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## YEARLY BANDING REPORT

*Prince Edward Point Bird Observatory*



**LONG-TAILED DUCKS** by Ian K. Barker



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# INTRODUCTION

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*Like most organizations, the Covid-19 virus significantly curtailed PEPTBO's operations in 2020. In consultation with the Canadian Wildlife Service, banding and public access were cancelled for the spring and summer. PEPTBO was able to reopen in mid-August to carry out a full fall banding program; however, we remained closed to the public during this period, maintaining a strict Covid prevention strategy to keep staff and volunteers safe.*

*This report provides data from the late summer and fall 2020 banding season, as well as narrative from the banding staff related to their observations and assumptions. We thank them and the core of dedicated volunteers who worked with them for carrying on during a difficult time. We would also like to thank Lisa Martell and Cheryl Anderson who helped me review and carefully edit the final version, and Kilby Smith-McGregor for making the report as beautiful as it is.*

*The decision to suspend spring banding, while necessary, was a painful one. Birds don't go into lockdown. They continue to migrate, and they continue to thrive—or not—depending on their circumstances. More than ever, we recognize the importance of bearing witness to their lives, hearing what they have to tell us as we observe, inspect, and document. Losing a season of data was disappointing, but we are ready to move forward into 2021 with experienced banders and skilled volunteers to pursue our vision for bird populations that are resilient and robust, and a natural world that is sustainable for future generations.*

**Nick Bartok, Chair**  
**Banding, Research and Training Committee**

# CANADIAN MIGRATION MONITORING: ABSTRACT

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Megan Buers, *Assistant Bander-in-Charge*



Due to the Novel Coronavirus 2019-nCoV (COVID-19) pandemic and the subsequent restrictions to access the Prince Edward Point National Wildlife Area (NWA), the bird observatory was not open during the spring season. For fall, the observatory was running for a full 77 days and bird-banding operations were conducted on 67 of those days. The Bobolink (BOBO) banding started on August 15th and continued for 20 days until

September 4th; banding was conducted on 19 of those days. The Northern Saw-whet Owl (NSWO) Banding Program started on the evening of September 20th and continued for 41 nights until October 31st; banding was conducted on all 41 of those days.

In total there were 7,302.5 passerine net hours conducted this season; calculated by the hours each net was opened for 450 Bobolink net hours, 2,459.5 hawk net hours including both swamp nets, and 1,182 owl nets hours. There are 19 passerine nets, seven hawk nets of which two are 12 metre (m) nets used in the swamp, 10 owl nets, and six Bobolink nets.

A total of 4,003 birds, comprised of 93 species, were banded during the fall season, and 179,320 individuals of 199 species were observed in the NWA. An hour-long census was conducted everyday (weather pending) an hour after nets opened.

The census is conducted by one skilled individual as they make their way around the bird observatory on a predetermined route counting all individuals and species heard and seen (see census portion for more detail). Observations are made throughout the banding day (six-hour period of banding) and kept separate from other observations made after the standard banding period. The various observations along with banding totals give a good idea of what birds are migrating through the area. This data is reported to the Canadian Migration Monitoring Network (CMMN), which is a network of observatories across Canada that monitors trends of migrating bird



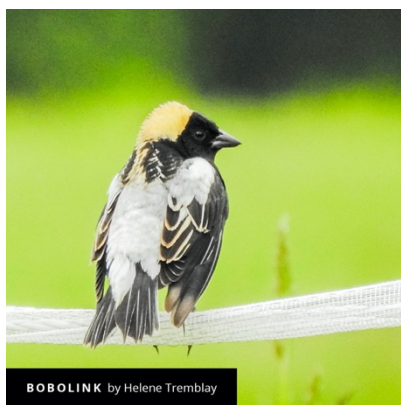
# BOBOLINK BANDING PROGRAM

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*Megan Buers, Assistant Bander-in-Charge*

The Bobolink (BOBO) banding program started at the Prince Edward Point Bird Observatory (PEPtBO) in 2008 and has continued to document how the South Shore of Prince Edward County serves as, not only a breeding site for some, but also an important stopover on migration. PEPtBO is the only known Canadian Migration Monitoring Stations in Canada that has a targeted Bobolink Banding Program and uses an audio lure to call in migrating (BOBO).

The BOBO, a federally and provincially threatened species under the Species at Risk Act (SARA) and Species at Risk in Ontario (SARO), winters in the southern interior of South America. BOBO, numerous in their past, were captured for the pet trade in Argentina and being viewed as a pest to crops for several years were routinely shot to protect crops in the southern states. More recently they have had to deal with the decreasing amount of appropriate habitat as land use practices change, especially due to the decline of hay fields and meadows. At PEPtBO, the land has also changed. What once was agriculturally managed land and farmed pasture has been left to rewild as an NWA allowing for the regrowth of Eastern Redcedar (*Juniperus virginiana*) which could lead to a reduction in the numbers of BOBO at the observatory.



The nets are opened for a 20-day period from August 15 until September 4. Nets were opened at sunrise for a four-hour period. The nets were unable to be opened for two days due to weather and one day they had to close early due to wind risk effecting bird safety. There were 145 Bobolink banded this season, of which 39 were aged as after hatch year, and 106 were aged as HY. Of those banded, 53 males, 65 females, and 27 were left

unsexed. The birds were sexed based on leg size (gauged) and wing chord. Females average smaller and usually take a 1B sized band, whereas males average larger and take a 1A band; however, there is a lot of variation throughout.

# NORTHERN SAW-WHET BANDING PROGRAM

Megan Buers, *Assistant Bander-in-Charge*

The Northern Saw-whet Owl (NSWO) Banding Program has been carried out at PEPtBO since 1995. The program had initially started out of concern for the species and because of the program being adopted across North America. It is now known that NSWO's are one of the most ubiquitous owls in North America. The program is conducted by playing NSWO calls to lure in migrating owls, which are then caught in specialized mist nets.



The 2020 NSWO Banding Program commenced on September 20 starting an hour after sunset (or at nightfall) for a standard period of four hours every night (weather permitting) until October 31. Banding operations were carried out for 33 of the 42 eligible nights. Nights with strong winds or rain resulted in no banding being conducted for bird safety reasons. During the season a total of 242 NSWO's, two Eastern

Screech Owls (ESOW), and two Barred Owls (BADO) were banded; often other owl species are called in out of curiosity.

Calculations for sex are based on weight and wing chord of the bird with females averaging larger than males. This sexual dimorphism (sexual characteristic that is different for males vs. females) is common in most birds of prey. We banded 146 females, 27 males, and 69 of unknown sex. To understand age demographics, the age for 2019 is used to compare (Table 1).

**Table 1:** *Indicates the number of Northern Saw-whet Owl captures by age group for both 2019 and 2020.*

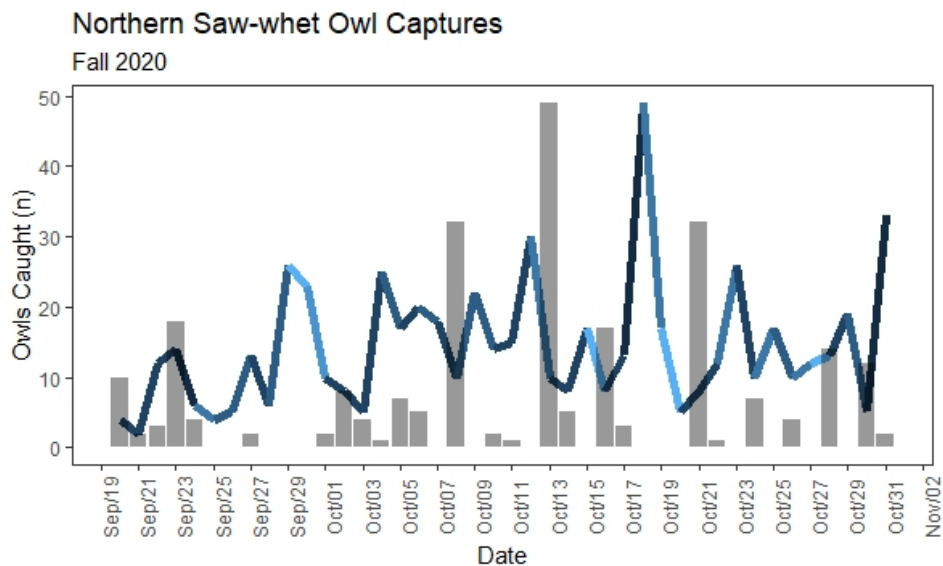
	Year	
	2019	2020
Hatch Year (HY)	60	174
Second Year (SY)	114	32
After Second Year (ASY)	24	2
Third Year (TY)	19	26
After Third Year (ATY)	0	8
Unknown	1	0
Total	118	242

These values allow inferences to be made related to population dynamics. The numbers seem to suggest that in 2019 the NSWOs had a less successful breeding season than in 2020. 2019 produced less than half the number of hatch year (HY) birds than 2020.

In normal years, the anticipation is that most birds migrating are hatch years, an age demographic mirrored in all fall migrating birds. A year where the most birds migrating through are second years (SY) indicates that the previous breeding season (2018) was more successful. Of course, none of this is concrete as birds may migrate through other areas in varying numbers.

Another thing that affects owl migration greatly is weather. There are several theories for what kind of conditions make for perfect owl migration but the general anecdotal consensus is that owls prefer to migrate on overcast and calm nights, most likely after a soft north wind.

It appears NSWO migration, if fit to a normal distribution, would have most owls migrating through during the second week of October this year. There is special attention to when wind strength is extremely high, and banding is not conducted; depending on direction and whether nets are sheltered from wind gusts.



**Figure 1:** Bar graph representing the number of Northern Saw-whet Owls captured on any given day of banding. The line graph indicates the wind strength on any given day of banding, whereas the colour of the line indicates the level of overcast (light blue indicates clear conditions and dark blue indicates rain being the most severe level of overcast). Weather conditions were taken from the Government of Canada historical weather data for Kingston, Ontario.

# STANDARD BANDING

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Blair Dudeck, *Bander-in-Charge*

## COVERAGE

During the 2020 season PEPtBO followed the operating procedures set out in the 2018 banding protocol. Under this protocol the observatory ran 19 passerine nets and seven raptor nets, which opened at sunrise and were run for six hours each day barring poor weather over the 78-day banding season. Overall, this resulted in a total of 7,302.5 hours of passerine banding and 2,459.5 hours of raptor banding.

## NON-PASSERINES

### *Raptors*

#### *Hawks*



In the fall 2020 banding season we banded 26 hawks, made up of 25 Sharp-shinned Hawks and a lone female Cooper's Hawk (COHA). PEPtBO usually catches at least one Cooper's Hawk each fall, with the past four seasons alternately catching a single individual or five birds. Many COHA's were seen around the observatory throughout the season but most avoided capture.

Despite having a local Broad-winged Hawk (BWHA) hang around the observatory for most of September, the closest one came to being caught was when a few feathers were left in one of the passerine nets where one bounced out. The 2020 totals were nearly identical to the 2019 season with only one extra Sharp-shinned Hawk (SSHA) being banded in 2020. These totals were significantly down from the year-to-year average of 48.

#### *Falcons*

While the hawk totals were disappointing, the falcons more than made up for it. Three Hatch Year (HY) Merlin (MERL) found their way into the raptor nets. This matched a season high for MERL banded at PEPtBO in the fall 2011 season.

Catching multiple individuals of MERL in the fall is very rare especially since even catching a single MERL is unusual. This also meant that all three of the banders running the observatory in September got to band a MERL. No other species of falcon was netted in the season, though American Kestrel (AMKE) was seen frequently.

## Owls

See Northern Saw-whet Owl (NSWO) section (page 5) for details on the fall owl banding project.

## Woodpeckers

This fall was good for woodpeckers at PEPTBO, with five species banded, all of which were higher totals than in 2019. There were 33 Yellow-bellied Sapsuckers (YBSA) banded, tripling the total banded in 2019 and 11 more than the yearly average for the observatory's fall season. There were eight Downy Woodpeckers (DOWO) banded, up from six in 2019 and just slightly above the average fall season total of seven. There was also an increase in the number of Hairy Woodpeckers (HAWO) banded. Four were banded in contrast to a single individual banded in 2019, down from the year-to-year average of six. Northern Flicker (NOFL) also had a good season finding their way into the nets with a total of 10 times, exactly matching the year-to-year average for this species and surpassing the 2019 total of only six. One of the major highlights of the season was the single Pileated Woodpecker (PIWO) banded this year. Most years there are none banded so getting this individual was a real treat for everyone.

## Cuckoos



This fall was amazing for both species of Cuckoo at PEPTBO. Both species were regularly seen around the observatory as well as finding their way into the nets. Black-billed Cuckoos (BBCU) were the more common species of which 10 individuals were banded, most noteworthy of these were three juveniles still growing feathers that were banded in late September presumably from a very late local nest. Ten birds banded is the



highest number ever banded at the observatory, passing the previous high of seven banded back in 2009, and was also significantly higher than the four banded in 2019.

There were Two Yellow-billed Cuckoos (YBCU) banded matching the highest number banded at PEPTBO which has occurred twice previously in 2013 and 2002. Most years no YBCUs are banded; thus, getting two this year was extremely exciting, though at least two more individuals were observed jumping out of the nets much to everyone's frustration. Though given that none were banded in 2019 it was still a happy moment. The reason for high cuckoo numbers is likely due to outbreaks of fall webworm (*Hyphantria cunea*), a favorite food of cuckoos as they manage to grasp the caterpillars firmly and knock them until most of the hairs have fallen off.

## PASSERINES

### Flycatchers



The 2020 banding season saw PEPTBO capture eight species of flycatcher with overall totals staying relatively similar to the numbers captured in the 2019 season. Yellow-bellied Flycatchers (YBFL) had a very average year with 29 individuals banded, which is just below the long-term year to year average of 33. However, this was a significant increase from the previous two seasons in which 20 and 23, were banded respectively.

The Trail's Flycatcher (WIFL), Alder (ALFL), and unidentified Trail's Flycatchers (TRFL), had an average season. Overall, a total of 20 were banded of the combined complexes just one short of the year-to-year average of 21. The 20 birds were made up of three WIFL, three ALFL, and 14 undifferentiated Trail's Flycatchers. The banded WIFL and ALFL flycatchers were identified using a combination of wing morphology measurements and these totals matched the all-time high counts for these two species of three each in 2017. It is only the third time these species have been identified at PEPTBO.

Least Flycatcher (LEFL) saw a decrease from last year's number of 31 down to 27 banded this year; however, the 2020 total is right in line with the yearly average of 26. Another interesting note is that both 2019 and 2020 showed significant increases from the previous five years where only 7 to 15 individuals were banded

over that time. There were fewer than average Eastern Phoebe (EAPH) banded with only 20 individuals banded. The 2020 total is 20, only one fewer than 2019, but both these years are well below the long-term average of 31 per season. Only 3 Great-crested Flycatchers (GCFL) were banded in 2020. An identical number to that banded in 2019 and only slightly lower than the year-to-year average of four. These large striking flycatchers always added a dash of excitement when they were pulled from a bird bag. The only flycatcher species to have a better than average year was Eastern-wood Pewee (EAWP) with 16 individuals banded, ten more than in 2019 and six birds above the yearly average of 10. This total tied for the second highest number ever banded at PEptBO with 16 also banded back in 2009.

### *Corvids*

The only species of corvid banded at PEptBO was Blue Jay (BLJA), with a total of 129 birds banded. However, the majority (72) of these were captured in either the ground traps or the J-trap prior to those being discontinued for bird safety reasons. This leaves 57 birds that were captured during the standard net hours. It is hard to compare the totals between years since the data did not separate standard and non-standard banding. Given the number of BLJA seen migrating around the observatory it is likely that number would have been close to the yearly average of 200 had ground traps and J-traps continued to be used. Surprisingly, even with the J-traps only being used for part of the season there were still more BLJA banded in 2020 than in 2019 in which only 75 individuals were banded.

### *Vireos*

Four species of vireo were banded at PEptBO during the 2020 season, Blue-headed (BHVI), Red-eyed (REVI), Philadelphia (PHVI), and Warbling (WAVI). REVI were captured at a historic rate during 2020 with 312 birds banded over the course of the fall season. This was a new season high, eclipsing the past high count of 195 in 2015 by more than a hundred birds. BHVI also had a very good season with 165 individuals banded surpassing the 2019 total by 52 birds and the yearly average by 30 birds. There were only five PHVI captured, which was well below the yearly average of nine but still higher than the three banded in 2019. Similarly, WAVI had a slower year than average with only 3 individuals banded compared to the long-term yearly average of five, but still surpassing the 2019 season by two. No Yellow-throated (YTVI) or White-eyed Vireo (WEVI) were banded this season despite at least one YTVI being seen around the observatory in September.

### *Chickadees*



Black-capped Chickadee (BCCH) were the only species of chickadee banded in 2020; though this is not terribly surprising given that Boreal Chickadee (BCCH) have only been banded once in the history of the observatory and that was back in 2010. During the 2020 season, 150 BCCH were banded which is significantly up from the 2019 season when only 22 birds were banded. However, the 2020 total is significantly below the long-term

average of 338 banded per year; however, this is likely at least partially due to differences in sampling technique from year to year, which would also account for the high fluctuations in yearly totals ranging between 1,600 and 13.

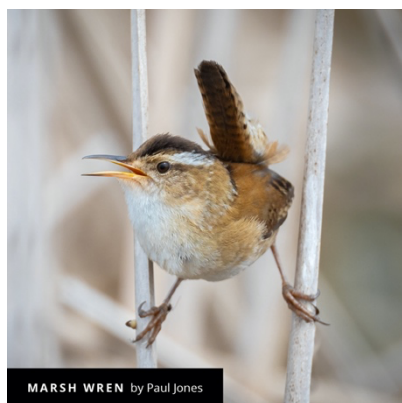
### *Nuthatches*

Both species of nuthatch had better than average seasons far above the 2019 season totals for these species. There were 91 Red-breasted Nuthatch(RBNU) banded in 2020, which is a rather impressive increase from 2019 when zero were banded and almost three times the year-to-year average of 33. This species has had an eruption year across eastern North America. White-breasted Nuthatch(WBNU) also turned up in good numbers in 2020, with 30 individuals banded compared to just three in 2019. The totals for 2020 was also well above the year-to-year average of 23.

### *Creepers*

Brown Creepers (BRCR) had a below average year with 173 banded well below the yearly average of 207. However, this was still an improvement from the 2019 season when only 150 creepers were banded.

## Wrens



Three species of wren were banded during the 2020 fall banding season. The most common species banded was Winter Wren (WIWR), with 11 banded. This is well below the yearly average of 38 and almost half as many as were banded in 2019 when 19 individuals were banded. The number of House Wren (HOWR) banded was also lower than usual with only eight birds banded compared to the long-term average of 15 per fall season. The long-term average is likely a little deceptive though as 2017 saw 47 HOWR banded a number about five times greater than the other totals for the past decade which hovers around 10 per fall migration season. A lone Carolina Wren (CAWR) was a surprise being only the sixth ever banded at PEPtBO and only the third banded during the fall season. The fact that this individual turned up in August in juvenile plumage was doubly surprising given that CAWR are not expected breeders in the Prince Edward County area.

## Kinglets

Kinglets were the most numerous group of birds banded during the 2020 fall season though both species saw a significant decrease from the previous seasons total. This is likely in large part due to the inclement weather for most of October and the many missed days of banding resulting from it. Ruby-crowned Kinglet (RCKI) are the first to show up during the fall and for the 3rd year in a row were banded in higher numbers than Golden-crowned Kinglet (GCKI), 398 vs. 365, both numbers were well below the 694 and 441 that were banded in 2019. The yearly average for RCKI in the fall is 567 putting the 2020 total at the bottom of the data set. GCKI were even further below the average of 716 nearly twice the number captured in 2019.

## Thrushes

The 2020 fall season saw an increase in almost all thrush number from last year. This was most notable in Swainson's Thrush (SWTH), which set a new all-time high for fall banding with 270 individuals banded, much higher than the previous record of 240 set in 2017. The 2020 total is also more than double the long-term yearly average of just 128 that PEPtBO has set over the history of the observatory. Veery

(VEER) also had a very good season in 2020 with 26 individuals banded up drastically from just two banded in 2019. The 2020 total nearly matched the highest total ever banded in a fall season falling just short of the 27 banded in 2017, and nearly doubling the average fall capture totals for this species.



Another species that had a bounce back year were Grey-cheeked Thrush (GCTH) with 44 banded in 2020 doubling the 2019 fall's total. However, this total is well below the year-to-year average of 75 that PEPTBO has processed over its history of fall banding. The biggest surprise of the season came in the form of the observatory's second ever Bicknell's Thrush (BITH) this September, the last one being banded back in the fall of

2004. This species closely resembles the GCTH, with these two species being considered a single species up to 1995. These species are best separated by song but can also be identified through measurements and subtle plumage differences that help make this difficult identification.

The thrush species with the lowest representation in the 2020 season was Hermit Thrush (HETH) numbers declined slightly from 2019 with only 97 individuals captured this fall. This total is only half of PEPTBO's yearly average of 170. Perhaps the reason for the fewer numbers of HETH captured was due, similarly to the kinglets, to bad weather which meant nets could not be opened during the time when they usually migrate. There were two Wood Thrush (WOTH) banded in 2020 matching PEPTBO's yearly average and a drastic improvement from 2019 when zero were banded. This species is also always a treat as they are locally uncommon and are listed as threatened under the Species At Risk Act (SARA) Canada. The final species of thrush banded for 2020 was American Robin (AMRO), 31 of which were banded this fall. This total was a significant improvement from 2019 when only 7 were banded. The 2020 total was also approximately 30% higher than the year-to-year average of 22.

### *Mimids*

Two species of mimid are regularly banded at PEPTBO on a year-to-year basis, Brown Thrasher (BRTH) and Gray Catbird (GRCA), which were the only mimid banded this year. It was a good season for BRTH with seven birds banded surpassing both the 2019 season total and the yearly average of nine and five,



respectively. In contrast only 16 GRCA were banded in 2020 below both the 2019 total, 22, and the yearly average of 20.

### *Waxwings*

Five Cedar Waxwings (CEDW) were banded during the 2020 fall banding season, one more than were captured in 2019 but well below PEPTBO's long-term yearly average of 13.

### *Gnatcatchers*

Three Blue-grey Gnatcatchers (BGGN) were banded this fall matching the yearly average for fall banding at PEPTBO, but six fewer than 2019 fall season total. These tiny birds are the only member of their family found in Canada and therefore are always a treat to find in the nets.

### *New World Warblers*

There were 24 New World Warbler species banded this season with average or better numbers for most species. Due to the high number of species of warblers banded, this section will cover the highlights as deemed by PEPTBO staff, a complete record of the season totals is provided in the Appendix.



The stunning Back-throated Blue Warbler (BTBW) was the most numerous species banded this season with 150 individuals banded during the fall season. A significant increase from the 2019 season when only 96 were banded. The yearly fall average for BTBW is 159, thus the 150 caught in 2020 near to average.

The most surprising turnout of warbler species was the Bay-breasted Warbler

(BBWA), 139 were banded in 2020 a new fall record for PEPTBO with the previous high being 63 banded in 2018. This season's total is impressive given that the yearly average for BBWA is 39. These high numbers can likely be attributed to the increased numbers of spruce budworm (*Choristoneura fumiferana*) that occurred in the boreal forest over the breeding season. This is also likely why Blackpoll Warbler (BLPW), a similar species to BBWA, had a good year more than doubling the 2019

total with 113 banded this fall. BLPW are usually one of the more numerous warblers banded at PEPtBO, so these numbers are to be expected and agree with yearly trends. Another warbler that had a record high year was Ovenbird (OVEN). These chunky little birds of the forest floor are always an enjoyable visitor at PEPtBO and to get 56 of them this year was extra exciting. This season total toppled the yearly average of 26 with a previous high of 35 captured in 2005.

Contrastingly, there were far fewer Magnolia Warblers (MAWA) banded than in previous years with only 95 birds banded during the fall of 2020. This total is over 100 birds short of the yearly average of 199, as well as being well below the 2019 season total of 164. The 2020 total is the fewest MAWA banded at the observatory since 2003 when only 80 birds were banded.

Wilson's Warbler (WIWA) also had a poor season with just seven individuals banded, well below both the yearly average of 25, or the 20 banded in 2019. It is hard to know the reason for these decreases, however it is of note that there were generally low numbers of these species observed around the observatory in general this year.

Another species with a troubling decline is the Canada Warbler (CAWA), only seven of these charming little warblers found their way into the nets this year, half the year-to-year average of 15, continuing a decline that has been occurring in captures over the past five years at the observatory. This is particularly concerning as this species was listed as threatened under the Species at Risk Act (SARA).

The 2020 fall season did not see any rare or unusual warblers such as Hooded (HOWA), Prairie (PRAW), Yellow-throated (YTWA), or either of the winged (Blue (BWWA) and Golden (GWWA)) warblers, despite these having been banded in past falls.

### *Tanagers*

Only Scarlet Tanager (SCTA) were banded during the 2020 fall banding season at PEPtBO, with this species having an excellent year in terms of numbers, with several birds banded late into October. The 2020 season nearly doubled the year-to-year average of 11 with 20 birds banded. This was also a significant increase from the 2019 season when only six SCTA were banded and is the highest total for a fall season since 2015 when 22 were banded.

## *Sparrows*

The sparrow numbers at PEPtBO this season were almost universally poor with nearly every species failing to meet the long-term average. Much of these poor capture totals can likely be attributed to closing the ground traps and J-trap, the changing habitat around the net lanes at the observatory, and high predator presence.

The lone sparrow species that had a better than average year was the Eastern Towhee (EATO) with nine birds banded in 2020 just passing the long-term average of seven; however, this total is still less than the previous three seasons which each returned 12 birds during the fall. Since this species is most at home in the forested areas such as those that the net lanes are in their consistent numbers are easily explained. Three species of sparrow were caught, in contrast to zero caught during the 2019 season. These were American Tree Sparrow (ATSP), Fox Sparrow (FOSP), and White-crowned Sparrow (WCSP). PEPtBO does not catch many ATSP each fall so the single individual that was captured in 2020 was only slightly below the fall season year-to-year average.

FOSP have a similar pattern with six birds banded in 2020, three off the year-to-year average of nine FOSP banded per year. Contrasting somewhat with the other two sparrows, which made returns from the previous year's zero counts. WCSP were drastically down from their year-to-year average. PEPtBO averages 42 WCSP per season so the nine banded in 2020 is a very disappointing total.

Slate-colored Junco (SCJU) are usually the most numerous species of sparrow banded at the observatory; however, this season only 33 were banded a drastic decline from the 2019 total of 50. This is even more surprising given how common this species is around the observatory grounds. White-throated Sparrow (WTSP) had a similar decline in banding total with only 41 banded in the fall of 2020, less than a third of the long-term fall average of 129 and nearly half of the total of 79 banded in 2019

There were 30 Song Sparrow (SOSP) banded this fall, yet another total that failed to match the average fall banding total of 46 and seven short of the 2019 total.

Swamp Sparrow (SWSP) are another species that has historically been banded at low levels averaging just five birds per fall. Thus, the single bird banded this year is not terribly surprising. However, the fact this species is captured at such low levels when it is one of the more numerous sparrows seen around the NWA is disconcerting and suggests that PEPtBO is not getting a representative sample of the birds in the area.

Two species of Spizella Sparrow were banded during the 2020 fall season, a single Field Sparrow (FISP) and five Chipping Sparrow (CHSP). FISP are seen in high numbers around the observatory, but this total is still below five, which is the average fall total for PEptBO. In contrast CHSP are historically captured at much greater numbers with the observatory averaging 24 of these sparrows each fall. This seems to be yet another species that is very common but does not occur in the net lane areas.

### *Cardinals, Grosbeaks, Buntings*

All the birds in this group either met their average total or surpassed it during the 2020 fall season. Northern Cardinal (NOCA) had a good season in 2020 with nine birds banded, the highest total since 2014, which was also nine. Year-to-year PEptBO has averaged four NOCA in each of the fall seasons.



Similarly, Rose-breasted Grosbeak (RBGR) surpassed their yearly average by two for a total of 13 birds banded that is identical to the 2019 total.

The last member of this group is Indigo Bunting (INBU). This species is not usually banded in high numbers during fall seasons, averaging one. As a result the single hatch year (HY) bird banded was not surprising. However, this is a slight decline from the 2019 season when three INBU were banded.

### *Blackbirds*

In general blackbirds are not banded in high numbers at PEptBO despite the spectacular visible migration that occurs in the skies over the observatory including thousands of Common Grackle (COGR) and Red-winged Blackbird (RWBL) passing over each fall. This year was no different.

Only two RWBL were banded this fall significantly below both the long-term average of 10 and the 2019 total of 13. This low total was to some degree made up for by the fact that those two birds were striking males.

COGR are another deceptively beautiful blackbird that was banded at PEptBO. Similar to RWBL, there were only two individuals of this species banded. This was an improvement over the single bird banded in 2019 but still failed to meet the year-to-year average of five per year.

Brown-headed Cowbird (BHCO) were the lone blackbird species to surpass the year-to-year average for PEPTBO's fall seasons and actually set a new high with five seeming like a very low total until compared to the yearly average of one.

The final species in this group is the Baltimore Oriole (BAOR) of which 4 birds were banded during the fall season. This total is slightly below the year-to-year average of five per fall but is the highest total in the last three years. The only other blackbirds banded this fall were BOBO. Although, Rusty Blackbird (RUBL) were observed on several occasions around the observatory, none were captured this season.

### *Finches*

PEPTBO had an extremely poor year for finches, with only two species banded, those being Purple Finch (PUFI) and American Goldfinch (AMGO) despite 2020 being an eruption year for Pine Siskin (PISI) and Evening Grosbeak (EVGR).

During the 2020 fall season only eight AMGO were banded. This is a slight improvement from the 2019 season when only six individuals of this species were banded; however, the long-term average for this species in the fall season is 471 making these recent years' totals appear rather disappointing. This is likely explained by extremely high season totals such as 2,743 in 2012, which is likely the result of an audio lure being used making comparisons difficult.

PUFI also had banding totals well below the long-term average with the 2020 total coming out to 12 birds, nearly six times short of the year-to-year average, which is 68 per fall.

## CENSUS

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### *Paul Jones, Primary census taker*

In addition to banding operations, an important component of an observatory's migration monitoring is a daily, standardized census. Census protocol dictates that the survey begins an hour after sunrise, is completed in a fixed period of time (typically an hour) and follows a set route in the vicinity of the banding operation. During the census, all birds identified through visual or auditory contact are documented, including birds flying high overhead and ones in the far distance. Along with the number and species of birds observed, weather conditions



(temperature, precipitation, wind direction and speed, and cloud cover) are also recorded. The work is conducted by experienced birders and, because it follows an established and unvarying protocol, gathers reliable data from which to extrapolate long-term bird population and migration trends. The census also provides a reference point to compare generalized bird migration in an area with the sample of that migration captured by the banding operation.

PEPtBO's 1.8 kilometre (km) census route begins at the observatory and cuts east through Eastern Red Cedar (*Juniperus virginiana*) savannah to the nearby shore of Lake Ontario. From there it continues southwest along Traverse Lane past the government wharf and on another 350m to the lane's junction with a quad track. This portion of the route samples exposed and sheltered shoreline, mature deciduous forest, swamp, and marsh habitat, as well as additional Eastern Red Cedar savannah. From the junction, the route backtracks 100 m to the Traverse Lane exit point of the nature trail that runs southwest from the observatory. The route follows the nature trail back to the observatory, skirting the edge of the area containing the observatory's mist nets.

This route, and the standard census protocol, was implemented at PEPtBO in August of 2020 to align the observatory's activities with other Canadian bird observatories. Bird observatory staff and volunteers conducted the census.

An analysis of the census data indicates that species diversity, and the total number of individuals recorded, was consistently higher on the census than the results obtained through banding. This is not surprising, as the census route samples a much greater variety of habitats than the homogeneous, closed second-growth scrub within which bird-banding is conducted. Waterbirds observed on Lake Ontario and in Long Point Harbour were not captured in the observatory's mist nets this year.

Interestingly, even if the waterbirds are set aside, bird diversity recorded on the census still typically exceeded the same day totals obtained through banding operations. This underlines the important role that a standardized census plays in capturing a fuller picture of bird migration through the Prince Edward Point NWA. For example, perhaps the most significant ornithological event of fall 2020 was the exodus of winter finches from Ontario south into the United States. While the census precisely documented this trend, many of the species involved (including Pine Siskin (PISI), Evening Grosbeak (EVGR), and Common Redpoll (CORE)) were never captured in the mist nets, even as large numbers of them moved through the area. This may point to a need to expand the bird-trapping methods used at the observatory, and the habitat types in which mist-netting occurs.

## DAILY ESTIMATED TOTALS

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### Blair Dudeck, *Bander-in-Charge*

In addition to mist netting, the PEPTBO staff conduct a morning census (see Census) to keep track of observations of all birds during the sampling period, which are then combined into the Daily Estimated Totals (DET) for each species. This provides a more thorough coverage of migration monitoring than can be achieved by banding alone. Over the course of the season, 179,323 individual birds of 203 species were recorded at the observatory. Breaking this down into loosely structured categories, of five principal bird groups recorded at PEPTBO (Table 2).

**Table 2:** *Detections by bird grouping at Prince Edward Point Bird Observatory in fall 2020*

<b>Bird Grouping</b> Total Detections
<b>Waterbirds</b> (ducks, cormorants, grebes, gulls, etc) 113,505
<b>Diurnal Raptors and Vultures</b> 2,797
<b>Shorebirds</b> 675
<b>Passerines and other landbirds</b> (excluding aerial insectivores) 62,162
<b>Aerial insectivores</b> (swifts and swallows) 186

### THE FIVE MOST ABUNDANT

species of 2020 were led by Double-crested Cormorant (DCCO), with 94,762 detections with most of these detections coming from the large colony to the east of the point on the False Duck Island. Common Grackle (COGR) came in second with 19,711 made up of the massive flocks that passed over the observatory in October. Third were Greater Scaup (GRSC) with 8,937 detections from the large rafts that formed off the eastern shore. Fourth were Blue Jay (BLJA) with 5,993 birds counted.

This was a very good year for BLJA with many days with the sky filled with jays over the course of the season. Finally, rounding out the top five were Red-winged Blackbird (RWBL) with 3,925 detections.

## AVIAN OBSERVATIONS

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Megan Buers, *Assistant Bander-in-Charge*

These observations include species not mentioned in banding totals or those mentioned in the daily estimated totals section. This section includes unusual observations of species not caught at the observatory. For clarity, this section will also mirror (to a degree) the banding section.

### BIRDS OF PREY (INCLUDING OWLS)

In August and early September there were quite a few Broad-winged Hawk (BWHA) moving through with a few Turkey Vulture (TUVU); although TUVU movement did not pick up until early October when kettles of up to 200 could be viewed moving along the south shore. Red-tailed Hawk (RTHA) and Red-shouldered Hawk (RSHA) could be viewed migrating toward the latter portion of October, along with a few Rough-legged Hawk (RLHA). A couple of Northern Goshawk (NOGO) were also observed hunting through the forests of the point.

There were quite a few Bald Eagle (BAEA) seen at the observatory throughout the entire season, likely local breeders being observed in August along with some general movement observed later in the season. Along with the BAEA, five Golden Eagle (GOEA) migrated through, starting mid-October and continuing through to the end of the banding season.

American Kestrel (MAKE) and Peregrine Falcon (PEFA) were observed sporadically throughout the season. One young Eastern Screech Owl (EASO) being mobbed by chickadees was found by Megan Buers during passerine banding. A Barred Owl (BDOW) was also observed several times at Traverse Woods by Paul Jones and other local birders, and likely was the one caught and banded a week later.

## SHOREBIRDS AND WADERS

The NWA although it is an Important Bird Area (IBA), provides little viewing for shorebirds and gulls. That being said, there are two main areas where shorebirds may be observed: a small sandbar viewed by scope between the observatory and False Ducks Island, and the marina and shore along the NWA when the water level in Lake Ontario is low.

Several Sanderling (SAND) (flocks of up to 20) could be viewed fighting, foraging, and fumbling along the shore near the observatory around mid-September. They stayed around for a few weeks along with a lone Dunlin (DUNL) and several Semipalmated Plover (SEPL). Along with those shorebirds there were a few Black-bellied Plover (BBPL), a few Killdeer (KILL), several Spotted Sandpiper (SPSA), and some Solitary Sandpiper (SOSA). Several Greater (GRYE) and Lesser (LEYE) Yellowlegs were observed foraging in the mudflats of the marina daily for most of the season.

Several American Woodcock (AMWO) and Wilson's Snipe (WISN) were also observed on the NWA. Of note was one that flew out of the forest on Traverse Lane one evening directly towards Megan Buers, Paul Jones and Blair Dudeck before launching itself overhead.

A lone White-rumped Sandpiper (WRSA) was observed after banding operations had concluded in November.

Among the herons and relatives observed at the point there were five species: Green Heron (GRHE), Great-blue Heron (GBHE), Black-crowned Night Heron (BCNH), Sandhill Crane (SACR), and Great Egret (GREG). A GRHE nest with three offspring was nestled in between the swamp net and Traverse Lane in August, and the young could be observed learning to hunt along the banks of the marina throughout September before migrating south.

## GULLS AND TERNS

Several of the gulls and likely a few terns were too far out to be observed on Lake Ontario. Four species of gulls were observed in the NWA: Great Black-backed Gull (GBBG), Herring Gull (HERG), Ring-billed Gull (RBGU), and Bonaparte's Gull (BOGU). The most common species being HERG and RBGU. Two species of tern were observed as well: Caspian Tern (CATE) and Common Tern (COTE). CATE could be both heard and observed throughout August and most of September, hunting along the shore.

## WATERBIRDS



The NWA is home to several thousand if not hundreds of thousands of ducks and divers over winter. The predominant species present this fall were Long-tailed Duck (LTDU), Scaup (primarily Greater (GRSC) and some Lesser (LESC)), and White-winged Scoter (WWSC). Along with several observations of both Red-breasted (RBME) and Common (COME) Merganser, Redhead (REDH), and Common Loon (COLO). Large

rafts of COLO were observed off the shore of Traverse Woods during the PEPTBO's Staff's Birdathon in September.

Along with these, the more common duck/diver species were Bufflehead (BUFF), Common Goldeneye (COGO), Black Scoter (BLSC), Surf Scoter (SUSC), Mallard (MALL), American Black Duck (ABDU), Blue-winged Teal (BWTE). Fewer numbers of American Green-winged Teal (AGWT), Red-throated Loon (RTLO), American Wigeon (AMWI), Gadwall (GADW), and Hooded Merganser (HOME) were observed. Two young Wood Duck (WODO) were also observed in the marina for most of the season.

The two grebe species observed at the observatory were Red-necked Grebe (RNGR) and Horned Grebe (HOGR). Along with grebes and ducks there were a few Mute Swan (MUSW) observed at the mouth of the marina and off the south shore as well as flying over. Several hundred Canada Goose (CANG) were also observed, either as flyovers or the few that remained in the sheltered marina.

The waterbirds observed at the observatory with the exception of a few species, were observed predominantly toward the end of the season as birds finished their breeding seasons and trickled into the sheltered area between Prince Edward Point, and the offshore islands.

## AERIAL INSECTIVORES

Most of the swifts, swallows, and nightjars had migrated toward the beginning of the season as they are an earlier migrant. They are also difficult to catch as they are highflyers and rarely if ever go through forests, excepting of course Eastern Whip-poor-will (EWPW).



There were five species of swallows observed in the NWA this season: Tree Swallow (TRES), Bank Swallow (BANS), Barn Swallow (BARS), Cliff Swallow (CLSW), and Purple Martin (PUMA). Numerous Cliff Swallows nested on the eaves of the Van Cott Cottage. The traditional Cliff Swallow colony on the Prince Edward Point Lighthouse has diminished with restoration of the building. Barn Swallows nest in the alternate nesting structure erected in 2018 and in the Lighthouse Shed. CLSW were observed nesting (with a few nestlings still present through to the end of August), around the Van Cott Cottage. One swift species was observed migrating along with the swallows and that was the Chimney Swift (CHSW).

Of the nightjars observed in Prince Edward County, only Common Nighthawk (CONI) were seen on the NWA. The Canadian Wildlife Service (CWS) summer employee documented some Eastern Whip-poor-will (EWPW) in August as well.

## CORVIDS

Three species of corvid were observed this fall season, with most migrants and the only species captured being BLJA. Along with BLJA, both American Crow (AMCR) and Common Raven (CORA) were observed in good numbers in the NWA.

## PASSERINES

For the most part, passerines are accounted for in the DET and banding portions of this report. However, there were species seen that are not covered in this report including passerine flyovers, or birds not captured.

Unfortunately, as mentioned previously, despite the eruption of finches in the United States and southern parts of Ontario, the only finch captured at the observatory was a PUFI. Hundreds of EVGR were observed around the observatory toward the end of the season, with some even coming down to feed on birch seeds. Along with EVGR there were several thousand (PISI), and although they fed on the ground with SLJU and in the cedars, they were never captured at the observatory. Mixed in with the PISI were the not-so-common, CORE. A few House Finch (HOFI) were also observed throughout the season.

Other finches observed at the point include several flyovers of Red Crossbill (RECR), and less frequently White-wing Crossbill (WWCR).

Most of species of sparrow observed around the point were captured except for a lone House Sparrow (HOSP), and some Lincoln's Sparrow (LISP), Vesper Sparrow (VESP), and Savannah Sparrow (SAVS). Although sparrow numbers that were

captured were well below the average numbers observed at the observatory, the discrepancy that can be accounted for by the discontinued use of the ground traps and Jay-trap during peak sparrow migration.



There were also quite a few Snow Bunting (SNBU) observed around the point toward the end of the season in small flocks on the edge of Lake Ontario.

All the flycatcher species observed on the NWA were captured, although several days of high numbers of Eastern Phoebe (EAPH) migrants resulted in few birds captured.

There were a few warbler species that were observed around the point that were not captured, most notably the BWWA seen on census but never captured.

One vireo species avoided being captured and that was the Yellow-throated Vireo (YTVI) spotted and photographed by Blair Dudeck in September.

Of the icterids observed around the point, only a few individuals were captured. Two RWBL and two COGR were captured despite thousands of individuals observed migrating past the observatory. No RUBL or European Starling (EUST) were captured despite hundreds of observations.

Two galliform species were observed in the NWA, most commonly were Ruffed Grouse (RUGR) and a few Wild Turkey (WITU). Although they remained unbanded, a few RUGR were captured and in accordance with had one tail feather clipped for identification according to standard protocols.

Other passerines that avoided being captured but were either noted in the census or daily observations were American Pipit (AMPI), Rock Pigeon (ROPI), Eastern Meadowlark (EAME), Bohemian Waxwing (BOWA), and Dickcissel (DICK).

# BIRDS BANDED ELSEWHERE AND RECAPTURED AT PEPTBO

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Megan Buers, Assistant Bander-in-Charge

*Occasionally birds banded at PEPTBO are found and reported elsewhere, most frequently on their migration route to their wintering location (i.e., foreign recovery). In the fall of 2020, there were 11 birds that had been banded at PEPTBO recaptured elsewhere: seven NSWOW, one SWTH, one COGR, one WTSP, and one BLJA. These birds are described in more detail below.*

*If you find a banded bird (whether it be deceased/ a photo/ recaptured) bands can be submitted to <https://www.pwrc.usgs.gov/BBL/bblretrv/>.*

## BIRDS BANDED ELSEWHERE AND RECAPTURED AT PEPTBO

This season there were four NSWOWs recaptured. NSWOW make up the bulk of recoveries that have been banded elsewhere as most bird observatories across North America are a part of the Northern Saw-whet Owl Banding Program (see Northern Saw-whet Owl Banding Program).

One second-year female NSWOW was caught on that was originally banded in Authier-Nord, Quebec by Jonathan Gagnon in affiliation with the Tadoussac Bird Observatory. It was the last owl banded there for the fall season. Two birds we captured on October 21st, One banded on the James McClean Oliver Property in Peterborough Ontario owned by Trent University. The bird was banded on October 25th, 2019 as a hatch year by Sarah Hagey weighing 99.0g and upon recapture at PEPTBO it weighed 93.5g. The other, a hatch year originally banded on July 11th of this year at Whitefish Point Bird Observatory. On October 30th, the final bird banded elsewhere was captured. It was a NSWOW, four-year-old female originally banded on October 29th, 2018 in Warren County, Ohio.

There were 11 birds originally banded at PEPTBO recovered this year across North America. The first was a Common Grackle recovered deceased on April 16th on Bethel Road in Prince Edward County. The bird was originally banded on June 1st, 2009, making this bird at the time of death 11 years old, the oldest wild Common Grackle on record is 23 years old (Bird Banding Laboratory data). The second recovery was a White-throated Sparrow banded on September 15th it was

recaptured four days later, on the south side of Lake Ontario on September 19th at Braddock Bay Bird Observatory, Manitou Beach, New York (see figure). Prince Edward Point Bird Observatory and Braddock Bay Bird Observatory (BBBO) are 97 km away from each other in a straight line across Lake Ontario. It is an intriguing mystery how the bird got to BBBO, whether it flew directly across the Lake or traveled around.

The third recovery was a HY Swainson's Thrush that was originally banded on September 10th, and unfortunately hit a window in North Carolina on September 21st. The North Carolina border is 816.2 km from PEPtBO, and this bird made it in 11 days.

The fourth recovery was a NSWOW banded at PEPtBO on October 1st, 2017 and recaptured at Hilliardton Marsh Bird Observatory on October 2nd of this year making the bird four years old. Two other NSWOWs banded at PEPtBO were recaptured in New York, a six-year-old originally banded in 2015 was recaptured in Youngsville, New York and a three-year-old originally banded in 2019 was recaptured this year in Brooktondale, New York.

A seven-year-old BLJA was banded in 2015 as an AHY and recovered in Chasm Falls, Franklin County, New York. This Blue Jay was also the last passerine recaptured for 2020 (as of November 27th when this report was finalized).

After the fall banding was over on October 31st, there were four more NSWOW banded at PEPtBO and recaptured at other observatories. The first of which was another recapture at Brooktondale, New York on the last day of banding operations, October 31st. This owl was hatched in 2020, making it a hatch year bird caught ten days after it was originally banded at PEPtBO. The second owl captured after banding operations were over, was another hatch year owl captured on November 13th in Delchester Road, Newtown Square, Pennsylvania about a month after it was banded at PEPtBO on October 13th.

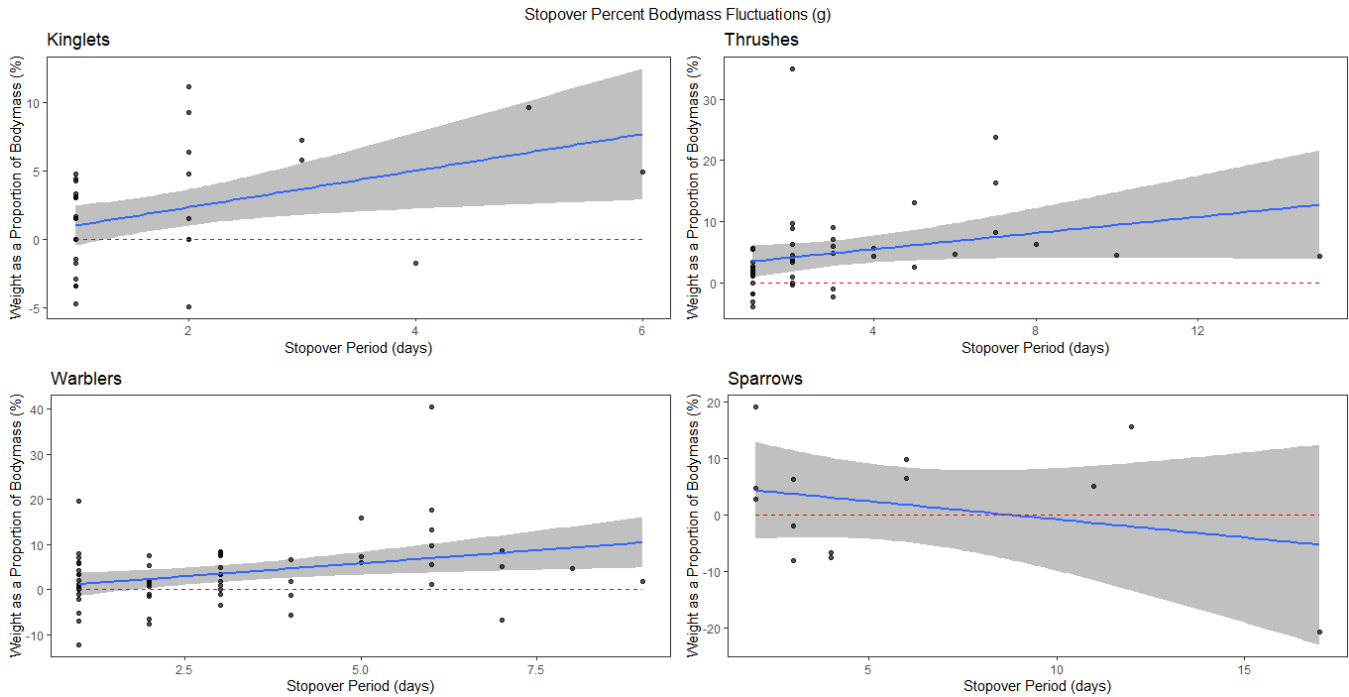
A Northern Saw-whet Owl was captured in Bergton, Rockingham County, Virginia. The owl was banded on October 28th, 2019 and was recaptured as a four-year-old owl on November 14th, 2020. Another NSWOW that was recaptured was a three-year-old owl captured in Fine Creek Mills, Powhatan County, Virginia. The owl was initially banded at PEPtBO on October 14th, 2018 and was recaptured this year on November 18th, 2020.

The last foreign recovery (as of December 4, 2020, was an at least three-year-old owl re-caught on November 21st in Bergton, Rockingham County, Virginia, and originally banded on October 14, 2018.

**Table 3:** A list of birds banded at PEptBO and recaptured elsewhere with band number, species, original band date, recovery date, age at recovery, and where banded/recovered location information

Birds that were banded at PEptBO and recovered elsewhere					
Band Number	Species	Original Band Date	Recovery Date	Age at Recovery	Recovery Location
1333-24553	Common Grackle	Jun-01-2009	Apr-16-2020	11	Bethel Road, Prince Edward County, Ontario
1104-26953	Northern Saw-whet Owl	Oct-20-2019	Oct-11-2020	3	Brooktondale, Tomkins County, NY
1014-98112	Northern Saw-whet Owl	Oct-09-2015	Oct-14-2020	6	Youngsville, NY
1014-98814	Northern Saw-whet Owl	Oct-01-2017	Oct-02-2020	4	Hilliardton Marsh, Ontario
1272-12147	Blue Jay	May-08-2015	Oct-18-2020	7	Chasm Falls, Franklin County, NY
2791-52384	Swainson's Thrush	Sept-10-2020	Sept-21-2020	1	North Carolina
2791-52435	White-throated Sparrow	Sept-15-2020	Sept-19-2020	1	Manitou Beach, Monroe County, NY
1104-26705	Northern Saw-whet Owl	Oct-14-2018	Nov-18-2020	3	Fine Creek Mills, Powhatan County, VI
1104-27040	Northern Saw-whet Owl	Oct-28-2019	Nov-14-2020	4	Bergton, Rockingham County, VI
1104-27133	Northern Saw-whet Owl	Oct-13-2020	Nov-13-2020	1	Delchester Road, Newtown Square, PA
1104-27195	Northern Saw-whet Owl	Oct-21-2020	Oct-31-2020	1	Brooktondale, Tomkins County, NY
1104-26571	Northern Saw-whet Owl	Oct-14-2018	Nov-21-2020	3	Bergton, Rockingham County, VI
Birds that were banded elsewhere are recaptured at PEptBO					
Band Number	Species	Original Band Date	Recovery Date	Age at Recovery	Originally Banding Location
1104-24351	Northern Saw-whet Owl	Oct-15-2019	Oct-16-2020	2	Authier-Nord, Quebec
1104-33545	Northern Saw-whet Owl	Oct-25-2019	Oct-21-2020	2	Peterborough, Ontario
1104-19889	Northern Saw-whet Owl	Oct-29-2018	Oct-30-2020	4	Warren County, OH
1094-59506	Northern Saw-whet Owl	Jul-11-2020	Oct-21-2020	1	Paradise, MI

## Stopover Data



**Figure 2:** Change in body mass as a proportion of overall bird mass. Birds have been grouped in similar species to increase sample size of recaptures. Kinglets include Golden-crowned Kinglet and Ruby-crowned Kinglet. Thrushes include American Robin, Hermit Thrush, Swainson's Thrushes, Grey-cheeked Thrush, and Veery. Sparrows include White-throated Sparrow, White-crowned Sparrow, Chipping Sparrow, Song Sparrow, and Slate-coloured Junco. Warblers include Black and White Warbler, Bay-breasted Warbler, Blackpoll Warbler, Yellow Warbler, Common Yellowthroat, Magnolia Warbler, American Redstart, Black-throated Blue Warbler, Black-throated Green Warbler, Myrtle Warbler, Chestnut-sided Warbler, and Canada Warbler. Calculations were made by taking weight (g) at capture and subtracting weight at recapture (g) and that difference is then divided by weight at recapture (g) to give a percent change. Red dotted line indicated zero.

## STOPOVER DATA

A stopover site is a location or area where birds pause during migratory flights, either to refuel or because of geographical reasons. (a large lake such as Lake Ontario or the mountain range). Peninsulas and points make natural stopover locations because birds being pushed by wind or weather when south bound will end up migrating to the end of the landmass or reaching it on the north bound journey. This presents an opportunity for resting and foraging before continuing migration. Prince Edward Point and the NWA is a stopover point for hundreds of thousands of migrating birds. Having pristine natural areas in stopover locations can be crucial to a bird's success on migration.

PEPtBO monitors stopover to, some limited degree, by processing recaptures. The procedure of processing a recaptured bird is almost the same as banding one with the exception of putting a band on the bird. The bird is still weighed, aged, sexed, and species are still recorded and double checked with previous information. Wing chord and fat are also still recorded.

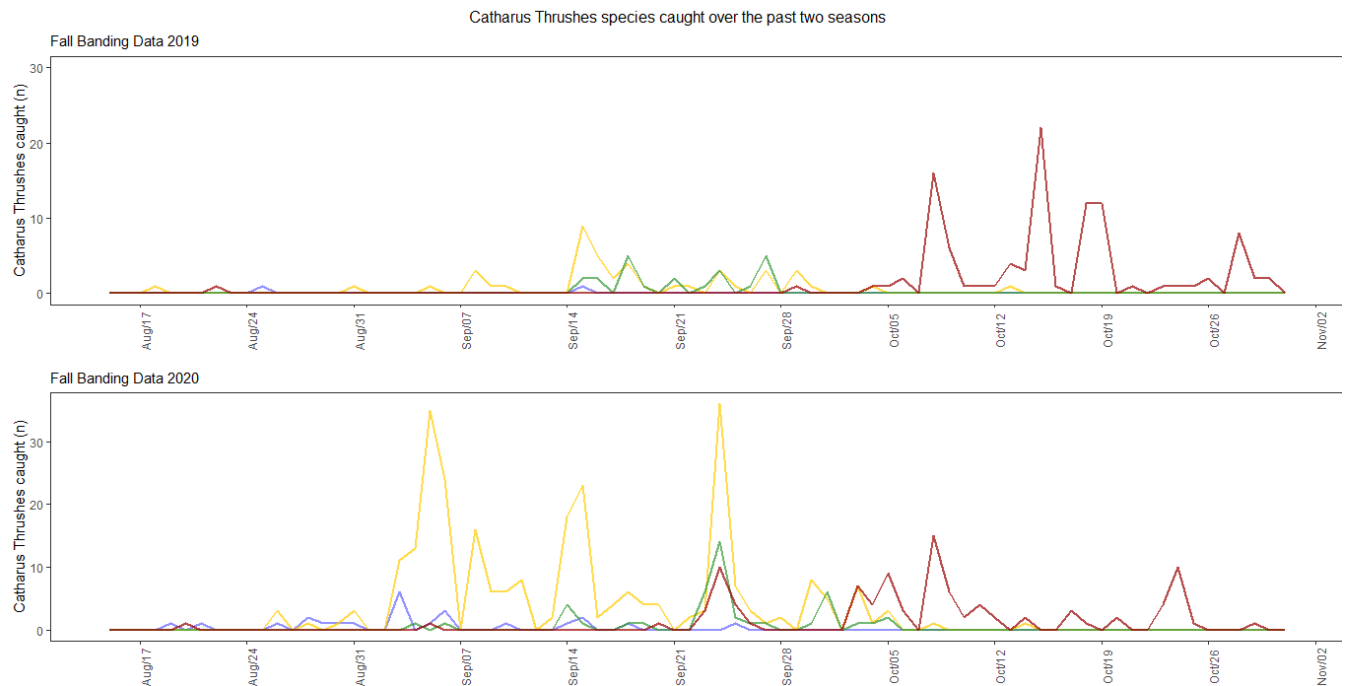
By looking at change in body mass over a number of days they have been at this stopover site (days from original banding to latest recapture), one can start to glean some information on how birds migrate, and the sheer effort involved. Anecdotally, there seemed to be an increase in the fat score of birds following strong south winds (poor fall migrating conditions), meaning it was likely that new birds were not coming in from the north and the birds who had arrived were spending time foraging to gain as much weight as possible. Although this is anecdotal, it still follows what would be logically expected of migrating birds.

The figure above shows the relationship between four colloquial groupings of birds and their change in the proportion of body mass in grams over the length of time they are known to have been at PEPtBO. It shows a linear model plotted along points with standard error indicates degree of confidence in the conclusions. Although the groups have small sample size, the data shows trends that are useful to illustrate what might be expected.

The data for sparrows is likely skewed by inclusion of a couple of local SOSP that had been recaptured long after their initial banding date. The assumption is that these were local birds that were not migrating at the time they were captured. Kinglets, being late insectivores that migrate, have to put on as much weight as possible in as short amount of time as possible. Small change in body mass is likely to be overrepresented in a proportional analysis.

Thrushes fly for long stretches at a time during migration and likely need to build up large fat reserves to last during those periods of burning fat for energy. Therefore, it would make sense that thrushes have the strongest relationship between the amount of time spent at a stopover location and increase in body mass. Warblers (especially BLPW that need to migrate a very long way and can fly for long periods) need to build up fat as stored energy as well.





**Figure 3:** Time series of *Catharus* thrush species, daily captured amount (*n*) over time for both the 2019 and 2020 fall banding season. Veery is the blue line, Grey-cheeked Thrush is the green line, Swainson's Thrush is the yellow line, and Hermit Thrush is the red line.

During the 2020 fall season, 270 SWTH were caught, more than the previous fall record of 240 of fall 2017. Comparing *Catharus* thrushes from the last two falls, there were far more HETH in 2019 than SWTH and although the number of HETH fluctuated marginally going from 103 in 2019 to 97 in 2020; the number of SWTH increased drastically.

The timing of migration of various *Catharus* thrushes: VEER being the early migrant with the last one usually being caught around mid-September. GCTH are usually a middle season migrant coming through mostly in September, overlapping with SWTH, but marginally earlier. HETH bring up the rear of migration as they are a high latitude breeder and usually are travelling from further north.

# NON-AVIAN WILDLIFE OBSERVATIONS

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Megan Buers, *Assistant Bander-in-Charge*

## MAMMALS

This season there were several interesting mammal observations at the PEPtBO. Mammal observations are important for several reasons. One reason is that mammals tend to influence habitat changes through grazing, burrow building, and general behaviors. All fauna is important to note as it can have influence on other taxa, including birds. For example, more deer in an area can increase browsing of certain vegetation making it suitable nesting or stop-over habitat for birds.

There were several mesopredator observations at PEPtBO this fall. Mesopredators are predators that occupy the middle of the food chain. Unlike apex predators, they can be depredated by other individuals. At least six Mink sightings were observed throughout the season around the wildlife area. Mink are a small mustelid predator that usually hunts near or in water. They have oily fur and webbed feet that help them hunt in extremely cold waters.



Paul Jones also observed another mustelid, a Fisher. A larger mesopredator than the aforementioned Mink, it is an impressive hunter of hares, squirrels, and birds. Ironically, fish make up a very small portion of the Fisher's diet.

The third mustelid species observed at PEPtBO was the Short-tailed Weasel, being chased by some squirrels. Unlike the Long-tailed Weasel, which prefers open, grassy

meadows, and brush land, the Short-tailed Weasel prefers dense, mixed wood scrublands. They can be told apart by subtleties in their appearance, Short-tails having a shorter tail, stockier body, and appear generally more contrasting in colour than Long-tails.

At least four Raccoons were observed at PEPtBO, usually searching through the mud of the inlet near the marina for frogs and other small animals.

On several occasions, small groups of Coyote could be heard in the NWA, Paul Jones came within close proximity to a more confident individual while he was out birding in the area.

Several White-tailed deer were observed throughout the season. Several healthy bucks were observed along with females. One deer ran through a net that had to be immediately replaced (no harm befell the deer).

There were two American Beaver observed at one point in the inlet near Traverse Lane. Upwards of 50 Eastern Chipmunk were observed around PEPtBO. Squirrels and chipmunks have been known at many migration monitoring stations for taking string and ties from nets to include in their winter nests.

Both Red Squirrel and Eastern Grey Squirrel were observed at PEPtBO in decent numbers.

Good numbers of Eastern Cottontail were observed around the area.

Two bat species were observed at PEPtBO. One Little Brown Bat was observed after the shed was opened and the individual was disturbed, and two Silver-haired bats were caught during owl banding. Silver-haired bats roost in cavities and crevices of old-growth trees and like the NSWO, migrate south for the winter months.

In total, 14 mammal species were observed in the NWA in the fall of 2020.

## REPTILES

Several noteworthy reptiles were observed in the NWA over the course of the 2020 fall season. Six snake species, as well as three turtle species were observed. Reptiles, along with amphibians are a good indicator of ecosystem health as they tend to be sensitive to disturbance and other anthropogenic influences (such as pollution).

Throughout August and early September several Northern Water snake were observed either swimming in the water or moving through the woodlot to their winter hibernaculum. The latest observation was on October 10th, when a small (less than 20 cm) individual was observed moving in the direction of the known hibernaculum. Many Smooth Green snakes were observed along the net lanes, ranging in size from 7 cm to 70 cm. It is presumed they have a nearby hibernaculum. In the first week of the season, an Eastern Milk snake was observed on the path during banding. There were several instances of watching Common Garter snake hunt Northern Leopard Frog in the grass. They ranged in colour from

bright yellow to a deeper orange/red and varied in size from 10 cm to 100 cm. In the last couple of weeks of October, a neonate (young, recently birthed) Red-bellied Snake was observed along Traverse Lane. When leaving the NWA on the last day, a Dekay's Brown snake was taken off the road, putting the total number of snake species observed to six. Unfortunately, in addition four of these species also were observed deceased on the road into the NWA.



There were several Snapping Turtles observed in the mud of the inlet near Traverse Lane, including a recently hatched Snapping Turtle from the road.

Several Blanding's Turtle were observed in the inlet. One instance where a Blanding's Turtle was discovered on Traverse Lane by Paul Jones. Blanding's Turtle along with Snapping Turtle are provincially at risk under SARO. There were also several observations

of Midland Painted Turtle alongside the Blanding's Turtle on hot days.

## AMPHIBIANS

Over the course of the season Grey Tree frog occupied all the window ledges and edges of both the Vancott Cottage and the old banding lab and could be heard croaking into October. They varied in size and colour with the most extreme being very large and bright green.

Northern Leopard Frog could be found throughout the NWA; however, unlike the number found on Traverse Lane in 2019 this year there were markedly fewer individuals. Most of the individuals were overall larger than those seen in 2019 as well; this might in part be due to the drought that happened throughout the County over the summer. Still good numbers of individuals were observed in their usual brown and green variations, as well as one very yellow individual found in the back marsh (photo attached).

Green Frog were observed as well in fewer numbers and all in the back marsh past the lighthouse on the south side of the shore. This species was usually observed just on the edge of Lake Ontario.

A few American Bullfrog were observed on Traverse Lane leading to the lighthouse. Two American Toad were observed at the observatory as well. One Blue Spotted

Salamander was found at PEPtBO. It is a native salamander to the Great Lakes, and sensitive to human disturbance and loss of habitat.

## INSECTS

There is a significant diversity of moths and butterflies in the NWA. From the order Lepidoptera, butterflies have evolved from moths are more frequently noticed by naturalists because of their diurnal habits and tendency to be brightly coloured. There was a wide variety of butterflies for the season including a good number of Giant Swallowtails which disappeared around the beginning of September.

Eastern Commas were plentiful along with other related species including, Green Commas, Compton Tortoiseshells, Morning Cloaks and the very bright and beautiful Question Mark that were observed into September. Northern Crescents were the most numerous butterflies observed, commonly feeding on flowering plants and sitting on the road. Some Fritillaries were observed but no photographs were obtained and therefore conclusive identification was impossible. Skippers were also observed at the point; however, species identification was dubious given the similarity between species. Several Clouded Sulphurs were observed around the point. Eastern Tailed Blue was observed on Traverse Lane. Several Bronze Copper were observed along the edges of the marina.

Monarch Butterfly, a migratory butterfly listed as a species of special concern under SARA, were down in numbers this year from last. Overall population numbers of this incredible migrant seem to have been decreasing dramatically over the past 20 years. PEPtBO staff raised two Monarch Butterflies from caterpillar stage for educational purposes (posted on the Get Out! Kids Club Page).

There were also two good days of Green Darner migration, the most impressive day of migration was on August 20th, where Green Darners were flying over the observatory in the thousands and could be seen covering trees all along Traverse Lane taking a rest from their long journey.

A Yellow Garden Spider was also observed behind the banding lab and could be viewed weaving elaborate designs into its web.

There were far too many interesting insect encounters to include in this report, but hopefully this brief summary shows some of the astounding diversity of entomological life there is in the NWA at Prince Edward Point, and along the south shore IBA.

## FISH

An American Eel was found washed up on the shore of Lake Ontario on September 22nd in front of the bird observatory. American Eels are globally endangered and federally of special concern. The observatory which is on the shore of Lake Ontario and parts of the St. Lawrence River make up the northern part of its range. They are endangered primarily because of dams blocking their migratory routes. Unlike other migratory fish like salmon that spawn in freshwater but live the majority of their lives in saltwater, American Eels spawn in the Sargasso Sea and live most of their lives in freshwater streams. Other species of fish include, Bass and invasive Carp, which were observed at the marina.

## ACKNOWLEDGEMENTS FROM STAFF

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*PEPtBO staff would like to thank all those who contributed to help make the season a successful one. A special thank you to the volunteers Vicki Clowater, Dale Smith, Lee Boudreau, Susan Warrack, Mike Burge, Mike Parry, Aiden Joyce, Brian Joyce, Nick Bartok, Cheryl Anderson, Kathy Felkar, Jamie Bortolotti, Andrew Janikowski, Pronica Janikowski, Brian O'Donnell, Kandie O'Donnell, Abigail Leavens, Barbara O'Neil, Clare Everes-Armet, Jackie Armet, Mary Everes, and Rick Szabo. As well as a special thank you to Paul Jones and Rick Szabo for helping conduct a thorough census throughout the season. Due to the COVID-19 pandemic and the protocols put in place for the safety of staff and volunteers, some volunteers were not allowed to assist during October. As COVID-19 rose in Ontario, it was the decision of the PEPtBO board members and staff to limit the number of volunteers further. This was a necessary precaution so that the banding operation could continue and the season be completed.*

*PEPtBO staff would also like to thank the Prince Edward Point Bird Observatory board members: President Julie White, Vice President John Hirsch, Past President Cheryl Anderson, Secretary Lisa Martell, Treasurer Dale Boyd, Volunteer Coordinator Brian Joyce, Nick Bartok, Kathy Felkar, Ketha Gillespie, Joanne Sulzenko, and Lindsey Van De Keere, as well as previous President Peter Fuller. Many of these board members double as day volunteers.*

*A special thank you to Mark Paddison, Facilities Manager and Karen Paddison for assisting with all technical issues that arose throughout the season as well as coming to volunteer.*

*PEPtBO staff could not have done it without everyone's support, and it is a hope that next year the observatory will be open to the public to allow for more education and outreach.*



**From left to right:** Blair Dudeck (Bander in Charge), Megan Buers (Assistant Bander), Michaëla Berdoug (Intern), and Ketha Gillespie (Intern and Board Member)



# APPENDIX

<i>Raptors</i>	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	<i>Mean</i>
<i>Sharp-shinned Hawk</i>	30	35	27	28	61	63	56	49	59	78	78	59	28	45	103	44	20	47	22	23	<b>48</b>
<i>Cooper's Hawk</i>	2	1	0	1	2	2	8	1	1	2	6	1	0	5	3	5	1	5	1	1	<b>2</b>
<i>Merlin</i>	0	0	1	0	0	0	0	1	2	1	3	2	0	0	0	1	0	0	0	3	<b>1</b>
<u><i>Cuckoos</i></u>																					
<i>Yellow-billed Cuckoo</i>	1	2	1	0	0	0	1	0	0	0	1	0	2	1	0	1	0	0	0	10	<b>1</b>
<i>Black-billed Cuckoo</i>	1	2	3	2	2	4	2	3	7	4	1	2	0	3	1	0	0	1	4	2	<b>2</b>
<u><i>Owls</i></u>																					
<i>Eastern Screech Owl</i>	2	0	3	1	1	4	6	3	4	3	0	2	1	2	0	0	0	3	2	2	<b>2</b>
<i>Northern Saw-whet Owl</i>	315	542	650	745	578	422	1518	715	446	1022	719	928	212	607	418	754	591	555	218	242	<b>610</b>
<i>Barred Owl</i>	1	4	6	3	9	0	18	1	3	10	2	19	1	25	4	25	0	21	1	2	<b>8</b>
<u><i>Woodpeckers</i></u>																					
<i>Yellow-bellied Sapsucker</i>	18	8	8	26	12	41	43	13	50	33	11	45	25	14	6	10	20	17	11	33	<b>22</b>
<i>Downy Woodpecker</i>	5	5	5	5	5	12	8	9	13	6	3	2	4	12	10	8	5	6	6	8	<b>7</b>
<i>Hairy Woodpecker</i>	7	2	19	7	1	4	16	4	11	4	3	4	0	14	4	5	1	6	1	4	<b>6</b>
<i>Northern Flicker</i>	11	12	6	9	5	24	17	13	6	7	9	13	18	9	6	6	0	10	6	10	<b>10</b>
<i>Pileated Woodpecker</i>	0	0	0	0	0	0	1	1	0	0	0	0	0	1	2	2	0	0	0	1	<b>0</b>
<u><i>Flycatchers</i></u>																					
<i>Eastern-wood pewee</i>	15	12	6	13	18	13	14	6	16	13	6	12	9	5	6	7	7	5	6	16	<b>10</b>
<i>Yellow-bellied Flycatcher</i>	25	33	12	41	25	31	30	44	37	31	32	44	52	42	27	37	40	23	20	29	<b>33</b>
<i>Trail's Flycatcher</i>	18	20	12	20	13	32	17	17	34	16	25	44	32	27	17	24	20	6	16	14	<b>21</b>
<i>Alder Flycatcher</i>	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	3	0	0	3	<b>0</b>
<i>Willow Flycatcher</i>	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	3	0	0	3	<b>0</b>
<i>Least Flycatcher</i>	22	26	23	37	57	36	28	22	29	26	15	50	20	14	12	15	15	7	32	27	<b>26</b>
<i>Eastern Phoebe</i>	42	51	38	32	12	32	11	10	48	32	24	40	34	36	16	8	72	34	21	20	<b>31</b>
<i>Great-crested Flycatcher</i>	2	1	0	3	6	8	5	1	6	10	2	2	2	2	4	5	8	5	3	3	<b>4</b>

<i>Vireos and Jays</i>	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	<i>Mean</i>
<i>Blue-headed Vireo</i>	171	98	78	151	252	124	128	117	201	165	152	187	96	103	71	179	61	101	113	165	<b>136</b>
<i>Warbling Vireo</i>	1	1	1	3	1	4	2	1	5	8	8	12	10	10	7	10	7	6	1	3	<b>5</b>
<i>Philadelphia Vireo</i>	2	4	7	12	10	20	8	13	4	10	15	18	7	5	19	2	16	9	3	5	<b>9</b>
<i>Red-eyed Vireo</i>	55	28	24	77	174	161	82	96	84	174	133	133	61	142	195	115	106	99	108	312	<b>118</b>
<i>Blue Jay</i>	576	54	250	79	114	108	251	330	172	160	110	226	75	213	153	785	108	179	75	129	<b>207</b>
<i>Doves and Pigeons</i>																					
<i>Mourning Dove</i>	1	0	9	7	8	5	14	0	13	4	6	19	2	7	3	1	0	1	0	1	<b>5</b>
<i>Chickadees and Nuthatches</i>																					
<i>Black-capped Chickadee</i>	718	13	44	75	1579	14	264	27	155	973	27	638	22	110	52	169	27	1681	22	140	<b>338</b>
<i>Red-breasted Nuthatch</i>	26	0	33	34	22	1	44	7	21	55	1	152	2	20	3	47	4	101	0	65	<b>32</b>
<i>White-breasted Nuthatch</i>	43	0	27	9	45	4	67	5	37	8	7	31	1	23	11	57	4	55	3	30	<b>23</b>
<i>Creepers and Gnatcatchers</i>																					
<i>Brown Creeper</i>	234	206	248	304	257	274	193	169	210	263	234	251	255	190	131	215	162	177	150	170	<b>215</b>
<i>Blue-gray Gnatcatcher</i>	0	3	1	3	4	6	0	1	6	0	2	3	1	8	4	6	0	9	9	3	<b>3</b>
<i>Wrens</i>																					
<i>Carolina Wren</i>	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	<b>0</b>
<i>House Wren</i>	7	27	13	33	24	13	15	21	28	9	9	8	7	10	3	6	47	9	10	2	<b>15</b>
<i>Winter Wren</i>	21	54	24	90	81	90	83	33	55	37	25	20	22	25	10	8	41	19	19	11	<b>38</b>
<i>Kinglets</i>																					
<i>Golden-crowned Kinglet</i>	690	1066	733	1845	684	806	425	432	760	1224	538	753	1363	437	267	504	599	379	441	362	<b>715</b>
<i>Ruby-crowned Kinglet</i>	339	594	641	895	864	1238	482	400	890	376	426	467	760	312	180	386	524	466	694	397	<b>567</b>
<i>Thrushs</i>																					
<i>Veery</i>	27	4	5	4	17	9	17	7	9	22	10	25	3	9	25	11	27	20	2	26	<b>14</b>
<i>Grey-cheeked Thrush</i>	84	75	64	165	141	89	147	38	58	69	63	94	68	41	40	80	75	37	22	44	<b>75</b>
<i>Bicknell's Thrush</i>	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	<b>0</b>
<i>Swainson's Thrush</i>	219	71	38	62	238	102	105	81	124	137	71	223	65	115	134	107	240	106	44	269	<b>128</b>
<i>Hermit Thrush</i>	268	274	201	146	138	183	153	165	323	178	165	226	224	121	84	92	143	113	103	96	<b>170</b>
<i>Wood Thrush</i>	10	1	1	1	1	0	2	1	2	2	2	2	4	2	0	4	1	5	0	2	<b>2</b>
<i>American Robin</i>	26	19	19	5	9	34	22	17	34	37	39	17	21	31	32	11	22	7	7	31	<b>22</b>

<i>Icterids</i>	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	<i>Mean</i>
<i>Gray Catbird</i>	27	11	8	11	9	25	25	28	28	22	21	22	14	28	20	8	27	22	22	16	<b>20</b>
<i>Brown Thrasher</i>	4	5	4	2	3	5	6	4	6	6	9	11	10	2	3	1	3	2	4	7	<b>5</b>
<u><i>Waxwings</i></u>																					
<i>Cedar Waxwing</i>	1	2	22	6	9	4	1	14	28	24	30	18	8	35	27	10	18	3	4	5	<b>13</b>
<u><i>Warblers</i></u>																					
<i>Tennessee Warbler</i>	4	9	2	8	34	13	12	14	11	19	33	10	19	20	15	8	23	26	21	21	<b>16</b>
<i>Orange-crowned Warbler</i>	4	8	2	10	4	2	4	4	12	4	2	7	1	6	2	3	10	4	0	3	<b>5</b>
<i>Nashville Warbler</i>	56	63	50	79	212	97	69	89	88	100	104	57	49	75	69	37	42	49	32	33	<b>73</b>
<i>Northern Parula</i>	3	5	3	8	15	15	8	10	12	11	23	10	2	7	14	21	13	18	22	21	<b>12</b>
<i>Yellow Warbler</i>	5	26	5	18	12	36	8	30	85	35	27	45	7	39	71	37	75	63	45	3	<b>34</b>
<i>Chestnut-sided Warbler</i>	13	16	25	21	27	37	24	53	25	30	31	25	14	28	29	17	38	18	8	13	<b>25</b>
<i>Magnolia Warbler</i>	187	171	80	247	305	297	168	264	179	207	323	206	135	164	216	161	201	213	164	95	<b>199</b>
<i>Cape-may Warbler</i>	0	1	0	2	2	5	1	1	1	4	2	2	2	5	8	6	12	27	9	10	<b>5</b>
<i>Black-throated Blue Warbler</i>	212	85	83	161	163	226	170	254	161	161	216	216	125	152	178	187	100	93	96	144	<b>159</b>
<i>Myrtle Warbler</i>	165	418	147	79	754	382	148	82	170	154	209	435	82	127	194	146	158	155	20	121	<b>207</b>
<i>Black-throated Green Warbler</i>	39	40	29	38	103	77	27	61	39	47	41	60	37	51	66	88	38	54	42	39	<b>51</b>
<i>Blackburnian Warbler</i>	2	8	4	9	15	9	10	14	14	9	17	9	9	14	15	18	19	13	8	9	<b>11</b>
<i>Pine Warbler</i>	0	1	0	0	0	0	1	1	3	3	1	1	2	0	0	1	0	1	0	1	<b>1</b>
<i>Western Palm Warbler</i>	10	26	11	5	24	8	9	15	10	9	8	11	10	8	5	8	58	12	15	9	<b>14</b>
<i>Bay-breasted Warbler</i>	14	11	7	15	36	29	13	13	20	29	16	13	12	20	13	23	39	63	57	127	<b>29</b>
<i>Blackpoll Warbler</i>	81	56	39	65	204	157	71	154	89	112	328	161	78	49	60	83	137	82	55	113	<b>109</b>
<i>Black-and-white Warbler</i>	29	31	16	20	23	44	22	35	24	32	45	28	21	25	23	27	28	25	11	14	<b>26</b>
<i>American Redstart</i>	44	48	41	62	104	101	63	66	102	102	156	109	79	95	124	86	141	82	81	79	<b>88</b>
<i>Ovenbird</i>	28	21	16	21	35	27	17	28	31	24	24	22	27	23	32	20	31	16	17	28	<b>24</b>
<i>Northern Waterthrush</i>	24	20	10	12	34	33	16	20	7	21	39	29	21	31	15	18	13	2	17	15	<b>20</b>
<i>Mourning Warbler</i>	0	3	2	3	3	4	2	4	9	4	4	9	4	1	2	1	2	1	0	1	<b>3</b>
<i>Common Yellowthroat</i>	45	34	53	80	71	65	65	42	43	51	61	74	48	39	29	43	66	61	45	25	<b>52</b>
<i>Willson's Warbler</i>	9	17	13	32	59	35	22	48	16	42	53	17	13	31	20	11	21	14	20	7	<b>25</b>
<i>Canada Warbler</i>	10	9	6	9	9	21	18	20	17	22	41	21	6	27	10	23	14	10	8	5	<b>15</b>
<i>Scarlet Tanager</i>	9	5	4	8	23	14	10	8	5	21	11	8	4	10	22	13	16	11	6	20	<b>11</b>

<i>Sparrows</i>	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	<i>Mean</i>
<i>Eastern Towhee</i>	5	3	12	3	4	5	4	8	3	1	7	7	6	6	8	4	12	12	12	9	<b>7</b>
<i>American Tree Sparrow</i>	4	2	4	2	2	6	0	1	4	2	3	2	2	3	3	4	1	8	0	1	<b>3</b>
<i>Chipping Sparrow</i>	25	18	10	49	47	28	20	54	26	32	18	24	21	17	17	11	11	34	10	2	<b>24</b>
<i>Field Sparrow</i>	7	5	2	18	3	2	1	5	2	3	3	11	3	5	3	8	6	6	1	1	<b>5</b>
<i>Fox Sparrow</i>	10	11	12	19	11	19	17	2	9	8	8	7	8	10	4	3	0	8	0	6	<b>9</b>
<i>Song Sparrow</i>	66	26	32	65	35	51	76	59	67	26	23	53	69	43	21	45	44	54	37	30	<b>46</b>
<i>Swamp Sparrow</i>	9	3	5	3	3	6	6	2	4	3	1	1	4	1	1	2	17	15	4	1	<b>5</b>
<i>White-throated Sparrow</i>	126	92	126	165	170	192	162	92	130	210	147	170	156	165	89	66	99	97	79	41	<b>129</b>
<i>White-crowned Sparrow</i>	39	29	124	45	59	53	123	24	79	99	15	36	20	35	19	23	6	10	0	9	<b>42</b>
<i>Slate-colored Junco</i>	195	124	283	302	598	182	153	149	185	247	247	140	275	111	270	264	70	203	50	33	<b>204</b>
<i>Cardinalidae</i>																					
<i>Northern Cardinal</i>	3	2	1	1	2	0	4	0	6	4	1	28	1	9	3	3	0	7	5	9	<b>4</b>
<i>Rose-breasted Grosbeak</i>	2	9	4	9	11	11	15	17	22	3	17	6	2	14	16	9	17	9	13	13	<b>11</b>
<i>Indigo Bunting</i>	0	0	2	0	0	3	2	0	0	0	3	0	1	2	2	2	4	1	3	1	<b>1</b>
<i>Blackbirds</i>																					
<i>Bobolink</i>	0	0	0	0	0	0	0	185	413	415	318	314	199	239	392	635	924	254	31	148	<b>223</b>
<i>Red-winged Blackbird</i>	2	9	4	9	11	11	15	17	22	3	17	6	2	14	16	9	17	9	13	2	<b>10</b>
<i>Common Grackle</i>	6	1	0	1	0	14	0	1	2	15	7	0	0	2	1	21	0	23	1	2	<b>5</b>
<i>Brown-headed Cowbird</i>	2	0	1	1	0	0	0	1	2	2	2	1	0	3	1	0	3	1	0	5	<b>1</b>
<i>Baltimore Oriole</i>	16	0	1	4	5	6	1	1	6	13	6	6	10	6	5	4	6	0	2	4	<b>5</b>
<i>Finches</i>																					
<i>House Finch</i>	41	13	4	5	3	25	9	4	3	1	4	21	0	12	2	2	5	5	0	0	<b>8</b>
<i>Purple Finch</i>	35	0	12	4	26	35	444	27	63	122	12	370	0	81	10	36	3	70	0	12	<b>68</b>
<i>American Goldfinch</i>	135	364	529	294	137	31	1408	43	2087	233	113	2743	45	556	33	318	12	321	6	8	<b>471</b>