early- to mid-September. Stragglers are always a possibility later in the season.

Tyrant Flycatchers are early migrants (with the exception of Eastern Phoebe), among the first species to depart south in the fall, as early as August, and are never detected in large numbers at Cabot Head. Least Flycatcher was the most detected species among them this year, with eight birds in eight days from August 23 to September 7. Only one Traill's Flycatcher (which combined

Alder and Willow Flycatchers, distinguished only by voice) was detected, through banding, on August 28. It is a record low, tied with fall 2011. Never numerous, banding totals are usually in single-digit numbers, reaching a high of 16 in fall 2007. An Alder Flycatcher was calling on September 1, resulting in a positive species identification. Four Yellow-bellied Flycatchers were detected, all through banding, on September 3 and 5, and, quite later, on September 19 and 20. There's been two previous records on September 20, in 2004 and 2017, with the latest record being on September 27, in 2010. On August 21, two Eastern Wood-Pewees were banded and another one was detected through their characteristic song. This species is quite rare in the fall at Cabot Head, captured in only four other seasons. One Great-crested Flycatcher was heard and seen two days in a row, September 6 and 7. One Eastern Kingbird was seen on August 21. This species prefers the marshy margins of the shallow lakes at the base of West and Middle Bluffs: it is thus not rare at Cabot Head and is regularly seen around the station - albeit in small numbers - when moving from and to its preferred habitats. It has been detected every fall season since 2002, except in 2010, 2012, 2013, and 2014, with usually multiple observations.

Ruby-throated Hummingbirds were seen every day from August 15 to September 6, and more sporadically afterward, with the last sighting on September 20.

Red-eyed Vireo is a local, and vocal, abundant breeder on the Bruce Peninsula, making it difficult to determine a clear pattern of migration. Nonetheless, most of them move through Cabot Head in late August and early September. Daily observations of a few Red-eyed Vireos (from one to nine birds) were steady and constant from August 16 to September 21. Afterward, Red-eyed Vireos became rapidly scarce with observations of one or two birds in only ten days, from September 23 to October 18. It is only the fourth year that a Red-eyed Vireo was observed after October 15: two birds on October 20, 2005, one bird on October 25, 2004 and 2007, and one bird on October 28, 2004. If the observations in 2004 are of the same bird, only five Red-eyed Vireos have been detected after October 15 out of a total of 4299 birds counted in the combined 18 fall seasons. Based on a review of eBird records around Georgian Bay and Lake Huron, it appears that the October 28 record of 2004 would be the latest know date for Red-eyed Vireo in this area. Despite general and local abundance, Red-eyed Vireos are not often captured, as birds tend to stay high in the canopy. The banding total of 30 birds in fall 2019 is well below the fall average of 79 ± 51 (range of 24 in 2009 to 239 in 2005).

Philadelphia and Warbling Vireos are much more uncommon at Cabot Head than Red-

eyed Vireos. In fall 2019, there was one observation of Warbling Vireo, on September 16, and two of Philadelphia, on September 3 and 16.

Of the four species of Catharus thrushes seen at Cabot Head, three - Veery, Swainson's and Gray-cheeked Thrushes - are long-distance migrants with wintering ranges mostly in South America. All Thrushes are very secretive, most often detected through banding or singing. This fall, very few birds were recorded, with all species banded at below average. The only Veery banded was captured on August 16. This species is never banded in large numbers in the fall, from one (in 2010) to 15 (in 2015). After a few fall seasons with high numbers, only 12 Swainson's Thrushes were banded this year, with captures scattered from September 2 to October 14, the second latest detection after October 15 in 2015 (Fig.4). Despite variations between years, Swainson's Thrushes seem to have become more common in October. In the first nine years (2002 - 2010), a total of five birds were banded in October, in only three seasons, or 2% of the overall total of these years. In the last nine years (2011 - 2019), Swainson's Thrushes were banded every October, for a total of 33 birds (9% of the overall total). In 2019, four of the 12 Swainson's Thrushes were banded in October. On the other hand, Gray-cheeked Thrushes, always less numerous than Swainson's Thrush, do not show an increasing presence in October. There have been eight seasons with detection of one or two birds in October, always in the first few days (latest is October 8), scattered from 2003 to 2015. This year, all of the very few Gray-cheeked Thrushes detected were in September, with the lowest banding total (tied with 2010).

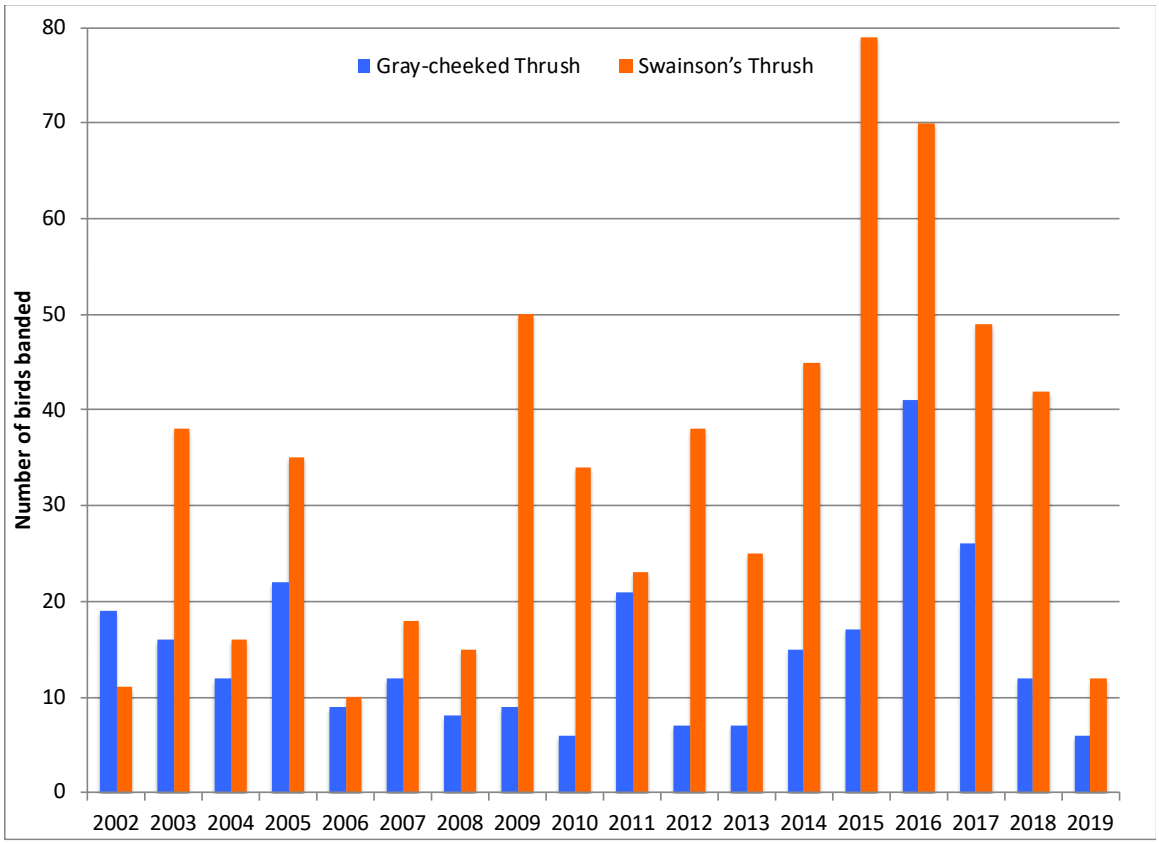

Figure 4. Banding totals of Gray-cheeked and Swainson's Thrushes in the fall at CHRS from 2002 to 2019.

Diversity and abundance of warblers peaked this fall in mid-September, about two weeks later than in 2018, with a total of 16 warbler species detected and Myrtle Warbler the most abundant (Fig.5). On September 16, a cumulative total of 21 species of warblers have been observed, whereas that level of diversity was attained earlier in fall 2018, with a cumulative total of 20 species on September 3. The last species of warbler to be added in fall 2019 was Orange-crowned Warbler, with the first bird on September 25. Warbler diversity declined sharply after mid-September but abundance stayed high in the first two weeks of October. Throughout the season, Myrtle Warbler, American Redstart, Black-throated Green Warbler, and Common Yellowthroat were the species most often detected and in the highest numbers (in decreasing order).

Chestnut-sided Warbler is a species commonly observed in spring, almost daily from early May to early June, with numbers peaking in mid- to late May. In the fall season, however, it is much more rarely observed, with only one to six days with detection, ranging over the years from August 16 (in 2011) to September 29 (in 2018) and with two fall seasons without any Chestnut-

sided Warbler. This fall, there were two sightings of one bird in August 29 and 30 and one bird caught at the extreme late date of October 14, the first record in October for Chestnut-sided Warbler at Cabot Head. As a rule, almost all species of warblers are observed in greater numbers in spring than in fall. However, the contrast is extreme for a handful of species, notably Magnolia Warbler, Mourning Warbler, and the aforementioned Chestnut-sided Warbler.

In October, most warblers have usually already gone through the area with the exception of Orange-crowned and Yellow-rumped (Myrtle) Warblers, which are late, short-distance migrants; it is therefore mostly stragglers that are observed. Nonetheless, an average of 9 (± 3) species of warblers are detected every October between 2002 and 2018, ranging from a low of 5 species (in 2005, 2007, and 2011) to a high of 15 in 2014, for an overall total of 20 species of warblers. Three species (Orange-crowned, Nashville, and Myrtle Warblers) have been observed every October, with Palm Warbler only missed once in 2004. This fall, 11 species of warblers were detected in October, with the first detection of Chestnut-sided Warbler (as previously mentioned) and the highest diversity on October 10 with five species. Orange-crowned, Nashville, and Myrtle Warblers were again the most common species detected, with Myrtle Warbler by far the most abundant. Palm Warblers were also observed, on two occasions, with four birds on October 10. Tennessee Warbler was observed three days in a row (October 6 to 8), totaling five birds. This species is regular in October, although it was not detected from fall 2005 to 2012. A Magnolia Warbler was observed on October 12, tying the latest record (in 2008) and another one was observed, then caught and banded, on October 14. This species has been detected in October nine fall seasons out of 18. The other four species were detected through banding: A young male Black-throated Blue Warbler on October 2; an American Redstart on October 4; a Blackpoll Warbler on October 7, a rather rare species in October, with only five previous records; and a Common Yellowthroat on October 8, which was seen again on October 10

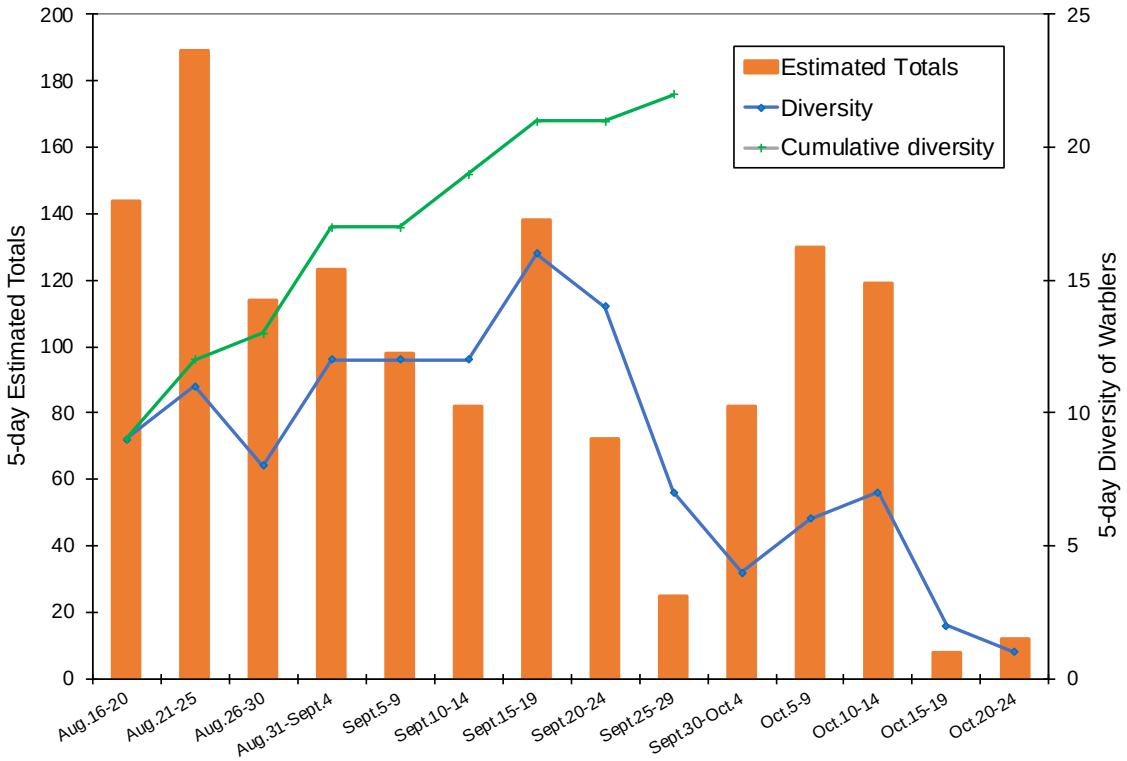

Figure 5. 5-day total numbers of warbler species (right Y-axis) and 5-day Estimated Totals of warblers (all species combined; left Y-axis) at CHRS in fall 2019.

Short-distance migrants

Among passerines, the short-distance migrants are the latest birds in the fall to arrive and pass through Cabot Head, with some species even barely detected in years of late fall. For example, Fox Sparrow is a very late migrant, with most of its fall migration missed at Cabot Head. However, this species has been detected and captured almost every fall (missed only in 2002 and 2017), albeit always in single digit numbers. In 2019, detections occurred only on one day, October 30, with one Fox Sparrow banded.

Brown Creepers are also late fall migrants but their migration starts in mid-September, with a few local birds seen and captured as early as mid-August. This fall, they were detected in small numbers most days from October 8 to 26, with a few birds before this period. The majority of detection was through banding, with 29 birds banded, including two young in August (18 and 24). Sharing a similar migration pattern, Golden-crowned Kinglets are however much more numerous, often the most numerous species banded in fall. That was the case this fall again when a total of 239 Golden-crowned Kinglets were banded. Despite being the highest banding total for

any species this fall, this number is well below the average of 317 ± 166 banded Golden-crowned Kinglets (low of 113 birds in 2005 - high of 758 birds in 2013). In fall 2019, the first Golden-crowned Kinglets were detected on September 20, well within the range of first detections (September 10, in 2008, to 24, in 2009; with the outlier of August 31, in 2003). The next detection - of two birds - was on September 26, followed by detections almost every day afterward, with a peak between October 8 and 15, when 71% of the seasonal total of 536 birds were counted. The Detected Total of fall 2019 is well below the average of 918 ± 408 birds, excluding the extreme season of fall 2013 when 9451 Golden-crowned Kinglets were detected (low of 275 in 2007 - high of 1540 in 2012). Fall migration of Ruby-crowned Kinglet is quite similar than Golden-crowned Kinglet, as opposed to spring, when the latter migrates up to two weeks earlier. Numbers of Ruby-crowned Kinglets are usually lower than Golden-crowned Kinglets, as is the case again this fall. A total of 186 Ruby-crowned Kinglets were detected, with 70% during the same period of October 8 to 15, like Golden-crowned Kinglets.

There was a definitive lack of detections of Red-breasted Nuthatch this fall, even though that species is easily observed and rather quite vocal. The Detected Total of 38 birds is extremely low compared to previous fall seasons (ranging from 269 in 2009 to 1102 in 2005), with observations in only 26 days, i.e. 33% of the monitoring period, whereas, in previous years, there were detections from 65 to 92% of the period. Banding numbers are also extremely low, with only two birds banded. It is even more remarkable since 117 Red-breasted Nuthatches were banded in fall 2018 and 24 in spring 2019, both representing the second-highest banding total in their respective season. There was a small crop of cone seeds in the boreal forest in 2018, likely the cause for the large movement observed that fall, with mostly adults flying south. It is possible that many of them flew north again in the spring. This year, it seems that the cone crops, as well as birch and mountain ash crops, are good to very good in the boreal forest. It was certainly the case at Cabot Head. It is possible that, as a consequence, very few Red-breasted Nuthatches moved south.

At Cabot Head, Blackbirds (Common Grackles, Red-winged and Rusty Blackbirds) are observed in very small numbers in fall, as opposed to spring when large flocks are counted. Rusty Blackbirds have been detected in every fall season, sometimes with only one bird, most often in single-digit numbers, and with significant numbers only in six fall seasons (reaching a high of 91 birds in 2016). In fall 2019, only two birds were observed, on October 6. On the other hand,

Common Grackles are regularly missed completely, with no observation at all in seven fall seasons, and otherwise observed in small numbers (from one, in 2017, to 16, in 2013, with an exceptional tally of 133 in 2012). This fall, only one bird was seen, on August 20. Patterns of observation for Red-winged Blackbird are somewhat in between the other two species: missed in three seasons between 2002 and 2018, observed in small numbers otherwise, with a few years reaching in double-digit counts. This fall, though, no Red-winged Blackbirds were observed.

American Robins are common birds at Cabot Head, both as local and migrant birds. They are seen regularly throughout the season in small numbers, which peak in October during their main passage. This fall, the highest daily counts were 86 birds on October 9.

The overwhelming majority of Blue Jays and Yellow-shafted Flickers usually migrate in September. However, in 2019, only 58% of detected totals of both species occurred during this month, with more passage in October than average. Even though the bulk of migration is in September for both species, their phenology could be quite different (Fig.6&7): in years of small numbers of Yellow-shafted Flickers, their movements through Cabot Head are spread throughout September, whereas Blue Jays almost always tend to peak over a few days in mid-month. In fall 2019, Yellow-shafted Flickers were detected in relatively low numbers, with 121 birds (2002-2018 average of 163 ET ± 106; low of 72 in 2007 and high of 394 in 2014). There were very few Flickers observed in late September, which usually corresponds to the peak of passage, whereas above-average numbers were seen in October, with the last Yellow-shafted Flicker seen on October 19. This fall, the migration peak of Blue Jays occurred in late September, quite later than the average peak, and movement continued well into October in relatively high numbers, with 36% of the Detected Total of Blue Jays in that month, which is quite unusual. In ten past fall seasons, the October percentage of Detected Total was less than 11%, including three seasons with no Blue Jays at all in October. There were three seasons between 15 and 21% and only two other seasons with a percentage similar to fall 2019: 36% in 2002 and 41% in 2014.

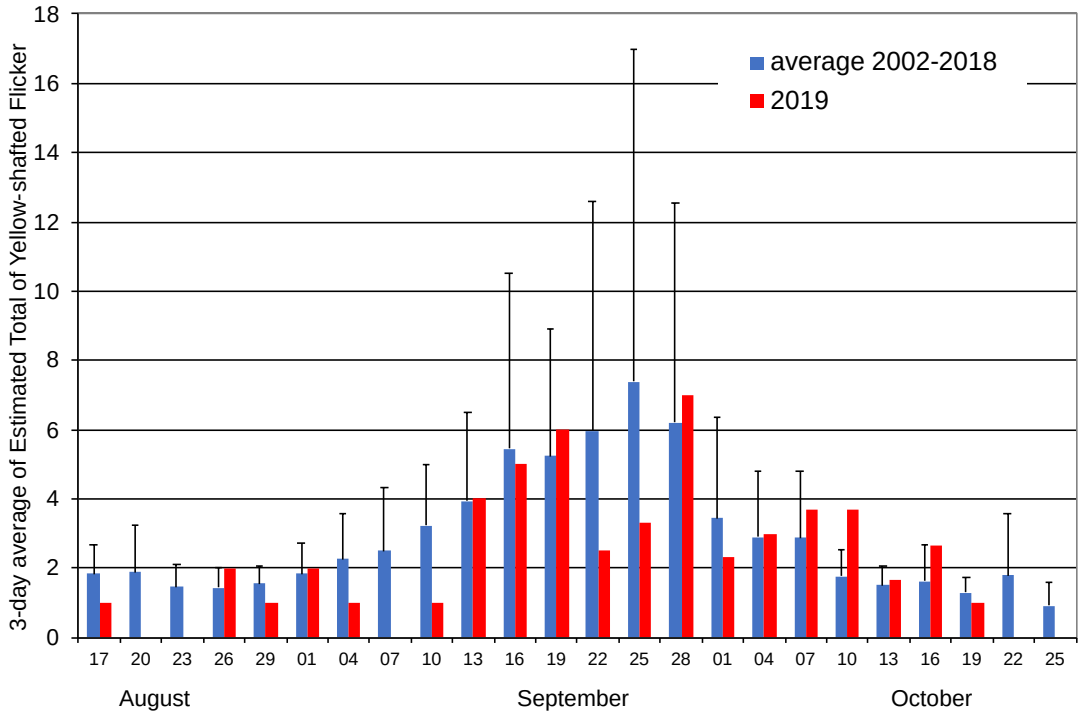

Figure 6. 3-day average of Estimated Totals of Yellow-shafted Flickers for 2019 and the combined years of 2002 to 2018 at CHRS.

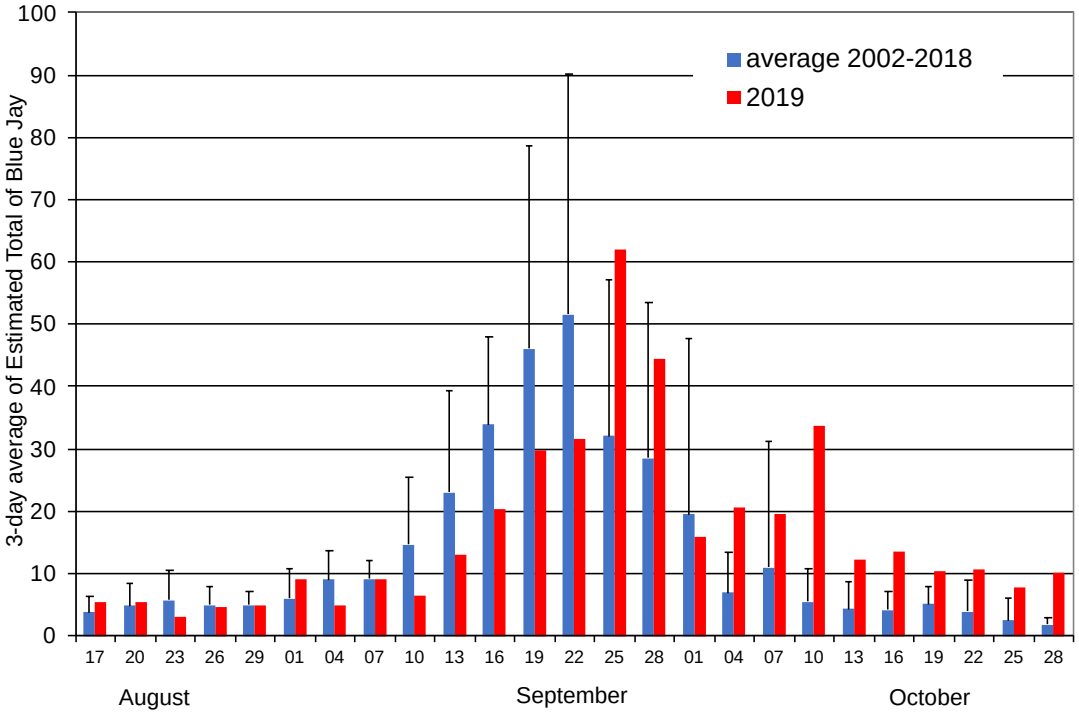

Figure 7. 3-day average of Estimated Totals of Blue Jays for 2019 and the combined years of 2002 to 2018 at CHRS.

Eastern Phoebes are the hardiest of the Tyrant Flycatchers, wintering in the southern USA and arriving early on and leaving late from the breeding grounds. At Cabot Head, it is easily seen around the buildings, where it has attempted to breed. It is the first time this year that breeding was confirmed to be successful, with the observation of three large nestlings overflowing their nest built on a raft of Grebe Lodge (Photo 1). Likely as a consequence of the successful breeding attempt, it is also the first summer that Eastern Phoebes were detected practically daily from August 15 to September 9, whereas in previous summers, detections were only sporadic during this time period (six fall seasons with no observation at all during this time). On August 24, the three now fledged young Eastern Phoebes were caught together in the same net. They were later observed a few times sporting their shiny new bands and still being fed by their parents. Another young Eastern Phoebe was also captured on that same day, though later in the morning, likely from another successful breeding attempt in the area. After September 9, there was a long gap with no observations at all of Eastern Phoebes, until October 4 when two birds were observed. There were five more days with observation in October, the last one on October 26, the second-latest day on record (after October 27, in 2011). This species is usually detected in October, missed only in five seasons (Fig.8). Birds possibly spend a few days at Cabot Head, regardless of the month, which inflates Detected Totals. For example, observations of one bird were made in three consecutive days (October 25 to 27) in 2011, likely the same one, although there was no way to be sure. It was certainly the case in August 2019, when the family with three young were observed a few times, resulting in a much higher than usual total for that month.

Photo 1: Eastern Phoebe nestlings on August 17.

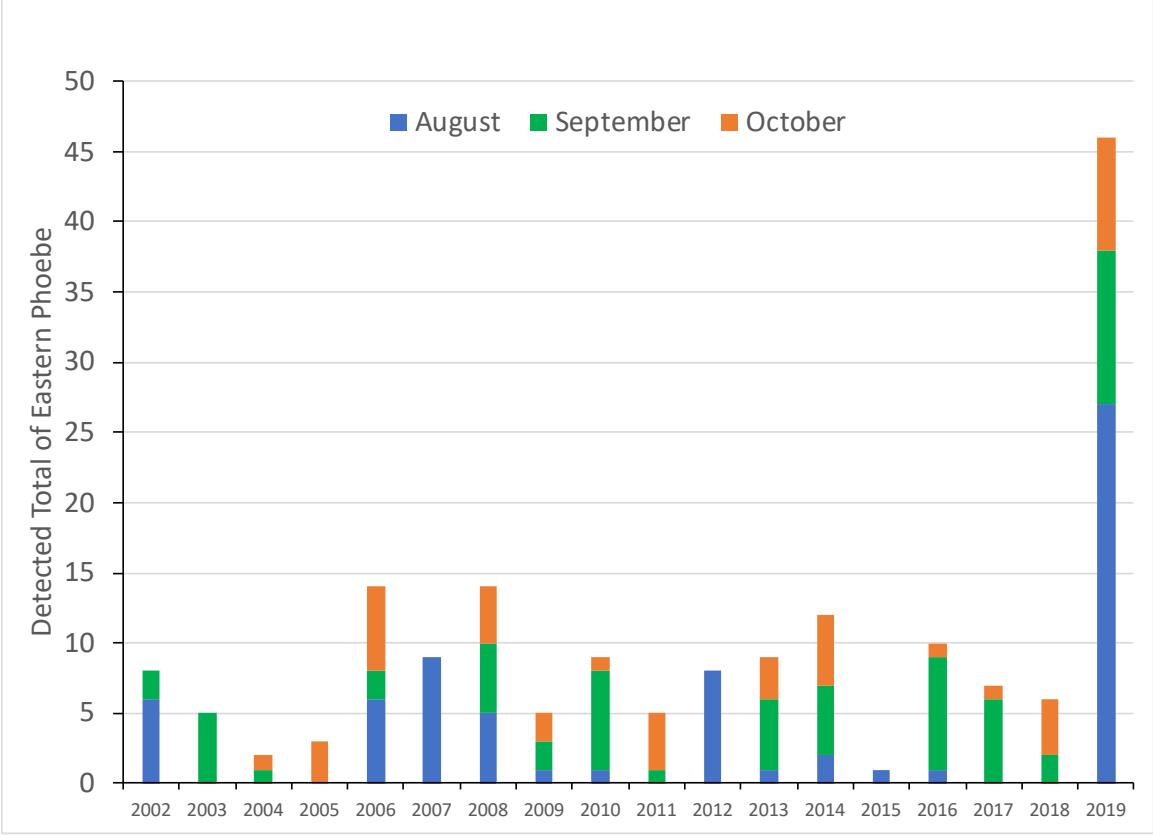

Figure 8. Detected Totals of Eastern Phoebes at CHRS, in relation to year and month of monitoring.

Myrtle and Pine Warblers, and to a lesser extent, Orange-crowned and Palm Warblers, can be considered short-distance migrants, with a large part of their wintering grounds in the southern USA. Pine Warblers were detected only once this fall, with two birds on September 4. On the other hand, Myrtle Warblers were seen regularly, with detections on 76% of the 78 days of monitoring, from August 15 to October 29. There were two distinct peaks of passage, with the first, smaller, one from September 14 to 20, representing about 20% of the season Detected Total, and the second, longer, one from September 30 to October 12 (54% of the total). This species, like Pine Warbler, breeds on the Bruce Peninsula: most detections in August and early September are likely from local birds. On the other hand, Orange-crowned and Palm Warblers are boreal breeders and do not breed on the Peninsula. The first Palm Warbler was detected on September 15. There were observations of one to four individuals in six days of the following ten days, with the last in September on the 26. This species was seen twice in October, with one bird on the 8 and four on the 10. Orange-crowned Warbler is a late migrant: the first one was detected on September 27, followed by regular observations of mostly one bird, with the last on October 20.

Most sparrow species are short-distance migrants, with wintering ranges usually confined in North America. At Cabot Head, Song Sparrow is a local breeder, potentially masking migration patterns for that species. It was observed in small numbers (from one to eight birds) from August 15 to October 30, missed only in about 25% of the days. The most abundant sparrows monitored in the fall are White-crowned and White-throated Sparrows and Dark-eyed Juncos, the latter two species also breeding in very low densities on the Bruce Peninsula. Very few birds, if any, of these two species are detected in August and early September at Cabot Head, indicating a very low presence around the station at that time. As a consequence, most of the birds detected are in migration. This fall, these three species were counted and banded in record low numbers. White-throated and White-crowned Sparrows have shown extreme variations in Detected Totals in the fall, ranging, for the former, from a low of 209 DT in 2016 to a high of 1396 DT both in 2005 and 2013 (with two outlier fall seasons: 92 DT in 2007 and 99 DT in 2017); and for the latter, ranging from a low of 155 DT in 2002 to a high of 2387 DT both in 2014 (with one outlier fall season: 54 DT in 2017). In fall 2019, Detected Totals were 78 White-throated Sparrows and 32 White-crowned Sparrows. Yearly variations in Detected Totals are not as extreme for Dark-eyed Juncos, making the fall 2019 total of 53 birds all the more striking (Fig.9). It should be noted that in the

fall seasons of 2012 to 2014, baited ground traps were in use: the food provided possibly attracted and retained sparrows around Cabot Head more than usual. There is also a marked peak in numbers of White-throated Sparrow in the fall of 2005, this time, due to an abundance of chokecherries, which attracted berry-eating species in huge numbers (like Cedar Waxwing, Myrtle Warbler, Red-eyed Vireo, and Swainson's Thrush).

Lincoln's and Swamp Sparrows are always detected in small numbers in the fall, very often through banding, as they are quite secretive. This fall, a total of two Lincoln's Sparrows (range from one in 2009 to 18 in 2002) and seven Swamp Sparrows (range from one in 2015 to 28 in 2003) were tallied. American Tree Sparrow is a late migrant, with movements through Cabot Head starting in mid-October and continuing after the end of the migration monitoring period, in November. In 2019, the first detection - of one bird - was on October 21, the second-latest date on record (tied with fall 2011). Dates of first detection for American Tree Sparrow is quite variable across the years, with about half of them after October 16 (October 22, 2018, being the latest on record), and the other ones scattered in the first half of October. There are a few very early records, with one bird banded on August 22, 2012, one observed on September 11, 2013, and one observed on September 9, 2014. The other earliest record is September 21, 2004. There is a gap of several days, even weeks, between these early detections and the next ones, which could be either an indication on how a single bird can be easily missed or that these early detections are true outliers of the general migration pattern of the species. In 2019, American Tree Sparrows were detected in seven days of the 12 days from first detection to end of monitoring, with ten birds banded.

Fox Sparrow is also a late migrant, with first detections in October (except on September 28, 2012). It is never numerous at Cabot Head, with season Detected Totals between one and 13 birds. In fall 2019, only one bird was detected, through banding, on October 30. It is the latest detection date, tied with fall 2002.

Finches were quite numerous at the end of October, with flocks of Purple Finch, Pine Siskin, and, most notably, American Goldfinch detected most days (see Fig.1).

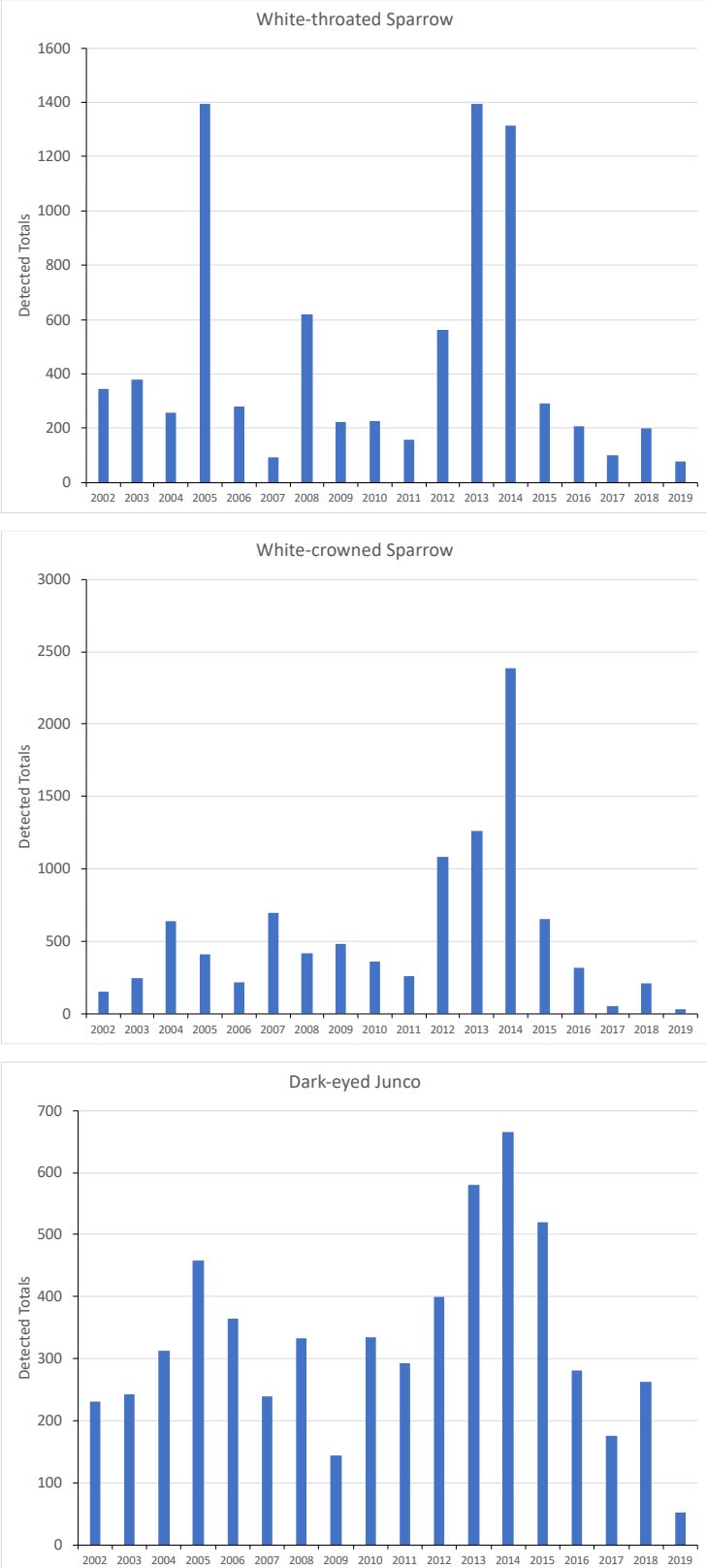

Figure 9. Fall Detected Totals of White-throated Sparrow (top), White-crowned Sparrow (middle) and Dark-eyed Junco (bottom) at CHRS by year of monitoring.

Raptors

In contrast with spring, no substantial migration of soaring raptors occurs over the Bruce Peninsula in the fall, as Georgian Bay presents a formidable barrier to cross, since no thermals used by these species can form over water. As a consequence, the most commonly seen species are the local breeding residents, like Bald Eagle, Merlin, and Sharp-shinned Hawk. The Bald Eagle pair appears to have produced two eaglets this year, as shown by the frequent interactions between two young eagles with the resident adults. Eagles were seen almost daily up to mid-September but were scarcer in October. On August 26, six (6!) young Eagles were seen soaring together shortly over Middle Bluff. Soon afterwards, a seventh young eagle was detected, as well as an adult, bringing the total to a season record one-day count of eight Bald Eagles. The other high count was five adult Bald Eagles (likely including the resident pair) on October 4. All other observations were of one to three eagles.

Merlins breed every year at Cabot Head, exhibiting a strong territorial behaviour and aggression against potential nest predators. It is thus a species regularly seen, albeit in ones or twos. This fall, it was detected on 32 days, or 41% of the time, and one young bird was captured and banded on August 20 (Photo 2), only the fifth Merlin ever banded at Cabot Head (one in spring 2008, one in spring 2012, one in fall 2004, and one in fall 2007).

Photo 2: banded Merlin

On the other hand, Sharp-shinned Hawks are banded every spring and fall seasons (with the exception of the falls of 2002 and 2018), with an average of 19 ± 7 birds in spring and only between one and five birds in the fall, a clear reflection of the difference in migration between the two seasons. This fall, only one Sharp-shinned Hawk was banded, a young female, on August 21. Other notable observations include: 30 Broad-winged Hawks on August 26; one Osprey on August 18 and another one on September 12; five days with observations of Peregrine Falcons, from August 24 to October 20, with two birds on September 30; a Northern Goshawk on September 19;

a young female Northern Saw-whet Owl was captured on the first net check on October 19 during the normal daily banding operations. It is actually not uncommon to catch one owl in the early hour of the regular banding, with one to a few owls seasonally (but none in five fall seasons).

Waterfowl

Canada Geese usually migrate in early September but with large variations across the years (Fig.10). Large movements are strongly influenced by weather: north winds tend to bring numerous flocks flying through. This fall, as in fall 2018, large flocks were seen later than average, with the majority of passage noted between September 16 and October 2. Peaks occurred on September 18 and 21, with 90 and 89 birds counted, respectively, on September 24 with 289 birds, when a strong west wind blew, and on October 2, with 84 geese, during an episode of strong north winds. Double-crested Cormorants were seen daily from the start of monitoring period until September 19. This species roosts in Wingfield Basin making it difficult to differentiate migrants from local residents. Water levels this year were even higher than the record levels of previous years, covering rocks that cormorants (and other birds like gulls) like to use as resting areas. As a consequence, daily numbers reached high of 15 to 20 birds, much lower than earlier years, with cormorants crowding the few rocks still available, as well as the navigation markers. This species was rarely seen in active migration this fall. The last detections were on October 26 and 28, with one bird each, which represent the latest observation on record (one Cormorant on October 25, 2006, and one on October 27, 2014). Daily counts of this species likely include birds staying for some extended periods (stop-over), which could vary across the years, notably through food availability around Cabot Head. Another factor potentially influencing the stopover length of Cormorant is disturbance and predation by the resident Bald Eagles. All these factors can explain the sharp decline in numbers detected in the fall at Cabot Head but it seems likely that the high-water levels have been the dominant one in recent years (Fig.11).

Common Loons were seen throughout the entire season with about 53% of all observations made in September. Loons can usually be seen in small rafts on Georgian Bay or flying in a southeast direction, either over water or land. This fall, a total of 120 Common Loons was detected, within the range of totals detected since 2010 (with the exception of the fall of 2014; Fig.12). This species is a strong flyer and moves through the area rapidly, making detection

difficult. Another potential problem is that it routinely flies, low or high, over Georgian Bay at any time of the day, which makes accurate monitoring difficult as well. However, detection probabilities should stay relatively consistent between years. It is possible that the apparent decline results in differences in use of Georgian Bay offshore from Cabot Head. In the first few years of monitoring, it was common to see good numbers of loons resting on the water of Georgian Bay, making detection much easier than with birds flying through.

The first White-winged Scoter of fall 2019 was observed on September 4, a very early date: Between 2002 and 2018, detections before that date occurred only on three occasions (August 23, 2002, the only observation in this month; September 2, in 2004, and 3, in 2003), with a total of six birds (out of 1680 White-winged Scoters counted from 2002 to 2018). In 2019, there were two more observations on September 17 and 30, with two and seven birds, respectively. Migration of this species in September is quite rare, both in frequency and numbers: only 4% of all birds detected are in September, with no birds detected at all in six fall seasons during this month. Movements in October can also be quite variable, with large differences in numbers and timing across the years. This fall, only 16 White-winged Scoters were counted in five days in October, bringing the season total to 26 birds (season total range of 9 in 2011 to 310 in 2014, with the highest one-day count of 152 birds on October 19, 2014). Surf Scoters were seen on two occasions, with one bird each, on September 30 and October 25. Long-tailed Duck is another waterfowl species with extreme fluctuations in numbers detected, from a low of five and six birds (in 2016 and 2017) to a high of 187 birds in 2008. Its migration happens mostly after mid-October and, very likely, extends into November, after the monitoring period. In fall 2019, the first and last birds were detected on October 16 and 30, respectively. A total of 141 Long-tailed Ducks were counted in only four days, with 65 on October 25 and 62 on October 30. Another late migrant, Buffleheads were observed on October 24 and 25, with a total of only five birds. No Common Goldeneyes were detected this fall, the second time only with no observations in the fall (with 2017).

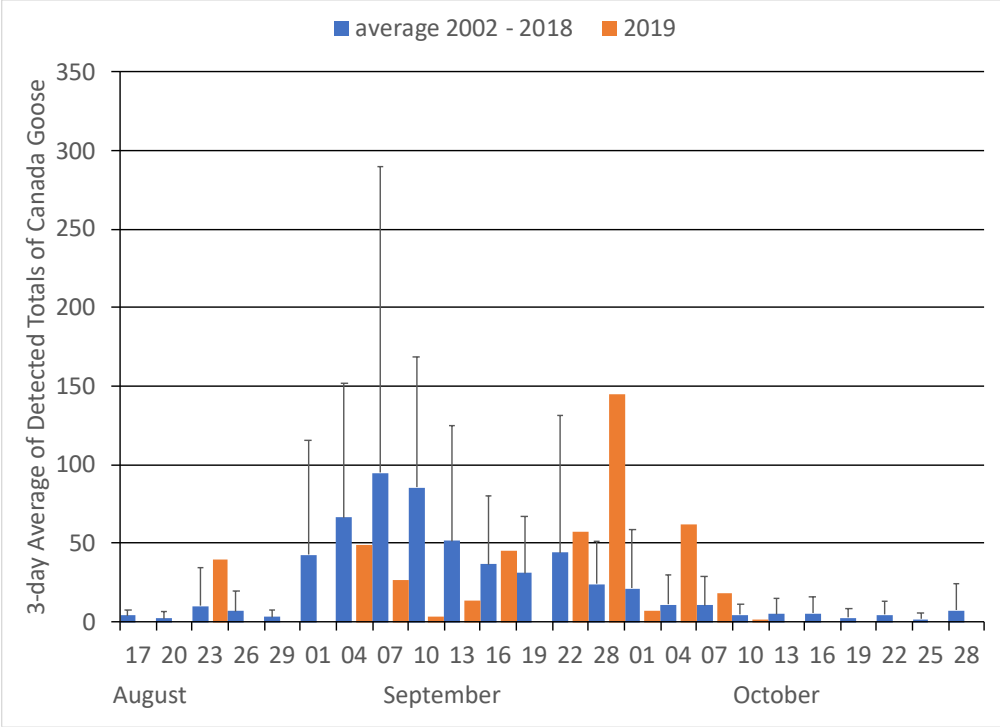

Figure 10. 3-day average of Detected Totals of Canada Goose for 2019 and average 2002 to 2018 at CHRS.

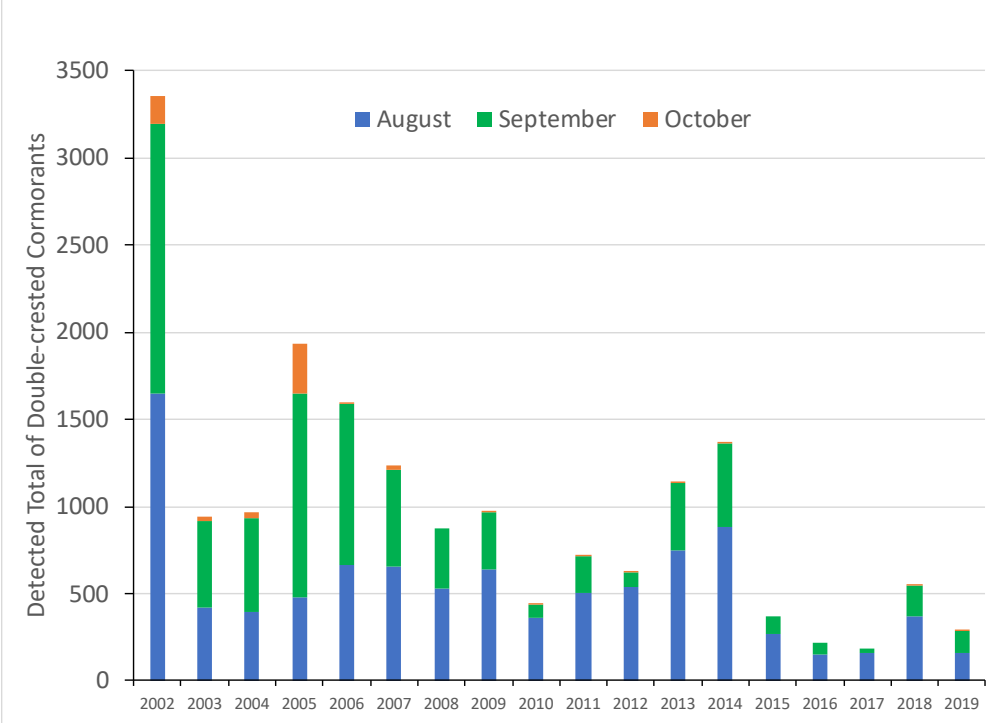

Figure 11. Detected Totals of Double-crested Cormorants at CHRS, in relation to year and month of monitoring.

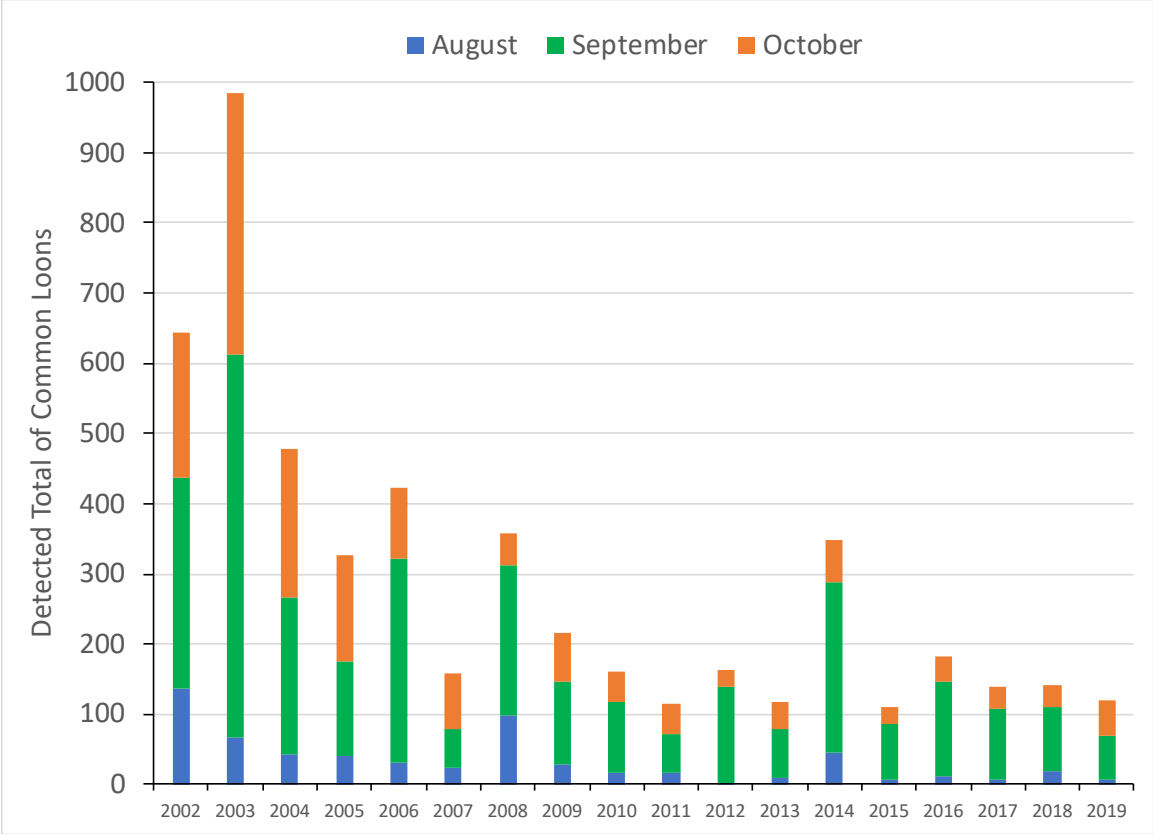

Figure 12. Detected Totals of Common Loons at CHRS, in relation to year and month of monitoring.

3. Unusual Records

There are many ways an observation can be considered an unusual record at Cabot Head: a bird out of range; a bird with an overall low population on the Northern Bruce; a bird which preferred habitats are not present at Cabot Head; a bird which is rare overall, either at provincial or continental levels; and, finally, a bird detected far outside its normal temporal or numerical range. Below is the list of the fall 2019 unusual records, in chronological order.

The first American Golden Plover ever recorded at Cabot Head was seen on the afternoon of August 18, at the tip. One Northern Rough-winged and one Tree Swallows were seen on the same day, August 18. A Black-billed Cuckoo was seen on August 18 and September 21. This species has been detected only on seven previous fall seasons. One Caspian Tern was seen on August 29, the only tern of the season. This species was seen much more regularly in the summer in the early years of monitoring, with occurrence in every fall season from 2002 to 2011. It became very sparse afterward, with a few sightings in falls 2014 and 2018. However, it has been detected every spring. One Eastern Towhee was detected during census on August 31. A Cackling Goose was seen in a flock of Canada Goose on September 16. On that same day, two Northern Parula were banded. This species is quite rare in the fall, with one to three birds counted per season, and only one previous day when two birds were detected (September 7, 2003). Parula were also missed in five fall seasons. An Eastern Whip-poor-will was heard on September 18, one of the latest dates on record (September 29, 2011 being the latest). A young Gambel's White-crowned Sparrow was banded on October 7. In past years, two birds of this western sub-species were banded in fall 2014, two birds in spring 2004 and one in spring 2017. Wood Ducks were seen on two occasions, with two birds on September 21 and one bird on October 19. One adult Northern Shrike was seen on October 18, the only sighting of the fall, and the same day as the last observation of Red-eyed Vireo. One Red-throated Loon was observed over Georgian Bay on October 24: it was seen taking off from the water as a Common Loon flew by, which made for an easy comparison and identification. A Blue-gray Gnatcatcher was observed on October 26 and 28, then banded on October 30, an extremely late date for that species.

4. Banding Data Analysis

Fall 2019 has the lowest banding total since migration monitoring started in its present form in 2002, with 1018 birds of 68 species banded in total (Table 2). It is about 600 birds less than the fall banding average of 2002 - 2018 (1660 ± 336 birds). As noted previously, there were 12 days fully lost due to bad weather (about 15% of the period). Banding totals for most days were below 20 birds, with only four days above 50 birds banded. Almost all species, with average of 20 birds or more, were banded in numbers below average, with a few species banded in record low, notably White-throated Sparrow and Nashville Warbler. On the other hand, Myrtle Warbler and American Redstart are the only species above their 2002-2018 average (Table 2). Large variations in numbers banded for both species occur throughout the seasons, with a low of 50 in 2007 and a high of 204 in 2005 for Myrtle Warbler and a low of 44 in 2007 and a high of 198 in 2003 for American Redstart.

Golden-crowned Kinglet, with 239 birds banded, represents 23% of the seasonal total, and the species most banded this fall, even though the total is below average. Despite migrating wholly within the monitoring period, there are great variations in numbers banded of this species, from a low of 113 birds in fall 2005 to a high of 758 birds in fall 2013. The top five species account for 49% of the banding total this fall. Typically, only a few species are captured in numbers over 50 individuals while most species are banded in low to very low numbers (Table 2).

Numerous variables affect the capture rates including population dynamics, weather conditions during migration, vegetation changes at the site, food availability, etc. Capture rates varied greatly on a weekly basis (Fig.13). The capture rate is determined by dividing the number of birds caught by the number of hours for which the nets were operated. Thus, variation in capture rate reflects variation in those two parameters, which are themselves dependent upon various conditions (weather being the major one). Mist net hours are primarily lost when weather conditions (i.e. rain or strong wind) render it unsafe to capture birds thus forcing net closure. In fall 2019, weekly capture rates were consistently below average, except for one week. The October 11 - 17 weekly capture rate reached a record high this fall, mostly due to a low number of mist net hours rather than a record number of birds banded. This fall, mist net hours were around average for six weeks of the 11 weeks of monitoring, with three weeks below average, especially on September 6 - 12 week when only 50% of mist net hours were possible, the lowest ever rate for

that week. On the other hand, the last two weeks experienced good weather allowing for higher than average mist net hours.

Weekly numbers of banded birds partially reflect variation in capture rates (Fig.13). All but two weeks show a below average number of banded birds, with the remaining two weeks just around average. Of course, a week is a rather arbitrary temporal division, mostly useful to smooth the extreme daily variations in banding (see Fig.15) and to allow comparisons between years.

In fall 2019, 70% of the potential mist net hours were realized, compared to a range of 54% in fall 2007 to 85% in fall 2008, with an average of 72% ± 9. Poor weather conditions either precluded opening any mist nets for a total of 12 days or only a portion of the 15 nets or a portion of the day (Fig.14). Conditions allowed for a complete banding operation (all 15 mist nets opened for six hours, i.e. 90 mist-net hours a day) during 46% of the monitoring period. Coverage of 80 mist-net hours or more was realized during 54% of the monitoring period.

Table 1. Number of species banded in fall 2019 at CHRS according to their banding total.

Banding total	1 - 10	11 – 50	51 – 100	>101
Number of species	45	19	2	2

Table 2. Banding total at CHRS in fall 2019, with 2002 - 2018 average (and standard deviation), maximum and minimum totals for 2002 - 2018, and number of previous falls with captures.

Group	Species	2019	Av.	StDev	Max.	Min.	#
Hawks	Sharp-shinned Hawk	1	2,9	1,2	5	1	15
Typical Owls	Northern Saw-whet Owl	1	1,1	0,4	2	1	7
Kingfishers	Belted Kingfisher	1	1,5	0,7	3	1	10
Woodpeckers	Red-headed Woodpecker	1					
	Yellow-bellied Sapsucker	3	1,7	0,8	3	1	12
	Downy Woodpecker	3	10,0	7,7	31	1	17
	Yellow-Shafted Flicker	7	4,1	2,1	8	1	16
	Pileated Woodpecker	3	1,1	0,3	2	1	10
Falcons	Merlin	1	1,0	0,0	1		2
Tyrant Flycatchers	Eastern Wood-pewee	2	1,3	0,5	2	1	4
	Yellow-bellied Flycatcher	4	2,9	1,7	7	1	15
	Traill's Flycatcher	1	6,1	3,7	16	1	17
	Least Flycatcher	4	5,0	2,0	9	3	16
	Eastern phoebe	8	2,1	1,2	4	1	11
Vireos	Blue-headed Vireo	6	6,6	3,9	13	1	17
	Philadelphia Vireo	2	2,5	1,7	6	1	13
	Red-eyed Vireo	30	79,4	51,2	239	24	17
Crows & Jays	Blue Jay	7	4,9	3,6	16	1	16
Chickadees	Black-capped Chickadee	14	154,7	174,6	717	11	17
Nuthatches	Red-breasted Nuthatch	2	52,9	43,7	160	5	17
Creepers	Brown Creeper	29	40,8	18,0	75	19	17
Wrens	Winter Wren	1	4,6	2,2	8	1	16
Gnatcatchers	Blue-gray Gnatcatcher	1	1,0		1		1
Kinglets	Golden-crowned Kinglet	239	316,6	165,8	758	113	17
	Ruby-crowned Kinglet	74	60,6	30,6	122	20	17
Thrushes	Veery	1	4,1	2,6	10	1	14
	Gray-cheeked Thrush	6	15,2	8,9	41	6	17
	Swainson's Thrush	12	33,9	19,9	79	10	18
	Hermit Thrush	29	37,9	19,2	87	15	17
	American Robin	29	16,2	9,1	36	1	17
Mockingbirds & Thrashers	Gray Catbird	1	5,1	3,0	12	1	17
	Brown Thrasher	1	1,5	0,6	2	1	4
Waxwings	Cedar Waxwing	8	31,7	35,0	117	1	16
Finches	Purple Finch	3	4,4	4,6	17	1	15
	American Goldfinch	20	6,7	9,9	30	1	10
New World Warblers	Tennessee Warbler	5	10,6	12,3	44	2	16
	Orange-crowned Warbler	6	15,6	8,1	28	3	17
	Nashville Warbler	14	34,0	15,3	78	14	17
	Northern Parula	2	1,4	0,5	2	1	5

Group	Species	2019	Av.	StDev	Max.	Min.	#
New World Warblers	Yellow Warbler	2	3,7	3,1	13	1	16
	Chestnut-sided Warbler	1	1,9	1,2	5	1	15
	Magnolia Warbler	11	21,2	5,7	34	11	17
	Cape May Warbler	6	3,3	3,4	12	1	13
	Black-throated Blue Warbler	12	13,1	4,8	21	2	17
	Myrtle Warbler	83	79,5	42,1	204	34	17
	Black-throated Green Warbler	32	58,1	33,0	116	14	17
	Blackburnian Warbler	2	3,3	2,4	10	1	12
	Palm Warbler	6	7,5	5,5	22	1	17
	Bay-breasted Warbler	15	6,7	5,7	23	1	15
	Blackpoll Warbler	3	12,1	8,1	31	5	17
	Black and White Warbler	18	23,3	8,1	37	9	17
	American Redstart	104	97,5	42,6	198	44	17
	Ovenbird	14	18,2	5,2	31	10	17
	Northern Waterthrush	2	6,2	3,7	15	1	17
	Common Yellowthroat	21	25,8	6,5	39	17	17
	Wilson's Warbler	1	6,9	3,1	12	2	17
	Canada Warbler	2	4,0	2,0	7	1	17
New World Sparrows	American Tree Sparrow	10	28,3	26,6	94	2	17
	Chipping Sparrow	2	2,4	1,8	6	1	14
	Fox Sparrow	1	2,7	1,8	7	1	15
	Song Sparrow	15	12,7	5,2	22	5	17
	Lincoln's Sparrow	1	5,6	3,2	13	1	16
	White-throated Sparrow	27	75,4	44,4	199	32	17
	G. White-crowned Sparrow	1	2,0		2		1
	E. White-crowned Sparrow	17	46,8	29,3	126	17	17
	Slate-coloured Junco	24	85,2	26,1	141	43	17
Cardinals & allies	Scarlet Tanager	1	1,6	0,5	2	1	9
	Indigo Bunting	2	2,2	1,8	5	1	11

For 2019, record high captures in red, below average in blue, record low in yellow.
Av.: average; stdev: standard deviation; Max: Maximum; Min: Minimum; #: Number of previous falls with captures.
E.: Eastern; G.: Gambel's.

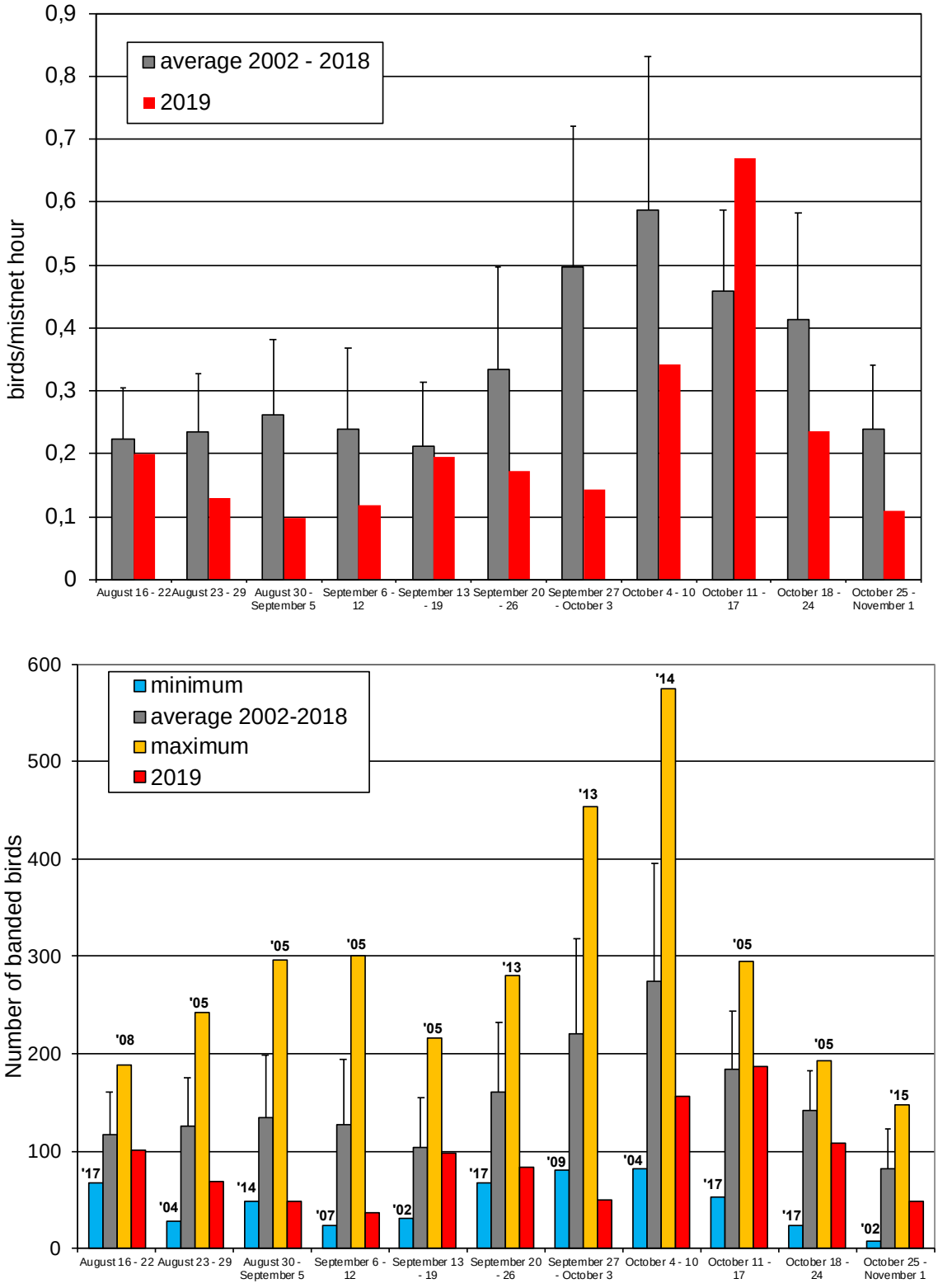

Figure 13. Weekly capture rates (top) and number of banded birds (bottom) at CHRS during the fall season (average 2002-2018, minimum and maximum (with corresponding year) and 2019). Error bars show Standard Deviation.

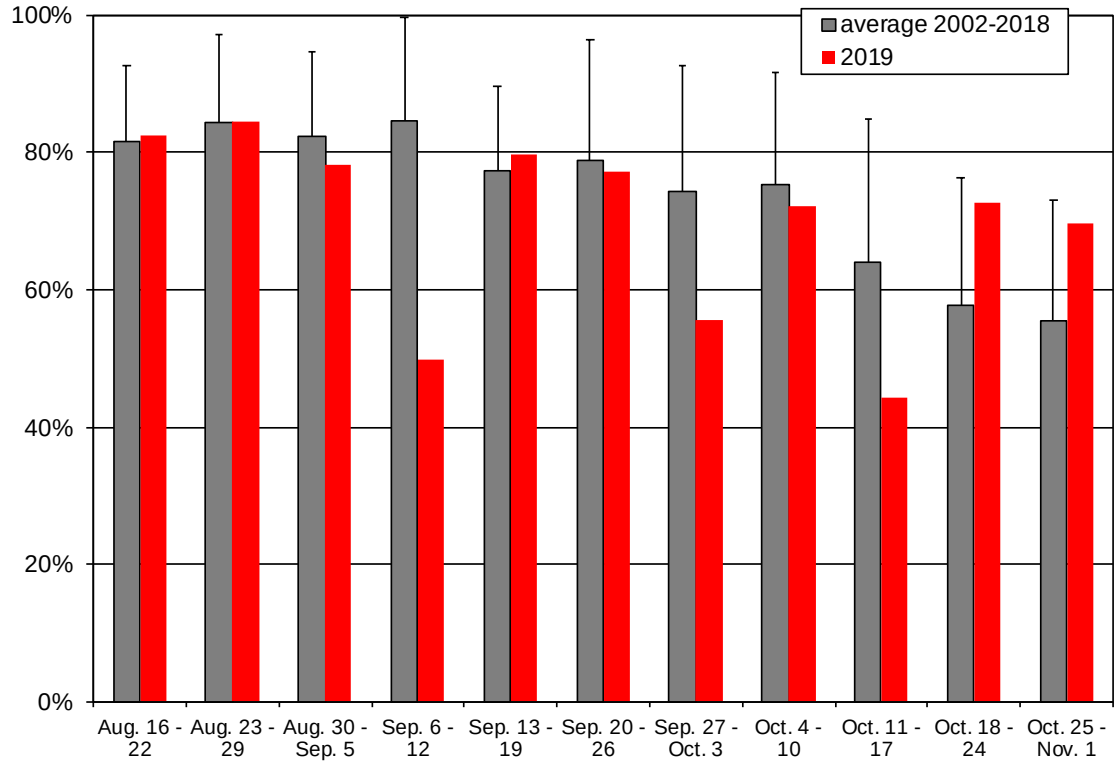

Figure 14. Weekly proportion of realized mist net hours at CHRS during the fall season (average 2002-2018 and 2019). Error bars show Standard Deviation.

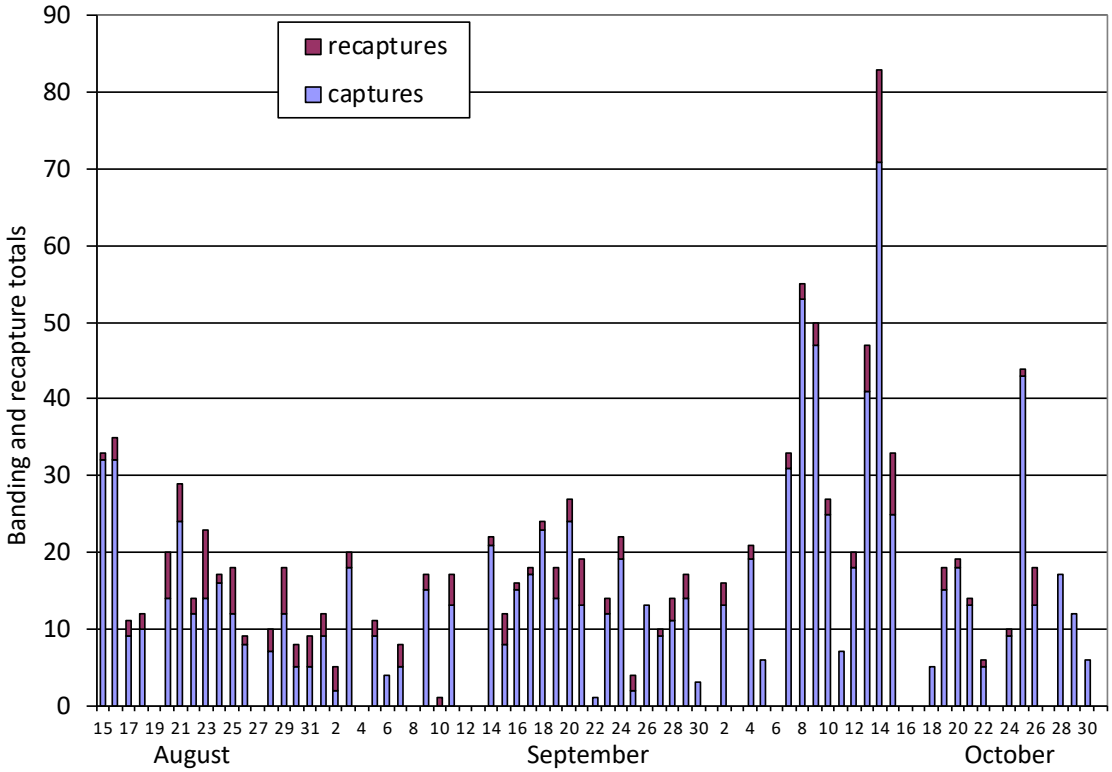

Figure 15. Daily number of captured and recaptured birds at CHRS, fall 2019.

Species rarely banded at Cabot Head:

On August 28, a young female Belted Kingfisher was captured. Not really a species one expects in mist nets set in the woods, it has been nonetheless captured in ten previous fall seasons, for a total of 15 birds, all of them young. No Kingfishers have ever been captured in spring.

On October 7, a young Red-headed Woodpecker was banded, the first ever in the fall. Previously, only one Red-headed Woodpecker was captured, in a ground trap, on spring 2004.

A very late Blue-gray Gnatcatcher was observed on October 26 and 28 and banded on the 30, the third Gnatcatcher banded at Cabot Head (one both in spring and fall 2002). This species has been observed in eight previous fall seasons with most observations in August or early September and only two observations in October in the past: one bird on the 1st in 2006, and one on the 7th in 2014.

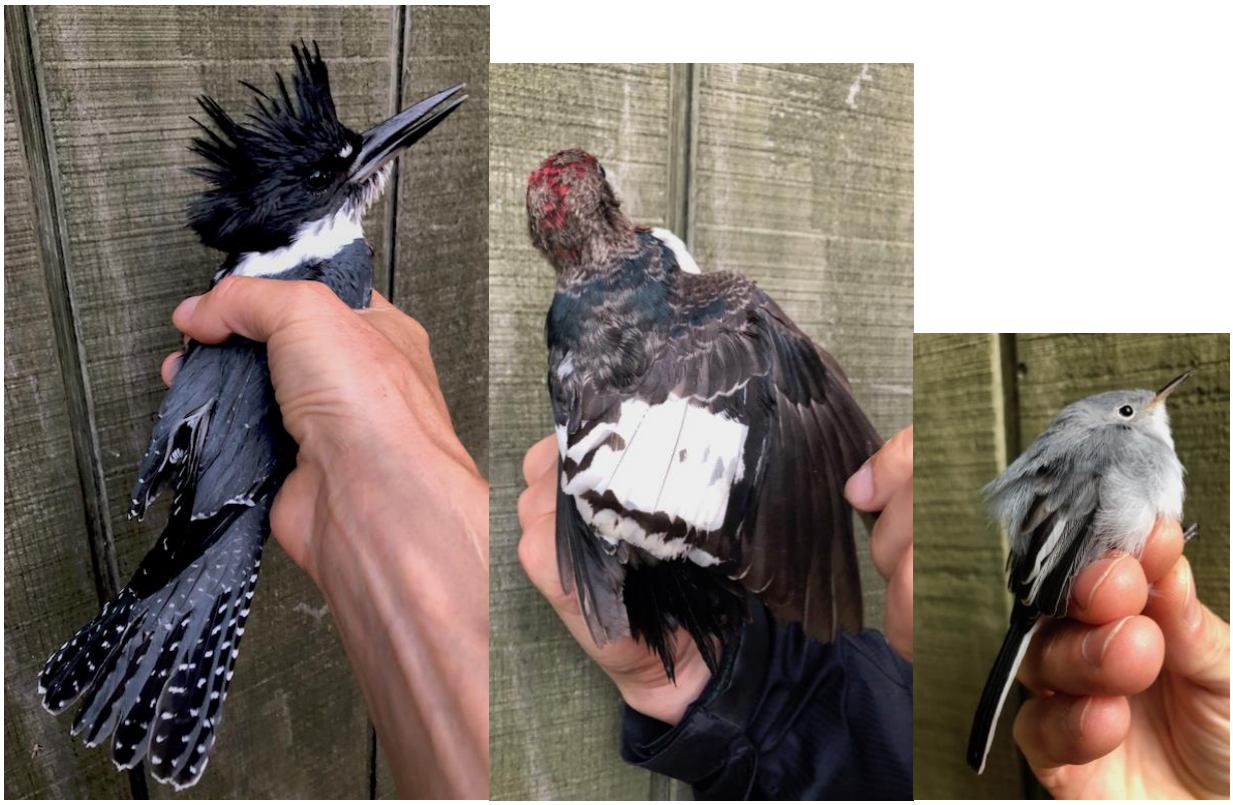

Photo 3: Belted Kingfisher (left), Red-headed Woodpecker (middle), and Blue-gray Gnatcatcher (right).

5. Recaptures

The rate of recapture (recaptures include birds banded within the fall season and birds from previous years or other locations) at Cabot Head was quite low in fall 2019. There was a total of 166 recaptures for 127 individuals of 29 species from August 15 to October 26 (Table 3). The vast majority (87%) of recaptures came from birds banded in the fall. There was one "foreign" recapture: a Northern Waterthrush banded elsewhere. In total, 79% of the recaptured birds were recaptured only once and another 18 birds were recaptured on two occasions.

The 15 birds of three species banded in previous years and recaptured this fall (Table 3) are most likely local breeders. Of the nine birds banded before spring 2019, three have a history of recapture at Cabot Head: one American Redstart banded in fall 2017 was previously recaptured in spring 2018. Two American Redstarts banded in spring 2018 were recaptured in spring 2019. The oldest known recaptured bird this fall is an American Redstart banded as a Second-Year in spring 2016, meaning it was hatched in the summer of 2015 It had never before been recaptured.

For species banded with more than 20 individuals, the within-season recapture rates vary from 3% (Ruby-crown Kinglet and Black-throated Green warbler) to 38% (Common Yellowthroat). It is highest for species that tend to forage mostly on the ground or low in the vegetation, which could increase the likelihood of capture, like Common Yellowthroat, White-throated Sparrow (recapture rate of 22%), and Hermit Thrush (21%). Locally abundant breeding species tend to also be recaptured in high proportion: 20% of the 30 Red-eyed Vireos were recaptured, as well as 18% of American Redstart. Despite being captured in high numbers, only 3 to 11% of Golden-crowned Kinglets are ever recaptured during the same season, indicating a quick movement through Cabot Head. This fall, 9% of banded Golden-crowned Kinglets were recaptured, most of them the following day after initial banding.

The longest "apparent" stopover of a migratory species (time between banding and last recapture, hence the "apparent" nature of that period) is 24 days for a Myrtle Warbler, banded on September 20 and recaptured four times, last on October 13. It weighed 12.6g at banding, lost weight for the first two recaptures (down to 11g on October 4) but put on weight to finally reach 12g at last recapture. The Red-eyed Vireo banded in spring 2018 and first recaptured this fall also had an apparent stay of 24 days, from August 23 to September 15, during which it increased its weight from 16.8g to 18g. It was captured a total of four times. However, the record of recaptures

belongs to a Canada Warbler: after banding on September 15, it was recaptured five times, from September 16 to 26. Its initial weight of 10g steadily declined, reaching a low of 9.2g on September 20 and barely more the following day, at 9.4g. Unfortunately, we don't have its final weight. The largest weight increase happened for the only recaptured Grey-cheeked Thrush of the season, gaining 11% in six days (from 30.5g on September 19 to 33.9g on September 23, with two intermediate captures showing a steady increase).

Two Black-capped Chickadees have the longest time between initial banding and last recapture, at 34 and 36 days, which would be expected for local residents.

Table 3. Total recaptures by species in relation with year and season of banding (only one recapture per individual is included) at CHRS, fall 2019.

Species	2016	2017	2018		2019		%
	spring	fall	spring	fall	spring	fall	
Yellow-bellied Sapsucker						1	33%
Downy Woodpecker						1	33%
Pileated Woodpecker						1	33%
Eastern Phoebe						3	38%
Red-eyed Vireo			1	1		6	20%
Black-capped Chickadee						5	36%
Brown Creeper						2	3%
Golden-crowned Kinglet						21	9%
Ruby-crowned Kinglet						2	3%
Gray-cheeked Thrush						1	17%
Swainson's Thrush						1	8%
Hermit Thrush						6	21%
Brown Thrasher						1	100%
Cedar Waxwing						4	50%
Nashville Warbler						2	14%
Magnolia Warbler						1	9%
Myrtle Warbler						3	4%
Black-throated Green Warbler				1		2	3%
Black and White Warbler						1	6%
American Redstart	1	1	2	2	6	31	18%
Ovenbird						3	21%
Common Yellowthroat						8	38%
Canada Warbler						1	50%
Song Sparrow						6	40%
White-throated Sparrow						6	22%
White-crowned Sparrow						3	18%
Slate-coloured Junco						1	4%
Scarlet Tanager						1	100%
Total	1	1	3	4	6	127	11%

%: Proportion of birds banded in fall 2019 recaptured.

6. Personnel

Twelve volunteers contributed 153 person-days to the fall migration monitoring season (Table 4). The volunteers this fall came mostly from Ontario and Quebec. A big thank to them all!

Table 4. Volunteer effort, fall 2019.

18 - 29 Days		**2 - 8 Days**	
Valérie Tchang	Nicole Wajmer	Ashley McGrath	Tanya Havelka
Linda Nong	Melody Fraser	Patrick Donworth	Al Woodhouse
Katelyn Luff	Miruna Dragomir	Cathy Hamel	

7.0 Conclusion

For an eighteenth consecutive fall, bird migration monitoring at Cabot Head was done daily from August 15 to October 31, thanks notably to a dedicated team of volunteers. The continuing monitoring effort throughout the years continually adds details and refines the natural history of bird migration on the Bruce Peninsula.

This fall, we experienced a general lack of bird activity throughout the season, regardless of species. After the third-highest banding total in spring 2019, it was the lowest ever this fall. However, there does not seem to be a direct correlation between spring and fall banding numbers in a given year. This spring, bad weather likely contributed to a high level of captures. The cold and wet spring happened not only on the Bruce Peninsula but on a large spatial scale, across the northeast, which potentially reduced breeding success. As a consequence, there might have been much less birds moving south.

As a compounding factor, it is reported that there was an abundance of food across the boreal forest, which may have induced a fast migration with shorter stop. Recaptures at Cabot Head were quite low and no American Redstarts banded in the spring was recaptured.

With a feeling of "empty woods", there were not many unusual records this fall. The late October Blue-gray Gnatcatcher was certainly noteworthy, not only by its record late date, but also because it was captured and banded. Even the waters of Georgian Bay were not very busy, although Surf Scoters were seen on two days, a species not detected every fall season. Seeing rare birds is obviously exciting, although the core of the migration monitoring is to provide a long-term data base. Every observation brings its own reward, and increases our knowledge, understanding, and appreciation of the natural world.

Cabot Head is truly an amazing place to experience and share the beauty of nature. Continuing migration monitoring at CHRS contributes to the efforts of the CMMN and ultimately to the understanding and monitoring of bird populations.

Acknowledgements

As a non-profit, volunteer-based initiative, the Bruce Peninsula Bird Observatory would not be operable without the overwhelming support of its membership, financial supporters and volunteers. BPBO wishes to thank Ontario Park and Parks Canada (Bruce Peninsula National Park), for their continued support.

The author wishes to thank all the members of the Bruce Peninsula Bird Observatory, for their support during the field season. I would also like to commend the volunteers who helped make the field season efficient and enjoyable. It is an honour and a privilege to work for BPBO.

Appendix I

Table 5. Season Total of species observed in fall 2019 at Cabot Head Research Station, with maximum and minimum daily totals, number of days with observation, and dates of first and last observation.

Group	Species name	Season Total	Daily Max.	Daily Min.	Days with obs.	First date	Last date
Ducks, Geese & Swans	Cackling Goose	1	1	1	1	16 Se.	
	Canada Goose	895	289	1	21	22 Au.	6 Oc.
	Wood Duck	3	2	1	2	21 Se.	19 Oc.
	American Black Duck	2	1	1	2	25 Oc.	26 Oc.
	Mallard	10	3	1	7	2 Se.	26 Oc.
	Greater Scaup	2	2	2	1	30 Se.	
	Surf Scoter	2	1	1	2	30 Se.	25 Oc.
	White-winged Scoter	26	7	1	8	4 Se.	23 Oc.
	Long-tailed Duck	141	65	4	4	16 Oc.	30 Oc.
	Bufflehead	5	4	1	2	24 Oc.	25 Oc.
	Hooded Merganser	12	5	2	3	17 Au.	29 Oc.
	Common Merganser	98	14	1	27	25 Au.	26 Oc.
	Red-breasted Merganser	13	6	1	7	16 Se.	22 Oc.
Grouse & Turkeys	Ruffed Grouse	24	3	1	14	6 Se.	30 Oc.
Grebes	Horned Grebe	9	5	4	2	26 Oc.	28 Oc.
	Red-necked Grebe	6	1	1	6	17 Se.	25 Oc.
Cuckoos	Black-billed Cuckoo	2	1	1	2	18 Au.	21 Se.
Goatsuckers	Eastern Whip-poor-will	1	1	1	1	18 Se.	
Hummingbirds	Ruby-throat. Hummingbird	53	6	1	25	15 Au.	20 Se.
Cranes	Sandhill Crane	16	2	1	9	20 Au.	28 Se.
Sandpipers	Greater Yellowlegs	11	4	1	8	15 Au.	16 Se.
	Spotted Sandpiper	3	1	1	3	21 Au.	31 Au.
	Wilson's Snipe	2	1	1	2	16 Au.	5 Oc.
Gulls & Terns	Ring-billed Gull	373	77	1	56	15 Au.	31 Oc.
	Herring Gull	69	4	1	41	15 Au.	30 Oc.
	Caspian Tern	1	1	1	1	29 Au.	
Loons	Red-throated Loon	1	1	1	1	24 Oc.	
	Common Loon	120	13	1	49	21 Au.	30 Oc.
Cormorants	Double-crested Cormorant	288	20	1	39	15 Au.	28 Oc.
Herons & Bitterns	Great Blue Heron	34	13	1	16	15 Au.	11 Oc.
Vultures	Turkey Vulture	27	12	1	8	15 Au.	14 Oc.
Osprey	Osprey	2	1	1	2	18 Au.	12 Se.

Group	Species name	Season Total	Daily Max.	Daily Min.	Days with obs.	First date	Last date
Hawks, Kites & Eagles	Bald Eagle	90	8	1	46	15 Au.	31 Oc.
	Northern Harrier	2	1	1	2	14 Se.	19 Se.
	Sharp-shinned Hawk	13	2	1	11	21 Au.	19 Oc.
	Cooper's Hawk	4	1	1	4	21 Au.	26 Oc.
	Northern Goshawk	1	1	1	1	19 Se.	
	Red-shouldered Hawk	2	1	1	2	26 Au.	15 Se.
	Broad-winged Hawk	44	30	1	4	18 Au.	28 Au.
	Red-tailed Hawk	8	5	1	4	17 Au.	28 Au.
Typical Owls	Northern Saw-whet Owl	1	1	1	1	19 Oc.	
Kingfishers	Belted Kingfisher	47	3	1	39	15 Au.	16 Oc.
Woodpeckers	Red-headed Woodpecker	2	1	1	2	7 Oc.	7 Oc.
	Yellow-bellied Sapsucker	6	4	1	3	25 Se.	27 Se.
	Downy Woodpecker	32	3	1	20	6 Se.	30 Oc.
	Hairy Woodpecker	9	1	1	9	25 Au.	25 Oc.
	Northern Flicker	121	13	1	38	15 Au.	19 Oc.
	Pileated Woodpecker	38	3	1	24	20 Au.	26 Oc.
Falcons	American Kestrel	2	1	1	2	24 Au.	29 Se.
	Merlin	45	2	1	32	19 Au.	24 Oc.
	Peregrine Falcon	6	2	1	5	24 Au.	20 Oc.
Tyrant Flycatchers	Eastern Wood-Pewee	3	3	3	1	21 Au.	
	Yellow-bellied Flycatcher	4	1	1	4	3 Se.	20 Se.
	Traill's Flycatcher	1	1	1	1	28 Au.	
	Alder Flycatcher	1	1	1	1	1 Se.	
	Least Flycatcher	8	1	1	8	23 Au.	17 Se.
	Eastern Phoebe	46	5	1	25	15 Au.	26 Oc.
	Great Crested Flycatcher	2	1	1	2	6 Se.	7 Se.
	Eastern Kingbird	1	1	1	1	21 Au.	
Shrikes	Northern Shrike	1	1	1	1	18 Oc.	
Vireos	Blue-headed Vireo	12	2	1	10	20 Au.	24 Oc.
	Warbling Vireo	1	1	1	1	16 Se.	
	Philadelphia Vireo	2	1	1	2	3 Se.	16 Se.
	Red-eyed Vireo	136	9	1	40	16 Au.	18 Oc.
Crows & Jays	Blue Jay	1103	104	1	65	15 Au.	29 Oc.
	American Crow	129	22	1	37	24 Au.	24 Oc.
	Common Raven	103	15	1	42	6 Se.	30 Oc.
Larks	Horned Lark	17	10	1	4	18 Se.	18 Oc.
Swallows	Tree Swallow	1	1	1	1	16 Au.	
	N. Rough-winged Swallow	1	1	1	1	16 Au.	

Group	Species name	Season Total	Daily Max.	Daily Min.	Days with obs.	First date	Last date
Chickadees	Black-capped Chickadee	241	13	1	54	15 Au.	28 Oc.
Nuthatches	Red-breasted Nuthatch	38	4	0	26	17 Au.	25 Oc.
Creepers	Brown Creeper	38	6	1	21	18 Au.	29 Oc.
Wrens	House Wren	1	1	1	1	19 Se.	
Wrens	Winter Wren	6	3	1	4	18 Au.	16 Oc.
Gnatcatchers	Blue-gray Gnatcatcher	3	1	1	3	26 Oc.	30 Oc.
Kinglets	Golden-crowned Kinglet	536	77	1	29	20 Se.	30 Oc.
	Ruby-crowned Kinglet	186	43	1	29	4 Se.	30 Oc.
Thrushes	Eastern Bluebird	1	1	1	1	18 Au.	
	Veery	1	1	1	1	16 Au.	
	Gray-cheeked Thrush	9	2	1	7	29 Au.	26 Se.
	Swainson's Thrush	13	3	1	10	2 Se.	14 Oc.
	Hermit Thrush	38	4	1	22	15 Au.	29 Oc.
	American Robin	423	86	1	44	15 Au.	30 Oc.
Mockingbirds & Thrashers	Gray Catbird	8	2	1	6	26 Au.	16 Oc.
	Brown Thrasher	6	1	1	6	16 Au.	3 Se.
Starlings	European Starling	1	1	1	1	22 Oc.	
Waxwings	Cedar Waxwing	778	89	1	48	15 Au.	26 Oc.
Pipits	American Pipit	10	2	1	7	14 Se.	2 Oc.
Finches	Pine Grosbeak	2	2	2	1	14 Oc.	
	Purple Finch	98	32	1	12	1 Oc.	30 Oc.
	White-winged Crossbill	1	1	1	1	24 Au.	
	Pine Siskin	105	69	1	7	5 Oc.	26 Oc.
	American Goldfinch	487	112	1	46	15 Au.	29 Oc.
Snow Buntings	Snow Bunting	5	2	1	4	24 Oc.	30 Oc.
New World Warblers	Tennessee Warbler	8	3	1	6	3 Se.	7 Oc.
	Orange-crowned Warbler	15	4	1	9	26 Se.	20 Oc.
	Nashville Warbler	24	4	0	16	19 Au.	15 Oc.
	Northern Parula	2	2	2	1	16 Se.	
	Yellow Warbler	9	3	1	7	25 Au.	23 Se.
	Chestnut-sided Warbler	3	1	1	3	29 Au.	14 Oc.
	Magnolia Warbler	19	5	0	13	23 Au.	14 Oc.
	Cape May Warbler	11	3	0	8	11 Se.	23 Se.
	Black-throat. Blue Warbler	12	2	1	11	15 Au.	1 Oc.
	Myrtle Warbler	517	53	1	59	16 Au.	29 Oc.
	Black-thro. Green Warbler	154	15	1	30	18 Au.	27 Se.
	Blackburnian Warbler	4	2	1	3	3 Se.	9 Se.

Group	Species name	Season Total	Daily Max.	Daily Min.	Days with obs.	First date	Last date
New World Warblers	Pine Warbler	2	2	2	1	4 Se.	
	Western Palm Warbler	16	4	1	9	16 Se.	10 Oc.
	Bay-breasted Warbler	22	7	1	9	3 Se.	25 Se.
	Blackpoll Warbler	4	1	1	5	11 Se.	6 Oc.
	Black-and-white Warbler	44	6	1	20	15 Au.	19 Se.
	American Redstart	375	26	1	37	15 Au.	3 Oc.
	Ovenbird	19	2	1	15	15 Au.	20 Se.
	Northern Waterthrush	3	1	1	3	18 Au.	23 Au.
	Common Yellowthroat	107	9	1	31	15 Au.	10 Oc.
	Wilson's Warbler	7	3	1	4	30 Au.	17 Se.
	Canada Warbler	7	1	1	7	21 Au.	21 Se.
New World Sparrows	Eastern Towhee	1	1	1	1	31 Au.	
	American Tree Sparrow	15	8	1	6	22 Oc.	30 Oc.
	Chipping Sparrow	4	1	1	4	15 Au.	4 Oc.
	Savannah Sparrow	4	3	1	2	24 Se.	26 Se.
	Fox Sparrow	1	1	1	1	30 Oc.	
	Song Sparrow	147	8	1	57	15 Au.	30 Oc.
	Lincoln's Sparrow	2	1	1	2	7 Oc.	7 Oc.
	Swamp Sparrow	7	5	1	3	21 Se.	25 Oc.
	White-throated Sparrow	78	8	1	21	9 Se.	25 Oc.
	White-crowned Sparrow	32	5	1	18	21 Se.	26 Oc.
	Dark-eyed Junco	53	14	1	16	15 Au.	30 Oc.
Cardinals & allies	Scarlet Tanager	5	2	1	4	20 Se.	28 Se.
	Indigo Bunting	2	1	1	2	20 Se.	28 Se.
New World Blackbirds	Rusty Blackbird	2	2	2	1	6 Oc.	
	Common Grackle	1	1	1	1	20 Au.	

Appendix II

An edited (for brevity and clarity) version of the blog published during the fall 2019 monitoring season.

A new season begins - August 18

It is mid-August, leaving the dog days of summer behind and slowly-but-surely returning to cooler temperatures, longer nights, and migrating birds. It is also when monitoring starts again at the Cabot Head Research Station, with all 15 nets set up and an eager crew ready to take on another season of banding and observing birds.

And here we are, three days into a season of waking before sunrise to open nets (precisely 30 minutes before the sun breaches the watery horizon of Georgian Bay), checking them every half hour, gently and safely extracting entangled birds, banding and releasing them quickly, all the while keeping an eye to the sky and an ear to the woods to record the birds who do not fly into our nets.

Yes, it still feels like summer. And, for many birds, it is still summer, with no thoughts yet of flying South. It is still the time of moulting into a new plumage, of learning to be independent from doting parents who were feeding you so often just weeks, or even, days ago, of enjoying the easy life of summer in the northern woods.

But, already, there is a pull, there is an urge, there is the inevitable tilt of the Earth's axis: fall is on its way and migration is starting. The Greater Yellowlegs, like so many other shorebirds, has already been answering the call, already has started the long journey South from its boreal and subarctic wetlands all the way to South America. Two Greater Yellowlegs were at Cabot Head on August 16, easily detected at first by their loud calls, then seen gracefully flying over Wingfield Basin.

[…]

Young birds are everywhere, stretching wings of fresh feathers, learning a new freedom, discovering a vast world… and getting tangled in mist nets! There was a baby boom on August 16, when a young Brown Thrasher and eight (8!) young American Robins were captured and banded. Juveniles of another kind were stretching their 8-foot (2m) wingspan to soar above them all: the resident bald eagle pair has produced two eaglets!

They are a joyous reminder that it is good to be back at Cabot Head for another season of bird migration monitoring.

A slow movement of feathers - August 25

It has been now ten days of monitoring. We've been settling into a routine of waking up before dawn, admiring the slow rise of the sun over Georgian Bay, listening to the sounds of birds, trees, and water. Summer is still bathing us in its warm embrace, pouring down golden rays from depthless blue skies. It doesn't quite feel like fall migration yet, and it shows in the meagre harvest that our nets collect, as it does in the slow movement of feathers in the woods surrounding us.

[…] We banded two very young Brown Creepers; on the morning of August 24, and we caught all at the same time, the three Eastern Phoebe fledglings that were sitting in their nest under a balcony just days before.

We also caught a young Merlin on August 20, which is only the 5th Merlin ever banded at Cabot Head. This species breeds around the station every year, but as a bird of the open skies, it is rarely

found in the woods and even more rarely caught in nets designed for smaller birds. That said, it was quite a treat! The following day, it was the turn of a young Sharp-shinned Hawk to be banded: this species is certainly captured every fall but in small numbers (from one to four birds), so it was another precious moment.

And, as if to make up for the lack of migration, we got another rare bird in our nets, on the morning of August 25: a Pileated Woodpecker! Loud and feisty, with a sharp bill, it certainly requires more caution than a warbler or a sparrow. Indeed, banding is best done as a team of two, one holding on, the other putting the band on and measuring. In nine of the previous 17 Fall seasons, ten Pileated Woodpeckers have been banded (and only four in four Spring seasons). Not as rare as a Merlin, but still a very nice treat!

Though nothing compares to the surprise I got as I was paddling back into Wingfield Basin, following an afternoon of seakayaking, on August 24. There was an American Golden Plover, standing by itself on the rocky shore at the tip, marking the entrance to the basin. […] It was the first ever American Golden Plover recorded at Cabot Head!!

And this is why we watch birds! For the excitement of the unexpected, for the comfort of the common birds, and for the recurring novelty of the endless cycle.

Where have all the birds gone? - September 2

And so, it continues to be slow, in the sky, in the trees, and in the nets. There are certainly multiple reasons for such paucity but I do not want dare advance explanations which would be no more than barely educated guesses. A station in northern Ontario reports astounding good numbers, while others more in the south whine and complain about lack of abundance and diversity.

Suffice to say that we should simply accept what comes (or not) our way and cherish the special moments. Such as:

One morning, a male adult Ruby-throated Hummingbird suddenly appeared at the station and sat on the picnic table, right next to us. It seemed exhausted, not moving for several minutes: it must have just crossed Georgian Bay and needed to "catch its breath". Very soon, though, it was engaged in a sustained fight with the young hummingbird who had previously claimed the feeder. Such a constant source of food is always highly coveted, especially in spring when flowers are barely peeking out. Apparently in late summer as well, despite the abundance of wildflowers around: these two hummingbirds engaged in an aerial fight of a rare intensity! A few times, they even locked feet […] and spun together, in a deadly embrace. It went on for a long time, until, ultimately, the newcomer took over the prized feeder.

On a calm evening […], about a dozen Common Nighthawks suddenly appeared in the still air, flying low over Wingfield Basin, delighting the human visitors by their butterfly flight and dexterity. […]

On August 26, we were surprised by a large group of a species not usually seen in such numbers at Cabot Head: six young Bald Eagles were soaring together! These birds were all hatched this summer, and must have come from several nests on the Bruce Peninsula. […] As these young were flying, we could see an adult eagle perched nearby. A little later that morning, the adult was flying with six young, whereas a seventh eaglet was perched. So, it is a minimum of eight Bald Eagles that were in the Cabot Head airspace that day! […]

And, finally, there was a tremor of migration on August 29, when we captured the first Gray-cheeked Thrush of the season. It is a true migrant, since that species does not breed on the Bruce Peninsula. It even barely breeds in Ontario with a few records scattered in the extreme north of the

province. That date marks the earliest detection for this species ever in the fall, by a single day: August 30, in 2017, was the previous earliest capture. Usually, the first birds are detected in early September, with most movement occurring in the second half of September, and barely any in October (last detection on October 8, 2003).
May there be many, many more migrants to flood our skies, trees, and nets!

Hints of change. - September 8

In the North wind and colder nights, in the reddening of leaves and shortening of days, in the first honking skeins of southbound geese, changes are under way. We're slowly transitioning from care-free summer to dutiful autumn, as any school kid would attest, with a resigned shrug or an exaggerated eye-roll.
It has been a disappointing, slow-paced week for us at Cabot Head, straining our eyes and ears to detect the sparse birds, with very little success. I use weekly banding totals to compare between years, to smooth day-to-day variations and the week of August 30 to September 5 this year experienced indeed the lowest banding total, with 48 birds (tied with 2014), when the average over the years is 140 birds! It is not a deficiency in our senses, then, missing secretive and quiet birds, but a mere absence, objectively reflected in very few birds captured in the nets. It is possible that the stable and relatively benign weather allows birds to simply push on; flying over us with the wintering grounds on their minds, confident in the fastness of the world to harbour them when they choose to alight.
A glimpse of what may be was given to us on September 4: under a chilly cover of clouds and a very strong North wind (preventing banding), we observed the highest diversity of warblers of the season, albeit in very small numbers. A total of 10 species were recorded, including the first Wilson's Warbler of the fall, coming out of a boreal summer, several Bay-breasted Warblers in their discreet fall plumage, and one Blackburnian Warbler in the subdued tones of its juvenile feathers. On that day we also observed the first Ruby-crowned Kinglet (in the forest) and the first White-winged Scoter (over the Bay). The following day, September 5, the warbler assemblage was slightly different, but still quite good with nine species, including a young female Canada Warbler and a young male Wilson's Warbler in our nets. Still, numbers were desperately low, either on the wing or in the nets.
Except for some rain falling during the week, there is not much more to report. Monarchs are still plentiful, a welcome and hopeful sight: one early morning, scanning the calm water of Georgian bay, I saw more Monarchs flying in towards the shore than I counted birds. May their migration be successful too!

A week of storms! September 16

In the nine days from September 8th to 16th, four banding days were lost to strong wind and/or rain. The wind came almost from all points of the compass, striking us from the North, South, East, or West in equal fury, bringing with it rain for two days in a row.
[…] only 37 birds were banded during the week of September 6 – 12; the second lowest total on record for this second week of the month. Also indicative of the quiet fall, the seasonal total up to September 12 is now the lowest ever compared to the previous 17 seasons.

Among the few highlights, we were treated to a few Cape May Warblers in the trees and the nets over several days, and to two beautiful young male Northern Parulas and a Philadelphia Vireo in the nets, as well as a Warbling Vireo observed on census, all on September 16.
The most impressive bird was, without contest, a leucistic Ruby-throated Hummingbird, which frequented our feeders for a couple of days. Not fully albino, it had a black eye, white underparts, and light rufous or beige upperparts! (Leucism is a genetic condition in which there is a partial loss of pigmentation due to a lack of melanin producing cells, but with the eyes remain their normal colour, and some carotenoid-based colours – such as yellows and oranges – remaining, though often looking washed out or faded).
It was also delightful to watch two River Otters fishing for Crayfish near the shipwreck early one morning, as it was to safely observe a Black Bear searching for berries on the other side of Wingfield Basin.
Despite a paucity of birds, there is always something to enjoy at Cabot Head: the full moon bathing Wingfield Basin in golden lights as it rises up in a cloudless sky; two Common Loons emerging from the fog, flying low over the trees; or a Massassauga Rattlesnake kindly warning us of its presence underneath a net by rattling its namesake rattle.

Birding as meditation. September 22

[…]
According to the American Birding Association (www.aba.org), there are "a million ways to bird", a certain encouragement to enjoy birds in multiple and varied ways. And so, as an example, birding can be done as meditation in the outdoors. At its core, meditation is "simply" to pay attention, which is not so simple, of course. Paying attention, being aware, alert, is also at the core of birding: what was that call? Did I see a silhouette behind those trees? What colours made up the furtive shape which flew across the road?
But, meditation is paying attention with equanimity, that is, with a mental calmness, an even mind, a state of stability and composure. And this is where birding can part ways from meditation: the excitement, the search for the rare birds, or, conversely, the disappointment in not seeing much, or the same old, same old local birds. But, this is also where meditation can enhance our birdwatching experience by accepting what may (or may not) come our way.
Accepting the slowness of migration with a calm mind, walking the census path for an hour in a state of steady alertness, regardless of how few birds are seen or heard, opening one's eyes and ears to the infinite possibilities of an early morning.
Is this pseudo-philosophical discourse another way to say that migration is still slow at Cabot Head? You betcha! Maybe migration is simply delayed, as noted in other bird observatories, like Long Point? It's possible, but most species do have a time window through which they migrate, which is not infinitely extensible, especially for long-distance migrants. We are nonetheless still getting quite a diversity of warblers, as well as a few flycatchers.
Among the latter, we have banded four Yellow-bellied Flycatchers; a species never captured in large numbers at Cabot Head (seasonal totals typically ranging from one to seven birds). Between 2002 and 2018, 85% of the Yellow-bellied Flycatchers were captured before September 16, indicative of the early migration of this long-distance migrant. This Fall, however, three of the four birds were captured from September 16 onwards.
At the fall equinox, this unique time when day length is equal to night everywhere on Earth, we reached the monitoring halfway period. This is also when a new suite of bird species is slowly

making their appearance: the short-distance migrants. This week, we witnessed the arrival of Palm Warblers, Golden- and Ruby-crowned Kinglets, White-throated Sparrows, and one Dark-eyed Junco.
The first White-crowned Sparrow, a young individual, was captured on September 21. It is a late date for the first detection of this species, with only two Fall seasons (in the previous 17) having had later dates: September 24 in 2012 and September 27 in 2002.
So, maybe migration is delayed for some species after all and many birds are biding their time. We will be ready to welcome them with open nets and open minds.

Change is the only constant! October 5

On the first day of October, a very warm and very strong wind is blowing from the South, bringing unseasonably warm temperatures and keeping our nets furled. […]
Regardless of what may come, migration as witnessed at Cabot Head this Fall, has been, and still is, slow. It is clear, though, that birds are migrating South, even if they are not detected in numbers at the station. Indeed, most of the long-distance migrants, like Flycatchers and Warblers, have now passed us on their journey. As always with nature, there are exceptions to the rule and a few warbler species are among the short-distance migrants, wintering as close as the southern USA: Yellow-rumped and Palm Warblers are in that category, as well as Orange-crowned Warbler: we had the first individual of that latter species on September 30.
Coming into the scene now are the short-distance migrants, which include kinglets, sparrows, the migratory woodpeckers (Northern Flicker and Yellow-bellied Sapsucker). There has been a trickle of kinglets of both species in the last week, as well as White-crowned and White-throated sparrows, and Blue-headed Vireos (who have been mixing with the last of their Red-eyed cousins, who still have a long flight ahead of them, all the way to the Amazon basin) over the course of the last week.
On September 30, despite, or maybe because of, a strong East wind, there was an interesting passage over Georgian Bay: Loons, in ones or twos, were flying fast and low, heading East. Likewise, a few ducks were observed over the bay: seven White-winged Scoters in several small flocks, one lone Surf Scoter, and two Greater Scaups. And two separate Peregrine Falcons were easily fighting the wind, flying low over the water and heading toward the Peninsula, just like the adult Bald Eagle sometime later that same morning.
This is a time of change, moving further into Fall, still green but with more and more colourful leaves, shorter days, and, eventually, cooler temperatures.

Warblers in October. October 12

It has been a very pleasant beginning of October, with mild temperatures and sunny skies, with more and more leaves changing colour. The sudden drop in temperatures on the overcast morning of the 12th was certainly not a surprise, but a certain reminder that Fall is entering into a cold and grey phase.
We finally had some busier banding days, thanks to the arrival of Golden-crowned Kinglets, who like traveling in twittering flocks. We reached a season banding high (for now) on October 8, with 51 birds banded, 36 of them Golden-crowned Kinglets. We also caught a young male Pileated Woodpecker on that same day. And a young female three days later. With the adult male caught in August, that makes three Pileated Woodpeckers banded this Fall; the first time that that many have been banded in a Fall season. From 2002 to 2018, in the Fall, a total of 11 Pileated Woodpeckers

have been banded in ten seasons, which is one per season except in Fall 2015 when two were banded. […]
Another treat this Fall, though one that shouldn't be rare, was the first - and, so far only, Gray Catbird, banded on October 10. Never banded in large numbers, it is nonetheless unusual to catch so few: a Fall banding total of one bird happened only in two previous seasons, in 2013 (capture on August 17) and in 2018 (capture on October 10). The latest ever capture was on October 29, in 2005, so we potentially could get others.
In October, it is the time to really say goodbye to the wood warblers, known to many as "forest gems", wishing them luck and already eagerly awaiting their return in May. However, there is a surprising number of them that can still be seen in October: over the years, there has been a total of 16 species of warblers detected at least once in October at Cabot Head. Quite a few of them (seven species, to be precise) have been detected three times or less in the 17 previous seasons and have not (yet?) been detected this Fall either. On the other hand, three species, Orange-crowned, Nashville, and Yellow-rumped Warblers, are detected every single October, and that definitely remains the case this year, with observations almost every day up to October 12 (as I'm writing these lines).
That said, this year, in the first 12 days of October, we have detected 10 species of warblers, quite a remarkable total. In previous Octobers, totals range from five (in 2005, 2007, and 2011) to 15 species (in 2014). Besides the three previously mentioned species, seen every October, here is what else we've seen to date:
a young male Black-throated Blue Warbler was banded on October 2, a somewhat regular species, detected in eight of the 17 previous Octobers; slightly less common, we also captured an American Redstart, on October 4; a Blackpoll Warbler was in our nets on October 7: this species has been detected in October in only five previous years, all in the first few days of the month, except for two birds on October 11, in 2014; Tennessee Warblers were detected in two days this year, October 7 & 8; a Common Yellowthroat was banded on October 8 and re-observed two days later; Palm Warblers were observed on the same days as the previous species; and, finally, one Magnolia Warbler was seen very briefly on October 12, the only detection in October this year. It ties the latest detection for that species, in 2008. Magnolia Warblers have been observed in October in eight previous Fall seasons.
[…]

Last days of fall monitoring… October 22

It is this time of year when we really start to feel the end of season: almost all the trees have changed their colours (except, of course, the evergreens), the days are getting shorter and shorter, and most of the birds are gone now!
It is now even slower than before, even though it was already slow. It is simply the same refrain that I've been singing all along this fall. Nonetheless, there are always moments and birds to lift our spirits.
On October 18, it was two species that enlivened the day, the last Red-eyed Vireo and the first Northern Shrike of the season. It is possible to have another Red-eyed Vireo later in the season, as the last one ever was on October 28, 2004. However, in all the past 17 years, there have been only five Red-eyed Vireos detected after October 15, out of a total of 3,863 individuals counted in the 17 Fall seasons. On the other end, Northern Shrikes are late migrants, and occur in very small

numbers. Missed in six Fall seasons, there was a total of only 38 Northern Shrikes counted in the other 11 seasons, with five before or on October 18.
On the first net round on October 19, we were surprised and delighted to see a Northern Saw-whet Owl in a net! It is always such a treat to handle that little cute owl. We don't do owl banding, unlike many other stations, but it is actually not uncommon to catch one in the early hour of the "normal" banding, with one to a few owls seasonally (but none in five Fall seasons).
On October 20, I watched a young Peregrine Falcon come in low over the bay with purposeful wingbeats. It arrived at the shoreline so close that it fully filled my field of vision through my binoculars. I was delighted, as Peregrine Falcons are among my favourite birds.
Before the wind increased to gale-force and obliged us to close nets, we captured a handful of birds in the morning of October 22, including the first American Tree Sparrow of the season. A late migrant, it is seen in numbers only in late October, with the first ones detected in early October. October 22 marks the latest first detection across the years, in 2019 thus, but also in 2018.
We may still potentially welcome a few more late migrant species (Snow Bunting, Pine Grosbeak, Common Redpoll, or Bohemian Waxwing), so we will keep our ears and eyes sharp and alert even in the waning days of monitoring.

End of season. October 31

Like all things, the fall 2019 bird migration monitoring is coming to an end. October 31st is the official end date, marked this year by a tumultuous wind- and rain-storm! […]
In the last eight days or so, we banded an all-time low of 48 birds, bringing the season total to 1018 banded birds. […] Fall 2019 is the lowest, slowest, season on record! Many of the 68 species captured were banded in below average, or even, record low numbers.
Nonetheless, the last week brought a very exciting surprise: a Blue-gray Gnatcatcher was observed on October 26 and 28 and banded on the 30th! It is only the second Gnatcatcher banded at Cabot Head (first one in Fall 2002). This species has been observed in eight previous Fall seasons (out of 17), so it is not common, and most observations are in August or early September. There have been only two observations in October in the past: one bird on the 1st in 2006, and one on the 7th, in 2014. So, this Fall's record is extremely late.
Of the list of expected birds provided in the last post, only one species was detected: Snow Bunting, with two birds on October 24 and three more observations afterward of a single bird. However, five new species for the season were also detected, most of them through bay watching: a Bufflehead on October 24; a Red-throated Loon on the same day (fourth Fall season with sighting); American Black Ducks on October 25 and 26; a few Horned Grebes fishing just offshore on October 26 and 28. And, finally, not on the bay, but in a net, we had the first and only Fox Sparrow on October 30.
In total, there was a total of 133 species detected at Cabot Head this Fall, an average number, with American Golden Plover being seen for the first time ever.
It is always bittersweet to reach the end of another season. […]

Stéphane