# 2014

# Pelee Island Bird Observatory – Year-end Report



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# Pelee Island Bird Observatory (PIBO)

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The Pelee Island Bird Observatory was established in 2003 and incorporated as a non-profit charitable organization in 2006. PIBO's mandate includes a commitment to long-term migration monitoring research on Pelee Island; long-term studies of Pelee's breeding bird communities, including national and provincial Species at Risk; serving as an educational centre for the public, school groups and the local community; and promoting the importance of Pelee Island's unique natural heritage.

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Red-winged Blackbird tracks. Photo by Sachiko Schott.

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(Cover photo: Red-winged Blackbird nest. Photo by Sachiko Schott.)

### **Executive Summary**

A variety of research, education and outreach programs were completed by the Pelee Island Bird Observatory in 2014, making it a very productive and enjoyable year.

PIBO's spring and fall migration monitoring coverage at Fish Point Provincial Nature Reserve (Ontario Parks – Ontario Ministry of Natural Resources) ran from April 1<sup>st</sup> to June 10<sup>th</sup>, and August 1<sup>st</sup> to November 15<sup>th</sup>, for 178 coverage days in total. Seven employees and volunteers contributed a total of 1465.5 field hours to record 197 species at Fish Point during PIBO's standard count period. 2461 birds of 75 species were banded in 4497 net hours, for an average catch rate of 0.59 birds/net hour.

A number of other research studies were also completed this year including amphibian and marsh bird surveys, avian Species at Risk monitoring, an ongoing monitoring program for the Blanchard's Cricket Frog, and monarch butterfly counts. In the summer, staff conducted morning and evening breeding bird censuses from June 3<sup>rd</sup> to July 2<sup>nd</sup>, and collected detailed data used to determine the number of male birds holding territories on two study sites in the Stone Road Alvar.

PIBO's education and outreach programs were less active in 2014 owing to staff turnover, but in-class visits will resume in the New Year. Three live video conferences were carried out with classes on the Ontario mainland this spring, a continuation of the online classroom presentations that were begun in 2012. PIBO's Facebook page remained active, and at the time of writing has over four hundred followers. Additional education and outreach activities this year included our popular public owling nights, bird banding demonstrations offered to visitors at Fish Point, and PIBO's spring barbeque.

The work accomplished this year was made possible thanks to the critical help of many organizations and individuals (please see Acknowledgements section). Their support continues to allow PIBO to pursue a multitude of programs that benefit North American Neotropical migrants, national and provincial Species at Risk, and many Carolinian nesting birds with limited breeding ranges in Canada.

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### Introduction

This report summarizes the results of PIBO's research and education programs in 2014. Included are details from PIBO's migration monitoring program; summer Breeding Bird Censuses (BBC); marsh bird and amphibian studies; monarch butterfly counts; and Species at Risk monitoring. Where appropriate, results are presented in tables throughout the section, including the number of individuals and species banded, recaptured and captured at Fish Point this year; Northern Saw-whet Owl capture totals; breeding bird territories identified on BBC plots; field effort; and Species at Risk encountered by PIBO in 2014. Also included are edited versions of the spring and fall migration updates that are posted throughout the year on PIBO's website and Facebook page.

PIBO undertook a number of community outreach programs in 2014, and the details of these programs and activities are provided. Several online video conferences were conducted from the island with schools on the mainland, the banding station hosted a large number of visitors, and PIBO's public owling nights continued to be popular with islanders, cottagers, and mainland visitors.

# Songbird Migration Monitoring

Migration monitoring is a standardized program of sampling migrants by capture or observation. Repeated daily and annually, it has the capacity to contribute scientifically meaningful data that can further our understanding of bird migration ecology. The data collected at migration stations provides baseline information that is used to detect changes in the population trends of songbirds that annually migrate to and from their breeding and wintering grounds. Accurate knowledge of population status and change is fundamental to species conservation, and as many songbirds summer and winter in remote and inaccessible areas, it can be difficult to survey these species outside of the migration season.

In Canada, the Canadian Migration Monitoring Network (CMMN) oversees migration studies in Canada. The network is made up of more than twenty-five permanent sites established across the country that, like PIBO, generate daily migration counts for a wide range of species. Monitoring stations are committed to collecting standardized data that contributes to our collective understanding of the changes taking place in populations of migratory birds, to documenting migration at the station itself, and to other bird-related studies.

PIBO's migration monitoring coverage at Fish Point Provincial Nature Reserve (Ontario Parks – Ontario Ministry of Natural Resources) ran from April 1<sup>st</sup> to June 10<sup>th</sup>, and August 1<sup>st</sup> to November 15<sup>th</sup>, for 178 coverage days in total. Seven employees and volunteers contributed a total of 1465.5 field hours to record 197 species at Fish Point during PIBO's standard count period. 2461 birds of 75 species were banded in 4497 net hours, for an average catch rate of 0.59 birds/net hour.

# Spring Migration

The 12<sup>th</sup> spring migration monitoring season at Fish Point Provincial Nature Reserve concluded on June 10<sup>th</sup> after 71 consecutive days of coverage (less one day) from April 1<sup>st</sup>. In all, 172 species were documented in PIBO's official 'count' area during 456 person-hours of standardized field observation and bird banding. 27 warbler species were tallied on the island this spring by staff and volunteers, including a Yellow-Throated Warbler, many Northern Parulas, Chestnut-sided Warblers, Black-throated Green Warblers and Pine Warblers. A Cattle Egret was also seen, although it was a non-standard observation and not part of the usual migration monitoring activities. This was only the second record for PIBO.

Bird banding ran from April 18<sup>th</sup> to June 2<sup>st</sup>, 46 days in total, including 10 days with less than complete coverage due to inclement weather. It was a good banding season, with 852 birds captured of 62 species in 1461 net hours, for an average catch-rate of 0.58 birds/net-hour (much higher than last spring's catch rate of 0.40 birds/net-hour). Seven staff and volunteers contributed 239.5 field-hours to the spring migration program.

The following migration summaries include excerpts from PIBO's biweekly migration updates and from written narratives found in PIBO's 2014 Daily Log book:

Migration monitoring began April 1<sup>st</sup> with an active first census of the year. Many American Robins were observed, along with Dark-eyed Juncos, Song Sparrows, a variety of blackbird species (some reversemigrating), and good numbers of waterfowl. Many more Common Mergansers and Common Goldeneyes were seen around the island than in past Aprils, as the unusually cold weather prevented them from migrating due to the persistence of the ice on the lake. Migration slowed down in the following days as winds turned to the north, but by the 6<sup>th</sup> the weather had become calm and thousands of waterfowl were seen on the lake (although at distances too great for them to be readily identified). On April 7<sup>th</sup> bird activity picked up again and 72 Golden-crowned Kinglets were counted on census, along with several different species of sparrows and large numbers of blackbirds. Dark-eyed Juncos were a common sight for the next several days. The first warblers of the season, two Yellow-rumped Warblers, were seen and heard on census on April 9<sup>th</sup>. High winds and waves made it difficult to count the large numbers of ducks feeding out on the lake, but Red-breasted Mergansers dominated, with several hundred being seen on each census.



Fish Point Provincial Park. Photo by Sachiko Schott.

April 15<sup>th</sup> saw the sudden and unexpected return of winter, with temperatures dropping from 20° C the following day to minus 2° C. The trees and bushes were covered in snow and ice, and census was delayed by the necessity of detouring around a tree that had fallen across the road. It was a very quiet day for birds - even the Red-winged Blackbirds were keeping to themselves, which made it easier to hear the quiet calls of the first Pine Warbler and Black-Throated Green Warbler for the season. Hermit Thrushes, Dark-eyed Juncos and Rusty Blackbirds were observed feeding in the netting area, laying up fat against the unexpectedly rough weather.

Low temperatures and persistent north winds for the following few days made for a slow start to the bird banding season. Mist nest were set up on the 16<sup>th</sup> and banding began the next day. The most common birds captured were Red-Winged Blackbirds, White-Throated Sparrows and American Robins. Warbler migration kicked off with sightings of Black-Throated Green, Western Palm, Pine, and Black-and-White Warblers, and a Northern Waterthrush banded on the 18<sup>th</sup>.

A Cattle Egret was observed on the afternoon of the 18th hanging about on a cottage lawn at the North end of the island. This African species was first reported in North America in 1941, and a breeding group of them was reported on Pelee Island for several years until the colony was abandoned in 1980. Since then they have been sighted on the island only rarely, and this record is only the second one for PIBO.

An interesting encounter occurred on the 25<sup>th</sup>, when the remains of a banded American Robin were found in the netting area. Upon investigation, it turned out that the robin was originally banded by PIBO in the spring of 2008 as a second-year bird, making it six years old when it was killed— a good age for a robin, although several years short of the current longevity record for the species, which is 13 years. It was probably predated by a Sharp-Shinned Hawk, several of which were observed flying over the netting area and on census.

A warm front on April 30<sup>th</sup> brought in many new species, including Yellow Warbler, Blue-Headed Vireo, Grey Catbird, Baltimore Oriole and Rose-Breasted Grosbeak. A Virginia Rail was also observed on census.

Things began to pick up on May 5<sup>th</sup> after thunderstorms the previous night pushed through a large group of warblers, including the season's first Chestnut-Sided, Magnolia, Black-Throated Blue Warbler, and American Redstarts. Several Nashville Warblers were banded. This diversity of warbler species continued in the following days, with the first Orange-Crowned Warbler, Wilson's Warbler, Blue-Winged Warbler and Hooded Warbler banded between the 6<sup>th</sup> and the 11<sup>th</sup>.



Male Hooded Warbler. Photo by Sachiko Schott.

Yellow Warblers were a constant in the netting area and on census from April 30<sup>th</sup> onwards. Several banded Yellow Warblers were sighted and repeatedly recaptured, and most likely established territories in the netting area. Breeding activity was well underway for some species by mid-May, and House Wrens, American Robins and Yellow-Shafted Flickers were all observed building nests around the banding station.

The first Ruby-Throated Hummingbirds showed up on May 9<sup>th</sup> in large numbers – six of them were captured during banding, and a Black-Billed Cuckoo was banded on May 10<sup>th</sup>. An unusual sighting was made on the 11<sup>th</sup>, when two Common Nighthawks were spotted perched in trees around the banding station.

Several episodes of reverse migration were reported in May. On the 8<sup>th</sup> a large movement of warblers, orioles, tanagers, grosbeaks and blackbirds was observed moving south. Large numbers of Myrtle Warblers, Western Palm Warblers and Nashville Warblers were sighted, along with the first Red-Eyed Vireo, American Pipit and Orchard Oriole of the season. There was a smaller movement of birds on May 12<sup>th</sup>, the highlight of which was a Yellow-Throated Warbler. A much larger reverse migration was observed on May 13<sup>th</sup>, when many hundreds of Tennessee Warblers, Nashville Warblers, Indigo Buntings, Red-Winged Blackbirds and Baltimore Orioles were observed flying south off Fish Point, both on census and by other bird watchers. Flycatcher species were common as well, and the first Yellow-bellied and Traill's Flycatchers of the season were banded that same day.

Spring Song activities kicked off on May 9<sup>th</sup> with the start of Pelee Island's annual Bird Race. Although the morning of the 10<sup>th</sup> was slow for birds, in total the eleven teams sighted 157 species. Congratulations to J and K Rolling, who were the winning team with 121 species sighted. The Spring Song weekend was also enlivened by a male Prothonotary Warbler, which was frequently observed singing around one of the nest boxes at Fish Point. A couple Yellow-Breasted Chats were also spotted at various points on the island.

May 16<sup>th</sup> was PIBO's busiest day of the season, with 95 birds banded of 20 species. The banding totals showed a definite influx of Chestnut-Sided Warblers (18 banded) and Northern Parulas (7 banded, which is equal to PIBO's previous highest total of Northern Parulas banded in an entire year). After that, the number of birds banded began to steadily decline as the end of the spring migration advanced.

An Eastern Kingbird was banded on May 19<sup>th</sup>, an unusual capture as this flycatcher species prefers open spaces and usually stays up above the dogwoods in the netting area, out of reach of the mist nets. This was only the third kingbird ever banded at PIBO.

A warm front moved through on May 21<sup>st</sup>, heralded by a short-lived but torrential thunderstorm. The first Mourning Warbler of the season was banded on May 22<sup>nd</sup>, and a Connecticut Warbler was photographed on census that same day, the only one observed this season.

One last mixed flock of warblers moved through the netting area on the 25<sup>th</sup>, with a Blackburnian Warbler, two Wilson's Warblers, two Canada Warblers, five American Redstarts, two Northern Waterthrushes and two Ovenbirds banded. Warbler diversity declined precipitously after that, although Magnolia Warblers continued to be captured on the 29<sup>th</sup>, 30<sup>th</sup> and 31<sup>st</sup>, and a male Hooded Warbler was banded on May 31<sup>st</sup>.



Female Red-winged Blackbird. Photo by Sachiko Schott.

June 1<sup>st</sup> was the final day of banding for the spring season. Five birds were banded of five species, all of them local nesters: Yellow Warbler, Grey Catbird, Downy Woodpecker, Common Grackle and Red-Winged Blackbird. Census continued until June 10<sup>th</sup>, and for the most part turned up a predictable roster of local nesting birds (Red-Winged Blackbirds, Cedar Waxwings, Red-Eyed Vireos, Yellow Warblers), along with a few waterfowl and shorebirds (Least Sandpipers, Spotted Sandpiper).

New species were still being seen almost right up until the last day of coverage. A Western Kingbird was spotted at the tip of Fish Point on the 5<sup>th</sup>, the first Cooper's Hawk of the season was seen on the 6<sup>th</sup>, and a singing Acadian Flycatcher was heard on the 9<sup>th</sup>.

| Tuble I Springe | Table I Spring coverage Enore |          |          |          |         |         |         |         |
|-----------------|-------------------------------|----------|----------|----------|---------|---------|---------|---------|
| Description     | 2014                          | 2013     | 2012     | 2011     | 2010    | 2009    | 2008    | 2007    |
| Coverage        | Apr 1 -                       | Apr 1 -  | Apr 4 –  | Apr 4 –  | Apr 2 – | Apr 1 – | Apr 3 – | Apr 1 – |
|                 | Jun 10                        | Jun 6    | Jun 10   | Jun 8    | Jun 10  | Jun 10  | Jun 14  | Jun 15  |
| Coverage days   | 71                            | 67       | 68       | 66       | 70      | 71      | 73      | 76      |
| Netting period  | Apr 18                        | Apr 15 – | Apr 13 – | Apr 12 – | Apr 4 – | Apr 2 – | Apr 5 – | Apr 2 – |
|                 | – Jun 2                       | Jun 5    | Jun 5    | May 31   | May 28  | May 24  | Jun 10  | Jun 1   |
| Netting days    | 46                            | 53       | 44       | 38       | 47      | 44      | 55      | 48      |
| Birds banded    | 852                           | 531      | 863      | 767      | 708     | 825     | 794     | 637     |
| Net hours       | 1461                          | 1321     | 1484     | 1106     | 1442    | 1640    | 1927    | 1373    |
| Bird/net hour   | 0.58                          | 0.41     | 0.58     | 0.69     | 0.49    | 0.51    | 0.41    | 0.46    |
| Species         | 62                            | 65       | 63       | 61       | 67      | 68      | 69      | 67      |
| banded          |                               |          |          |          |         |         |         |         |
| Recaptures      | 80                            | 66       | 56       | 70       | 65      | 77      | 95      | 66      |
| Species         | 11                            | 13       | 13       | 14       | 11      | 18      | 9       | 10      |
| recaptured      |                               |          |          |          |         |         |         |         |
| Species         | 172                           | 168      | 159      | 173      | 166     | 170     | 175     | 177     |
| recorded        |                               |          |          |          |         |         |         |         |

#### Table 1 – Spring Coverage Effort

# **Fall Migration**

The fall migration monitoring season at Fish Point Provincial Nature Reserve ran for 107 consecutive days of coverage, from August 1<sup>st</sup> to November 15<sup>th</sup>. In all, 165 species were documented in PIBO's official 'count' area during 895 person-hours of standardized field observation and bird banding. 28 warbler species were tallied on the island this fall by staff and volunteers, including one Golden-Winged Warbler, Hooded Warblers, Wilson's Warblers, Tennessee Warblers, and one Connecticut Warbler. Other notable species: one new species was added to PIBO's official Pelee Island list: American White Pelican. Three flocks were seen on census this fall, bringing PIBO's species list up to 270 (from 269 species in 2012).

Bird banding ran from August 10<sup>th</sup> to November 8<sup>th</sup>, for 100 days in total, including 12 days with less than complete coverage due to inclement weather. It was a good banding season, with 1724 birds captured of 58 species in 3026 net hours, for an average catch-rate of 0.59 birds/net-hour, which was very close to the spring's catch-rate of 0.58 birds/net-hour. PIBO's first Olive-sided Flycatcher and Barn Swallows were banded this fall, bringing PIBO's list of species banded up to 111 (from 109 in 2012). Five staff and volunteers contributed 955.75 field-hours to the fall migration program.

The following migration summaries include excerpts from PIBO's biweekly migration updates and from written narratives found in PIBO's 2014 Daily Log book:

American White Pelicans. Photo by Sumiko Onishi.

PIBO's fall season began auspiciously on August 1<sup>st</sup>, when two American White Pelicans were spotted on census, mixed in among the thousands of Double-Crested Cormorants at the tip of Fish Point. Overall, though, census and banding were slow. Four more pelicans were spotted on August 3<sup>rd</sup>. Local breeding birds made up the bulk of observations, and Fox Pond was the scene of the most songbird activity due to the large numbers of fledged young and their parents who feed in the area. Indigo Buntings, Northern Cardinals and Yellow Warblers were seen daily. Large groups of Baltimore Orioles were seen moving through the netting area, feeding in preparation for their trip to Central and South America.

The temperature, which was unseasonably cool for early August, dropped markedly on the 15<sup>th</sup> to 5°C with north-west winds, bringing in several new warbler species for the fall. A Prothonotary Warbler and



a Northern Parula were seen on census, two American Redstarts and a Blackburnian Warbler were banded, and a Canada Warbler was observed in the netting area.

Fall migration continued to be slow during the second half of August as warm south winds discouraged migration. The majority of birds banded continued to be Common Grackles and House Wrens, most likely local birds who were hatched or had nested on the island, but activity began to pick up towards the end of the month.

New warbler species for the season continued to arrive, with the first Magnolia Warblers, Chestnut-Sided Warblers, and Ovenbirds observed on August 19<sup>th</sup>, the first Black-Throated Blue Warbler on August 25<sup>th</sup>, and the first Golden-Winged Warbler on August 29<sup>th</sup>. Very often, mixed flocks of warblers were observed in and around the netting area, but the birds were flying too high up in the canopy to be caught in the mist-nets. After the winds turned to the north on the 23<sup>rd</sup>, the number of warblers began to increase, culminating in 17 birds banded on August 30<sup>th</sup>, nine of them American Redstarts.

On August 28<sup>th</sup>, onlookers at the banding station noticed a large concentration of songbirds in a distant tree. Closer observation revealed that the assorted Baltimore Orioles, Red-Eyed Vireos, and various warbler species were all clustered around a single Common Nighthawk roosting on a branch. Small songbirds frequently mob owls and raptor species by giving alarm calls and even physically attacking the predator, but in this case they showed no signs of alarm and eventually dispersed. It seems they just didn't know what to make of such a strangely-shaped bird!

Large numbers of Purple Martins and a variety of swallow species were seen on census flocking together at the tip of Fish Point and at Fox Pond. The recent north winds also brought in our first thrush species for the season, with a Veery and a Swainson's Thrush being banded on the 27<sup>th</sup> and 28<sup>th</sup> of August, respectively.

The first significant cold front of the fall arrived in early September, boosting our banding totals and bringing in large numbers of Swainson's and Grey-Cheeked Thrushes. On September 7<sup>th</sup>, 87 birds were banded, including 47 Swainson's and 15 Grey-Cheeked Thrushes. Various warbler species including Black-and White Warbler, American Redstart, Ovenbird and Black-Throated Blue Warbler were seen in the netting area and on census, but not in large numbers.

Higher numbers of migrating raptors began to show up as well, following the thrushes. The census on September 10<sup>th</sup> was remarkably slow considering the favourable conditions of the night before –low temperatures and north winds – probably because the large number of Cooper's and Sharp-Shinned Hawks hanging around Fish Point caused the songbirds to stay silent and keep out of sight. American Kestrels were a common sight along the roads, perching on the telephone wires as they kept a sharp eye out for the small mammals and insects that make up most of their diet.

Two unlikely flycatcher species were banded at the beginning of this month: a Great-Crested Flycatcher on September 2<sup>nd</sup>, and an Olive-Sided Flycatcher on the 4<sup>th</sup>. Great-Crested Flycatchers have been banded occasionally over the years, but the Olive-Sided Flycatcher was a first for PIBO.



Great-crested Flycatcher. Photo by Sachiko Schott.

The most unexpected observation of the fall season was the sighting of 16 additional American White Pelicans on September 9<sup>th</sup>, seen flying past the tip of Fish Point! This fall was the first time that White Pelicans were recorded on the island in PIBO's thirteen-year history, and now three flocks were spotted just in this season.

The number of warbler species banded and observed by PIBO dwindled steadily over the second half of September, until by the 30<sup>th</sup> only a single Magnolia Warbler was banded. Earlier, there were still a few mixed flocks of migrating warblers moving through on September 17<sup>th</sup>, 19<sup>th</sup>, and 22<sup>nd</sup>, including Black-Throated Green Warblers, Black-and-White Warblers, Blackpoll Warblers and Tennessee Warblers, and Ovenbirds were seen on September 17<sup>th</sup> and 21<sup>st</sup>. As well, a handsome male Hooded Warbler was seen on census on September 21<sup>st</sup> and 22<sup>nd</sup>, hanging out around Fox Pond, and the first Myrtle Warbler of the season was seen on September 19<sup>th</sup>.

More sparrow species were observed: the first White-Throated Sparrow was banded on September 18<sup>th</sup>, and one or two were generally observed every morning since then. On September 22<sup>nd</sup>, a White-Crowned Sparrow and a Savannah Sparrow were seen on census, which was the first sighting of either of these species for the season.

September 24<sup>th</sup> was a warm, clear day, and many Blue Jays were seen on census preparing to migrate south over the lake. Flocks of hundreds of jays were seen consistently for the rest of the month, often being harassed by the Sharp-Shinned Hawks, Cooper's Hawks and, on one occasion, a Peregrine Falcon that waited for the jays to move out over the lake before stooping on them and scattering the flock.

The first Brown Creeper of the season was banded on September 28<sup>th</sup>, and several more were seen on census and in the netting area the next day. With them were 20 Ruby-Crowned Kinglets, also spotted on September 29<sup>th</sup>.

Strong winds and overcast skies made for a slow start to the month of October: some Swainson's Thrushes, Hermit Thrushes and Grey-Cheeked Thrushes were banded, but not in large numbers. A few warbler species were seen, and several Black-Throated Blue Warblers and Ovenbirds were banded on occasion. Western Palm Warblers and Myrtle Warblers began to show up more frequently. Twelve different warbler species were observed on October 8<sup>th</sup>, including the first Orange-Crowned Warbler of the season. Interestingly, it already had a band – but while the warbler lingered close to the nets it never came close enough to be captured, and where it was banded and when will have to remain a mystery...

Sparrows had more of a presence in October – many White-Throated Sparrows were banded, and flocks of them were often seen and heard around the netting area. The first Swamp Sparrow was sighted on October 2<sup>nd</sup>, and on October 10<sup>th</sup> hundreds of sparrows were seen on the west beach of Fish Point, including the first Clay-Coloured Sparrow and migrant Eastern Towhee of the season. A Field Sparrow was banded as well, an unusual capture as they usually prefer open fields. White-Crowned Sparrows became more common, and the first Fox Sparrows for the fall were banded on October 11<sup>th</sup>.

The first Golden-Crowned Kinglet was observed on October 1<sup>st</sup>. From there, numbers fluctuated but they remained a constant on census and in the netting area, with large flocks moving through the netting area on October 9<sup>th</sup> and 12<sup>th</sup>.

On October 9<sup>th</sup>, 33 birds were banded of a wide variety of species, from warblers to thrushes to sparrows. Bird banding activity reached its zenith on October 11<sup>th</sup>, when 154 birds were banded of 16 species, PIBO's highest banding total for the season. The majority of the birds captured were Hermit Thrushes (49), with White-Throated Sparrows coming in a close second (38). Large numbers of both species of kinglets were banded as well. Only two of the Hermit Thrushes banded were recaptured the next day, which is typical for the island – migrants seem quick to continue their migration, and do not tend to linger at Fish Point.

October 12<sup>th</sup> was quieter, except for 31 Golden-Crowned Kinglets that were captured on a single net round. They made up the majority of birds banded for the day. By October 13<sup>th</sup>, the wind had picked back up and was coming from the south, and bird activity had slowed back down.

A few waterfowl species began to be observed on census at the beginning of October: seven Red-Breasted Mergansers were seen over the lake on October 6<sup>th</sup>, and three Horned Grebes were observed on census on October 9<sup>th</sup>, but large numbers of ducks had yet to appear. Some shorebirds were still around, including a group of 17 Sanderlings and a Spotted Sandpiper seen on October 4<sup>th</sup> and five Killdeer observed on October 15<sup>th</sup>, but for the most part their migration was over.

Golden-crowned Kinglets and Hermit Thrushes made up the majority of birds banded in the last half of October, with some White-Throated Sparrows thrown in for variety. There were a few busy days in the netting area, with 96 birds banded on October 16<sup>th</sup> and a few other days where fifty or sixty birds were captured, but activity in the netting area had slowed considerably by October 25<sup>th</sup>. There were a few highlights amid the sea of kinglets, thrushes and sparrows, such as a Blue-Headed Vireo that was banded on October 16<sup>th</sup>, an Eastern Phoebe turned up in the nets on October 18<sup>th</sup>, and a very late Yellow-Bellied Flycatcher was captured on October 19<sup>th</sup>.

The most activity was seen on census, largely due to the enormous flocks of Red-Winged Blackbirds, European Starlings, Common Grackles and American Crows that filled the skies, especially over Fox Pond, where flocks of Red-Winged Blackbirds and European Starlings were seen being harassed by a Sharp-Shinned Hawk on October 21<sup>st</sup>.



Sharp-shinned Hawk. Photo by Sachiko Schott.

American Robins were a constant, with many being been seen and heard around the netting area, but only rarely captured. Many American Robins were seen on census on October 20<sup>th</sup> and 22<sup>nd</sup>.

A Magnolia Warbler was banded on October 16<sup>th</sup>, and one was seen on October 27<sup>th</sup>, mixing with a flock of kinglets – an unusually late sighting for Pelee Island. Myrtle Warblers were seen occasionally, and seventeen were banded on October 19<sup>th</sup>, but other than that there was very little warbler activity, as most species have finished their migration for the year.

On the lake, the first Common Loon was spotted on October 18<sup>th</sup>, and Horned Grebes were seen quite frequently – several hundred were counted on October 24<sup>th</sup>. The first Common Goldeneye of the season was observed on October 19<sup>th</sup>, and on October 31<sup>st</sup>, 200 unidentified scaup species and 440 Red-Breasted Mergansers were counted out on the open water as waterfowl migration picked up pace. A few other firsts remained for the season as well – on October 22<sup>nd</sup>, the north wind brought with it the first Eastern Bluebirds, Tundra Swans and American Tree-Sparrows of the season. The first Pine Siskins were observed on October 26<sup>th</sup>, and a Dunlin turned up on census on October 27<sup>th</sup>.

Owl nets were open at the PIBO cottage on Stone Road for the first time this year on October 18<sup>th</sup>, when PIBO held the first of its annual public owling nights. One Eastern Screech Owl was banded, probably a local resident as it was captured again the next week, along with another, unbanded Eastern Screech Owl. The first Northern Saw-Whet Owls of the season were banded on October 26<sup>th</sup>, and three more were captured on October 29<sup>th</sup>.

November began on a chilly note, with rain turning to sleet during the morning census. Overnight winds from the north brought in hundreds of Red-Breasted Mergansers and several Common Loons, as well as the season's first Snow Buntings. That evening, PIBO held its third public owling night, and despite strong winds managed to capture a local Eastern Screech Owl.

Snow Buntings were seen again on census November 2<sup>nd</sup>, and many Golden-Crowned Kinglets and Ruby-Crowned Kinglets were banded. 28 birds were banded altogether, a high total for the end of the fall season. From there, activity in the netting area continued to slow down, until the last day of banding on November 8<sup>th</sup>.

More bird activity was seen on census, as large groups of scaups, Red-Breasted Mergansers, Buffleheads and Hooded Grebes were frequently seen out on the lake. Common Loons and Common Goldeneyes were seen occasionally as well, and the first Black Scoter was seen on November 6<sup>th</sup>. Sparrows were occasionally seen in the vegetation along the west beach, including American Tree Sparrows, Song Sparrows, Fox Sparrows and Vesper Sparrows.

Interestingly, a Nashville Warbler was banded on November 5<sup>th</sup>, and two Orange-Crowned Warblers were seen on census on November 7<sup>th</sup>. These sightings were rather unusual, as most warblers except Myrtle Warblers had finished their migration by the beginning of the month. Another Orange-Crowned Warbler was seen on November 14<sup>th</sup>, along with a couple of Hermit Thrushes. On November 13<sup>th</sup>, a number of Rusty Blackbirds was seen flipping over dead leaves as they foraged for food on the beach. Another group of distinctive fall migrants, this time a flock of Tundra Swans, was observed flying overhead on November 14<sup>th</sup>.

The fall season ended on November 15<sup>th</sup>, when thousands of European Starlings were seen flocking together, and many groups of Horned Larks and American Pipits were seen flying over the tip.

|             | overage Li |          |          |          |         |         |         |         |
|-------------|------------|----------|----------|----------|---------|---------|---------|---------|
| Description | 2014       | 2013     | 2012     | 2011     | 2010    | 2009    | 2008    | 2007    |
| Coverage    | Aug 1 –    | Aug 1 –  | Aug 1 –  | Aug 1 –  | Aug 1 – | Aug 1 – | Aug 1 – | Aug 1 – |
|             | Nov 15     | Nov 15   | Nov 15   | Nov 15   | Nov 15  | Nov 15  | Nov 15  | Nov 15  |
| Coverage    | 107        | 107      | 107      | 107      | 107     | 107     | 107     | 107     |
| days        |            |          |          |          |         |         |         |         |
| Netting     | Aug 10 –   | Aug 15 – | Aug 13 – | Aug 11 – | Aug 4 – | Aug 5 – | Aug 3 – | Aug 1 – |
| period      | Nov 8      | Nov 8    | Nov 8    | Nov 15   | Nov 10  | Nov 11  | Nov 11  | Nov 13  |
| Netting     | 88         | 89       | 80       | 81       | 90      | 90      | 92      | n/a     |
| days        |            |          |          |          |         |         |         |         |
| Birds       | 1724       | 1988     | 2909     | 1639     | 2788    | 2471    | 2711    | 2035    |
| banded      |            |          |          |          |         |         |         |         |
| Net hours   | 3026       | 2838     | 2816     | 2250     | 2837    | 3002    | 3149    | 3366    |
| Bird/net    | 0.59       | 0.69     | 1.03     | 0.73     | 0.98    | 0.82    | 0.86    | 0.61    |
| hour        |            |          |          |          |         |         |         |         |
| Species     | 60         | 60       | 65       | 65       | 74      | 72      | 69      | 74      |
| banded      |            |          |          |          |         |         |         |         |
| Recaptures  | 26         | 39       | 130      | 33       | 61      | 59      | 56      | 60      |
| Species     | 10         | 13       | 25       | 14       | 18      | 15      | 18      | 18      |
| recaptured  |            |          |          |          |         |         |         |         |
| Species     | 165        | 168      | 176      | 167      | 166     | 172     | 171     | 178     |
| recorded    |            |          |          |          |         |         |         |         |

# Table 2 – Fall Coverage Effort

| Tuble 5 com           | in the start of print. | 8 4116 1 411 0 | 0.0.00   |          |         |         |         |         |
|-----------------------|------------------------|----------------|----------|----------|---------|---------|---------|---------|
| Description           | 2014                   | 2013           | 2012     | 2011     | 2010    | 2009    | 2008    | 2007    |
| Coverage              | April 1 -              | Apr 1 –        | Apr 4 –  | Apr 4 –  | Apr 2 – | Apr 1 – | Apr 3 – | Apr 1 – |
|                       | Jun 10                 | Jun 6          | Jun 10   | Jun 8    | Jun 10  | Jun 10  | Jun 14  | Jun 15  |
|                       | Aug 1 -                | Aug 1 –        | Aug 1 –  | Aug 1 –  | Aug 1 – | Aug 1 – | Aug 1 – | Aug 1 – |
|                       | Nov 15                 | Nov 15         | Nov 15   | Nov 15   | Nov 15  | Nov 15  | Nov 15  | Nov 15  |
| Coverage<br>days      | 178                    | 173            | 174      | 173      | 177     | 178     | 180     | 183     |
| Netting               | April 18               | Apr 15 –       | Apr 13 – | Apr 12 – | Apr 2 – | Apr 2 – | Apr 5 – | Apr 2 – |
| period                | – Jun 5                | Jun 5          | Jun 15   | May 31   | May 28  | May 24  | Jun 10  | Jun 1   |
|                       | Aug 15 -               | Aug 15 –       | Aug 13 – | Aug 11 – | Aug 4 – | Aug 5 – | Aug 3 – | Aug 1 – |
|                       | Nov 8                  | Nov 8          | Nov 8    | Nov 15   | Nov 10  | Nov 11  | Nov 11  | Nov 15  |
| Netting               | 134                    | 142            | 123      | 119      | 139     | 134     | 147     | 139     |
| days                  |                        |                |          |          |         |         |         |         |
| Birds<br>banded       | 2661                   | 2519           | 3772     | 2404     | 3498    | 3296    | 3505    | 2672    |
| Net hours             | 4497                   | 4209           | 4296     | 3356     | 4280    | 4500    | 5075    | 4739    |
| Bird/net<br>hour      | 0.59                   | 0.60           | 0.86     | 0.72     | 0.82    | 0.66    | 0.71    | 0.55    |
| Species<br>banded     | 75                     | 82             | 81       | 78       | 85      | 88      | 82      | 84      |
| Recaptures            | 106                    | 104            | 130      | 103      | 126     | 136     | 151     | 126     |
| Species<br>recaptured | 17                     | 19             | 25       | 24       | 23      | 28      | 25      | 23      |
| Species<br>recorded   | 197                    | 200            | 201      | 203      | 193     | 198     | 194     | 205     |

Table 3 – Combined Spring and Fall Coverage

| Table 4 – Species and Forms banded in |        |      |       |
|---------------------------------------|--------|------|-------|
| Species                               | Spring | Fall | Total |
| Swainson's Thrush                     | 50     | 332  | 382   |
| Golden-Crowned Kinglet                | 2      | 248  | 250   |
| Hermit Thrush                         | 11     | 219  | 230   |
| Grey-Cheeked Thrush                   | 11     | 130  | 141   |
| Red-Winged Blackbird                  | 143    |      | 143   |
| White-Throated Sparrow                | 31     | 100  | 131   |
| Magnolia Warbler                      | 59     | 69   | 128   |
| Ruby-Crowned Kinglet                  | 13     | 79   | 92    |
| American Redstart                     | 30     | 45   | 75    |
| Ovenbird                              | 26     | 47   | 73    |
| Myrtle Warbler                        | 16     | 39   | 55    |
| Northern Waterthrush                  | 32     | 20   | 52    |
| Yellow Warbler                        | 44     |      | 44    |
| Black-Throated Blue Warbler           | 10     | 30   | 40    |
| Common Grackle                        | 18     | 18   | 36    |
| Northern Cardinal                     | 10     | 12   | 32    |
| Chestnut-Sided Warbler                | 27     | 4    | 31    |
| Canada Warbler                        | 23     | 5    | 28    |
| Grey Catbird                          | 16     | 11   | 27    |
| Yellow-Bellied Flycatcher             | 12     | 15   | 27    |
| Black-and-white Warbler               | 9      | 16   | 25    |
| Nashville Warbler                     | 18     | 7    | 25    |
| Veery                                 | 6      | 21   | 27    |
| Sharp-shinned Hawk                    |        | 22   | 22    |
| Common Yellowthroat                   | 14     | 7    | 21    |
| Winter Wren                           | 1      | 19   | 20    |
| Red-eyed Vireo                        | 9      | 7    | 16    |
| Wilson's Warbler                      | 8      | 8    | 16    |
| Ruby-throated Hummingbird             | 15     | 1    | 16    |
| American Robin                        | 11     | 4    | 15    |
| Blackpoll Warbler                     | 3      | 12   | 15    |
| Slate-Coloured Junco                  | 1      | 13   | 14    |
| Brown Creeper                         |        | 13   | 13    |
| Northern Saw-whet Owl                 |        | 13   | 13    |
| Swamp Sparrow                         | 8      | 5    | 13    |
| Blue Jay                              | 1      | 11   | 12    |
| House Wren                            | 3      | 9    | 12    |
| Wood Thrush                           | 7      | 5    | 12    |
| Northern Parula                       | 9      | 1    | 10    |
| Baltimore Oriole                      | 9      |      | 9     |
| Black-capped Chickadee                | 1      | 8    | 9     |
| Tennessee Warbler                     | 6      | 3    | 9     |
| Indigo Bunting                        | 4      | 4    | 8     |
| Mourning Warbler                      | 5      | 4    | 9     |

# Table 4 – Species and Forms Banded in 2012

| Yellow-Shafted Flicker        | 2    | 6    | 8    |
|-------------------------------|------|------|------|
| Song Sparrow                  | 1    | 5    | 6    |
| Traill's Flycatcher           | 6    |      | 6    |
| Blackburnian Warbler          | 3    | 2    | 5    |
| Bay-breasted Warbler          | 1    | 3    | 4    |
| Blue-headed Vireo             | 2    | 2    | 4    |
| Black-throated Green Warbler  | 1    | 3    | 4    |
| Eastern White-crowned Sparrow | 2    | 2    | 4    |
| Fox Sparrow                   | 1    | 4    | 5    |
| American Goldfinch            | 3    |      | 3    |
| Eastern Phoebe                |      | 3    | 3    |
| Eastern Wood Pewee            | 1    | 2    | 3    |
| Brown-headed Cowbird          | 2    |      | 2    |
| Brown Thrasher                |      | 2    | 2    |
| Carolina Wren                 |      | 2    | 2    |
| Downy Woodpecker              | 2    | 8    | 10   |
| Eastern Screech Owl           |      | 2    | 2    |
| Hooded Warbler                | 2    |      | 2    |
| Least Flycatcher              | 2    | 1    | 3    |
| Orange-crowned Warbler        | 1    | 1    | 2    |
| Warbling Vireo                | 2    |      | 2    |
| Western Palm Warbler          | 2    |      | 2    |
| Black-billed Cuckoo           | 1    |      | 1    |
| Blue-winged Warbler           | 1    |      | 1    |
| Eastern Kingbird              | 1    |      | 1    |
| Field Sparrow                 |      | 1    | 1    |
| Great-crested Flycatcher      |      | 1    | 1    |
| Lincoln's Sparrow             |      | 1    | 1    |
| Olive-sided Flycatcher        |      | 1    | 1    |
| Scarlet Tanager               | 1    |      | 1    |
| Total Banded                  | 772  | 1766 | 2661 |
| Species                       | 62   | 60   | 75   |
| Net-hours                     | 1461 | 3036 | 4497 |
| Birds/Net-hours               | 0.58 | 0.59 | 0.59 |

#### Northern Saw-whet Owl Monitoring



PIBO public owling night. Photo by Sumiko Onishi.

PIBO's autumn Saw-whet Owl monitoring program was carried out on seven nights from October 8<sup>th</sup> to November 7<sup>th</sup>. Five mist-nets were erected at the south end of Stone Road on property under the stewardship of the Essex Region Conservation Authority and operated approximately 13 net-hours each night for a total of 87.91 net-hours. The average catch-rate over seven nights was 0.143 birds/net-hour. No recaptures were encountered, either from previous owling nights or other banding stations.

As well as Northern Saw-whet owls, two Eastern Screech Owls were also banded, including one local bird who was banded on the first night that the owl nets were deployed, and was subsequently recaptured each time the Northern Saw-whet Owl/Eastern Screech Owl tape was played. No doubt he or she was very pleased when poor weather prevented nets from being opened after November 7<sup>th</sup>! As well as banding Northern Saw-whet Owls and Eastern Screech Owls, Great Horned Owls were heard calling on October 26<sup>th</sup> and October 30<sup>th</sup>.

| Date   | Banded | Retrap | Net-hours | Birds/net-hour |
|--------|--------|--------|-----------|----------------|
| Oct 8  | 0      |        | 10.31     | 0              |
| Oct 25 | 0      |        | 9.38      | 0              |
| Oct 26 | 5      |        | 13.13     | 0.38           |
| Oct 30 | 3      |        | 13.13     | 0.23           |
| Nov 1  | 0      |        | 10.31     | 0              |
| Nov 2  | 1      |        | 16.65     | 0.06           |
| Nov 7  | 4      |        | 15        | 0.33           |
| Nov 8  | 0      |        | 10.31     | 0              |
| Total  | 13     | 0      | 98.22     | Av. 0.132      |

#### Table 5 – Northern Saw-whet Owls banded in 2014

# **Breeding Bird Census**



Figure 1 – Map of Breeding Bird Census plots along Stone Road, Pelee Island

In 2006, PIBO launched a long-term population monitoring scheme on Pelee Island in order to study and conserve the island's nesting bird communities. Since its inception, the Breeding Birds of Pelee Island project has employed a range of methods designed to collect information on the breeding avifauna at multiple sites on Pelee in order to establish baseline data for ongoing studies. The results have produced an accurate inventory of the birdlife on the island, and were summarized in a report in 2012<sup>1</sup>.

<sup>&</sup>lt;sup>1</sup> Gibson, Graeme C., Breeding Bird Surveys on Pelee Island: 2009-2011. 2012. Pelee Island Bird Observatory. An unpublished report for the USFW Neotropical Migratory Bird Conservation Act Program. 68 pp.



Red-winged Blackbird nestlings. Photo by Sachiko Schott.

The Breeding Bird Census is a habitat-based survey that produces an accurate snapshot of the number of males holding territories within a study plot of uniform habitat. Multiple surveys every two to three years enable researchers to effectively measure changes in the diversity, distribution and abundance of breeding birds. The ten BBC plots on Pelee Island, which cover a range of habitat structure, were each surveyed once from 2009 to 2010. After a short hiatus, PIBO has begun surveying these plots again for the second time, beginning with Stone Road Alvar 3 (BBC10, Open Alvar, ERCA, Stone Road) and Stone Road Alvar 1 (BBC14, Open Alvar, Ontario Nature, Stone Road).

Each plot was visited ten times this summer from June 3<sup>rd</sup> to July 2<sup>nd</sup> for between 1.5 to 4 hours per visit. Eight of the visits were in the morning, starting one half-hour before sunrise, and the other two were in the evening. In total, 80 hours were devoted to breeding bird censuses this year. All bird activity was noted and the data for each species was later transferred onto individual maps to allow for the definition of territorial boundaries. The number of species and the number of individual males occupying the study area was determined using these individual species maps.

This year, the parameters of the Stone Road Alvar 3 plot were changed slightly, with 3.25 ha being taken off the study area. This was done to make the habitat more uniform, and to bring the area of the plot in line with those of the other BBC plots. The Stone Road Alvar 3 plot (BBC10) is now 11.25 ha in size.

#### Table 6 – Results from ERCA Stone Road Alvar 3 BBC survey

Landowner: Essex Region Conservation Authority

Location: Ontario, Essex County, Pelee Island

Continuity: Established in 2010

Stone Road Alvar 3

Habitat description: Brushed Alvar, occasional tree saplings and shrubs: downy dogwood and sumac species, prairie and dog roses, riverbank grape, coke cherry; canopy 5%, 2-6m high

BBC10

Size: 11.25 ha

Year: 2014

Weather: Mean start temperature 18 C

# Dates: June 5, 6, 9, 12, 15, 19, 22, 25, 28 and July 2

| Species              | Territories | Nests | Fledged Young |
|----------------------|-------------|-------|---------------|
|                      |             |       |               |
| Yellow Warbler       | 24          | 2     |               |
| Red-winged Blackbird | 15          | 11    | 3             |
| Gray Catbird         | 3           |       |               |
| Indigo Bunting       | 2           |       |               |
| Northern Cardinal    | 2           |       |               |
| Cedar Waxwing        | 1.5         |       |               |
| Alder Flycatcher     | 1           |       |               |
| American Goldfinch   | 1           |       |               |
| Eastern Kingbird     | 1           |       |               |
| Field Sparrow        | 1           |       |               |
| Willow Flycatcher    | 1           |       |               |
| Mourning Dove        | 1           |       |               |
| Northern Oriole      | 0.5         |       |               |
| Tree Swallow         | 0.5         |       |               |
| Northern Flicker     | 0.5         |       |               |
|                      |             |       |               |
| Territories:         | 55          |       |               |
| Per 40 hectares:     | 195.5       |       |               |
| Species:             | 15          |       |               |
|                      |             |       |               |

 Table 7 – Results from Ontario Nature Stone Road Alvar 1 BBC survey

Stone Road Alvar 1

Landowner: Ontario Nature

Location: Ontario, Essex County, Pelee Island

Continuity: Established in 2010

Habitat description: Open Alvar with scattered shrubs and trees; downy dogwood, prickly ash, fragrant sumac, staghorn sumac, smooth rose, riverbank grape; canopy 4%, 4-11 m high

Size: 6.5 ha

Year: 2014

Weather: Mean start temperature 18 C

Date s: June 5, 7, 10, 13, 14 17, 20, 23, 26, July 2

| Species                | Territories | Nests | Fledged Young |
|------------------------|-------------|-------|---------------|
| Red-winged Blackbird   | 10.5        | 3     |               |
| Yellow Warbler         | 7.5         | 2     |               |
| Field Sparrow          | 6           | 3     |               |
| Mourning Dove          | 4           |       |               |
| Indigo Bunting         | 3           |       |               |
| Yellow-billed Cuckoo   | 2           | 1     |               |
| Brown-headed Cowbird   | 2           |       |               |
| Blue-gray Gnatcatcher  | 1.5         | 2     | 5             |
| American Robin         | 1.5         | 1     |               |
| Tree Swallow           | 1           | 1     |               |
| Common Grackle         | 1           |       |               |
| Northern Flicker       | 1           |       |               |
| Northern Cardinal      | 1           |       |               |
| Ring-necked Pheasant   | 1           |       |               |
| Black-capped Chickadee | 1           |       |               |
| Cedar Waxwing          | 1           |       |               |

BBC14

| Yellow-breasted Chat | 1     |
|----------------------|-------|
| Downy Woodpecker     | 0.5   |
| Eastern Towhee       | 0.5   |
| Gray Catbird         | 0.5   |
| Northern Oriole      | 0.5   |
|                      |       |
| Territories:         | 48    |
| Per 40 hectares:     | 295.4 |
| Species:             | 21    |

# Marsh Bird & Amphibian Monitoring

In 2014, PIBO completed its eighth consecutive year of marsh bird and amphibian monitoring coverage at Lighthouse Point and Fish Point Provincial Nature Reserves.

Marsh bird surveys were conducted on the evenings of June 9<sup>th</sup>, June 22<sup>nd</sup> and July 4<sup>th</sup>. Each visit lasted approximately three hours. No evidence of Least Bittern breeding activity was observed this year. One Least Bittern flew through the survey area before the official start of the count on June 22<sup>nd</sup>, and one was observed at that same station on July 4<sup>th</sup>, but neither responded to the call broadcast tapes. Only one other focal species was observed, an American Coot, which was seen feeding outside the 100 m survey area on June 9<sup>th</sup>.

Amphibian surveys have been conducted regularly now since 2008 as part of the same Marsh Monitoring Program. Each of the four monitoring stations was visited three times on May 22<sup>nd</sup> and June 16<sup>th</sup> for a three-minute survey beginning at least one half-hour after sunset and ending before midnight. Green frogs, American toads and Bullfrogs were regularly heard calling at the survey points. No new amphibian species were recorded this year.

#### Species at Risk (SAR)

The Pelee Island Bird Observatory is involved in a long-term stewardship strategy to monitor and conserve habitat for multiple Species at Risk and Neotropical migrants on Pelee Island, a designated Important Bird Area (IBA). This year, PIBO completed several SAR research projects that will contribute valuable data to recovery and management plans for a variety of species found on Pelee Island, including Prothonotary Warbler (Endangered), Chimney Swift (Threatened), Bald Eagle (Special Concern), Least Bittern (Threatened), and Yellow-breasted Chat (Special Concern), among others.

This year, ten new Prothonotary Warbler nest boxes were constructed by John Kraus, and were set up in the Fish Point Nature Reserve by him and Graeme Gibson on May 13<sup>th</sup>. The boxes, with predator guards, were installed close to the old boxes that were set up by Dean Ware, and are intended to replace them in the future. So as not to disrupt the breeding activity of the Prothonotary Warblers in the area, the old

boxes were not removed this season – and indeed, the one breeding pair that nested on Pelee Island this year chose one of the old boxes to nest in.

Four healthy Prothonotary Warbler nestlings were photographed in the box on June 23<sup>rd</sup>. Estimating that they were about five days old, PIBO staff began making daily visits to the nest box, and both parents were frequently observed carrying food to the nest. Warbler activity around the nest box ceased on June 30<sup>th</sup>, and all the young are believed to have fledged successfully. When the nest box was opened again to be cleaned out, one egg was found in the nest with the chick inside dead of unknown causes. The egg and nest were collected and will be used in the PIBO display at the Pelee Island Heritage Center.

Two possible Yellow-breasted Chat territories were visited in the Stone Road Alvar. Males were heard singing and responded readily to the call-back tape, indicating that they were on territory. No other evidence of breeding activity (nests or fledged young) were found.

The following table documents all Species at Risk recorded in 2014 on Pelee Island by PIBO staff and volunteers, including local breeding birds and birds detected on spring and fall migration. Some totals – Bald Eagle, for instance – represent multiple counts of the same local nesting birds.

| Common Name              | PIBO Records for 2014 (Banded) | Status          |
|--------------------------|--------------------------------|-----------------|
| Acadian Flycatcher       | 1                              | Endangered      |
| Barn Owl                 | 0                              | Endangered      |
| Golden Eagle             | 0                              | Endangered      |
| Henslow's Sparrow        | 0                              | Endangered      |
| King Rail                | 0                              | Endangered      |
| Kirtland's Warbler       | 0                              | Endangered      |
| Loggerhead Shrike        | 0                              | Endangered      |
| Northern Bobwhite        | 0                              | Endangered      |
| Piping Plover            | 0                              | Endangered      |
| Prothonotary Warbler     | 7*                             | Endangered      |
| Red Knot rufa subspecies | 0                              | Endangered      |
| Yellow-breasted Chat     | 1                              | Endangered      |
| American White Pelican   | 22                             | Threatened      |
| Bank Swallow             | 5                              | Threatened      |
| Barn Swallow             | 424(2)                         | Threatened      |
| Bobolink                 | 0                              | Threatened      |
| Cerulean Warbler         | 0                              | Threatened      |
| Chimney Swift            | 16                             | Threatened      |
| Eastern Meadowlark       | 0                              | Threatened      |
| Whip-poor-will           | 0                              | Threatened      |
| Least Bittern            | 2                              | Threatened      |
| Bald Eagle               | 307                            | Special Concern |
| Black Tern               | 0                              | Special Concern |
| Canada Warbler           | 38(10)                         | Special Concern |
| Common Nighthawk         | 13                             | Special Concern |
| Eastern Wood Pewee       | 240(3)                         | Special Concern |

#### Table 8 – Species at Risk documented on Pelee Island in 2014

| Golden-winged Warbler  | 0      | Special Concern |  |  |
|--|--------|-----------------|--|--|
| Horned Grebe   | 473    | Special Concern |  |  |
| Louisiana Waterthrush  | 0      | Special Concern |  |  |
| Olive-sided Flycatcher   | 6(1)   | Special Concern |  |  |
| Peregrine Falcon   | 8      | Special Concern |  |  |
| Red-headed Woodpecker  | 1      | Special Concern |  |  |
| Short-eared Owl  | 0      | Special Concern |  |  |
| Wood Thrush  | 60(12) | Special Concern |  |  |
| Yellow Rail  | 0      | Special Concern |  |  |
| * including the 2 adults and 4 nestlings from the nest box at Fish Point |        |                 |  |  |

#### Table 9 – PIBO 2014 Summer Avian SAR Records on Pelee Island

# Prothonotary Warbler

| Breeding status:   | Confirmed  |
|--------------------|--|
| Territories:       | 1  |
| Breeding evidence: | Singing male on territory, female, nest building; breeding success probable    |
| Observation dates: | 9 June, 10 June, 23 June, 24 June, 25 June, 26 June, 27 June, 28 June, 29 June |
| Location:          | Fish Point PNR Coordinates: n/a  |
| Comments:          | Completed nest found in one box, along with an unhatched egg                   |
|                    |  |

#### Yellow-breasted Chat

| Breeding Status:   | Probable  |
|--------------------|---|
| Territories:       | 2   |
| Breeding evidence: | Singing males on territory, visual observation                              |
| Observation dates: | 14 June, 25 June  |
| Location:          | Stone Road (Ontario Nature BBC plot and Nature Conservancy Canada property) |

# **Chimney Swift**

| Breeding status:   | Not confirmed   |
|--------------------|---|
| Territories:       | Not confirmed   |
| Breeding evidence: | None  |
| Observation dates: | Numerous  |
| Location:          | Fish Point Provincial Park                            |
| Comments:          | PIBO did not conduct Chimney Swift surveys this year. |

#### **Barn Swallow**

| Breeding status:   | Confirmed   |
|--------------------|---|
| Territories:       | Numerous  |
| Breeding evidence: | Nests with eggs, fledged young                          |
| Observation dates: | Numerous  |
| Location:          | Various sites   |
| Comments:          | Nest sites at various locations, including PIBO cottage |

#### Least Bittern

| Breeding status: | Not confirmed |
|------------------|---------------|
| Territories:     | Not confirmed |

| Breeding evidence: | None   |
|--------------------|--|
| Observation dates: | 22 June, 4 July  |
| Location:          | Lighthouse Point, Lake Henry (Station F)                       |
| Comments:          | Seen but not heard on the third Marsh Monitoring Program visit |

#### **Bald Eagle**

| Confirmed                     |
|-------------------------------|
| 2                             |
| Pairs on nests, fledged young |
| Numerous                      |
|                               |
|                               |
|                               |

# Monarch Butterfly Migration

For the 12<sup>th</sup> consecutive fall season, PIBO conducted standardized Monarch Butterfly migration counts at Fish Point Provincial Nature Reserve, Pelee Island. The surveys occur along a 2.25 km transect for a period of 90 minutes. In addition to the number of Monarch Butterflies observed, wind, temperature, visibility and cloud cover were recorded. 215 individuals were counted from August 1<sup>st</sup> to November 15<sup>th</sup>.

| Day | August | September | October | November |
|-----|--------|-----------|---------|----------|
| 1   | 0      | 0         | 4       | 0        |
| 2   | 1      | 0         | 7       | 0        |
| 3   | 1      | 1         | 0       | 0        |
| 4   | 1      | 0         | 0       | 0        |
| 5   | 2      | 2         | 0       | 0        |
| 6   | 1      | 1         | 0       | 0        |
| 7   | 3      | 6         | 0       | 0        |
| 8   | 0      | 1         | 1       | 0        |
| 9   | 1      | 2         | 25      | 0        |
| 10  | 9      | 2         | 1       | 0        |
| 11  | 2      | 0         | 1       | 0        |
| 12  | 0      | 1         | 1       | 0        |
| 13  | 3      | 2         | 0       | 0        |
| 14  | 3      | 15        | 1       | 0        |
| 15  | 0      | 5         | 2       | 0        |
| 16  | 0      | 10        | 0       |          |
| 17  | 0      | 2         | 1       |          |
| 18  | 3      | 2         | 1       |          |
| 19  | 2      | 14        | 0       |          |
| 20  | 0      | 0         | 0       |          |
| 21  | 1      | 0         | 0       |          |
| 22  | 5      | 2         | 0       |          |
| 23  | 1      | 37        | 0       |          |
| 24  | 4      | 1         | 0       |          |

#### Table 10 – 2014 Monarch Butterfly migration counts

| 25   | 0  | 4   | 0  |   |  |
|--|----|-----|----|---|--|
| 26   | 2  | 2   | 1  |   |  |
| 27   | 2  | 0   | 1  |   |  |
| 28   | 1  | 0   | 0  |   |  |
| 29   | 1  | 3   | 0  |   |  |
| 30   | 1  | 3   | 0  |   |  |
| 31   | 0  | х   | 0  |   |  |
| Total  | 50 | 118 | 47 | 0 |  |
| 215  |    |     |    |   |  |
| 90-minute walking survey conducted at Fish Point, Pelee Island, from (dates), beginning 1 hour after sunrise.<br>X – survey not conducted. |    |     |    |   |  |

# Blanchard's Cricket Frog Monitoring

In 2012, twelve "frog loggers" were deployed by PIBO at wetlands around Pele Island as part of a project with the Toronto Zoo. These recorders were programmed to record a 30-second clip once every half-hour between 3:00 p.m. and 8:00 a.m., for approximately two months, from May 28<sup>th</sup> to August 10<sup>th</sup>.

The Blanchard's Cricket Frog is potentially extirpated from Pelee Island. Since 1977, there have been only unconfirmed reports of Cricket Frog sightings from Fox Pond in Fish Point Provincial Nature Reserve. However, the island does host habitats that are suitable for the frogs, and depending on the results of the data from this initial study, a program of reintroduction may be considered.

Preliminary analysis has begun on the 2014 data. While the recordings collected in 2012 and 2013 turned up no sign of Blanchard's Cricket Frog activity, this preliminary monitoring is a critical step in the recovery plan for the frog.

# 2014 Field Effort

The following staff, interns and volunteers logged 1541.5 hours of fieldwork in 2014 during PIBO's eight month research season. The totals include spring and fall migration coverage, summer breeding bird studies, marsh bird monitoring, Monarch Butterfly migration counts, Species at Risk research, and amphibian surveys, not including the Blanchard's Cricket Frog project.

| 2014 Field Effort | Spring Hours | Summer Hours | Fall Hours | Total Hours | Total Days |
|-------------------|--------------|--------------|------------|-------------|------------|
| Sumiko Onishi     | 253.75       | 38.5         | 444.5      | 736.75      | 185        |
| Sachiko Schott    | 231.25       | 36.5         | 417.25     | 685         | 158        |
| Graeme Gibson     | 15.75        | 1            | 34.5       | 51.25       | 26         |
| Eric Orosz        | 1            | 0            | 32.5       | 33.5        | 9          |
| Abby Orosz        | 1            | 0            | 27         | 28          | 8          |
| Pat Woodford      | 5.5          | 0            | 0          | 5.5         | 3          |
| Jim Woodford      | 1.5          | 0            | 0          | 1.5         | 1          |
| Total             | 509.75       | 76           | 955.75     | 1541.5      | 193        |

#### Table 11 – 2014 Field Effort

# In-school Programming

For the fifth year in a row, PIBO delivered in-class, curriculum-based, interactive presentations to local schools. PIBO's Education Coordinator, Michelle Bondy, visited one grade 11 environmental science class at St. Anne Secondary School in Tecumseh, Ontario (approximately 15 students), and six grade 9 geography classes at Leamington District Secondary School (approximately 160 students).

PIBO's in-school programs will continue in the New Year.

# Video Conferencing

Given PIBO's comparatively remote location and the difficulty in scheduling school visits to Pelee Island, PIBO's video conferencing program (launched in 2012) has proved to be a valuable tool in reaching students. Through Google+ Hangouts, students have the opportunity to see conservation in action, and to interact with biologists in the field.

This spring, five mist nets for the video conferences were set up around the PIBO cottage on Stone Road. This year, video conferences were held with classes from Kingsville District High School, Essex District High School and Matthews Hall (in London, Ontario). In total, approximately 85 grade 9 students and 15 students from a program called Canadian Girls in Science watched live bird banding demonstrations, listened to a short presentation on the birds of Pelee Island, and had their bird-related questions answered by PIBO staff. Each presentation lasted for approximately an hour, and three birds in total (two Barn Swallows and one Yellow Warbler) were captured and could be shown to the students. PIBO hopes to expand this video conferencing program to reach schools and organizations that are too far away to be visited by PIBO's Education Coordinator in person, and will be arranging more such video sessions in 2015.

PIBO's video conferencing program was funded in 2014 by the TD Friends of the Environment Foundation (TD FEF).

# PIBO's Community Outreach

During the Spring Song weekend in May, PIBO once again hosted a public barbeque as a thank-you for our followers' ongoing support. Sausage-on-a-bun, quinoa salad and corn on the cob were served. While the event has been and will continue to be free, several generous donations were made by attendees to support PIBO's continuing research and education programs.

PIBO held four public owling nights in 2014, on October 8<sup>th</sup>, October 25<sup>th</sup>, November 1<sup>st</sup> and November 8<sup>th</sup>. As is customary, the PIBO cottage on Stone Road was opened to visitors, and mulled wine, hot apple cider and light refreshments were served. This year, PIBO entertained 24 visitors over the four Saturday nights, including island residents, cottagers, and visitors from the mainland.

At Fish Point Provincial Nature Reserve, PIBO had 92 visitor to the banding station in the spring (including the Essex County Field Naturalist's Club), and 81 visitors in the fall. PIBO staff and volunteers banded birds, answered questions and handed out copies of PIBO's brochures and newsletters. As well, twice this year Sumiko Onishi made a Facebook post inviting people to come on the daily census with her. Several people attended, and accompanied her on the 90-minute walk along the Fish Point trail.

# Twitter, Facebook and Website

Online, PIBO's web-presence consists of the PIBO website, Facebook page and Twitter feed. All of these platforms are tightly integrated, and posts on any one of them are cross-published to the other two.

The PIBO Facebook page continues to reach over four hundred people thanks to the efforts and dedication of Sumiko Onishi, who continues to contribute most of the status updates and whose very attractive photographs garner much praise and attention from PIBO's followers. PIBO's Twitter feed also has approximately four hundred followers at last count.



Fish Point. Photo by Sumiko Onishi.

# Acknowledgements

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Margaret Atwood Balzac's Coffee Roasters Beau's All Natural Brewing Company The Chandisherry Foundation The EJLB Foundation Suzanne Ivey Cook D&M Publishers Inc. David Jiles & Carol Elizabeth Denny The Donner Canadian Foundation The George Cedric Metcalf Charitable Foundation The Fleck Family Foundation Graeme Gibson, the Elder The Henry White Kinnear Foundation **Rosamond** Ivey The McLean Foundation **Mysterious Starling Inc.** Ontario Ministry of Natural Resources Species at Risk Stewardship Fund **OMNR** Community Fisheries and Wildlife Involvement Program

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Photo by Sumiko Onishi.

# Partnerships & Affiliations

Canadian Migration Monitoring Network

Nature Conservancy of Canada

Pelee Island Heritage Centre

Essex Region Conservation Authority

Ontario Nature

Bird Studies Canada

**Ontario Ministry of Natural Resources** 

| Appendix 1: Birds captured at Fish Point from 2003 – 201 | _4 |
|--|----|
|--|----|

| Species  |           |         |            |            |         |           |            |            |           |            |          |              |              |
|--|-----------|---------|------------|------------|---------|-----------|------------|------------|-----------|------------|----------|--------------|--------------|
|  | 2014      | 2013    | 2012       | 2011       | 2010    | 2009      | 2008       | 2007       | 2006      | 2005       | 2004     | 2003         | Total        |
| Sharp-shinned Hawk                                 | 22        | 17      | 17         | 24         | 26      | 12        | 14         | 16         | 7         | 11         | 8        | 12           | 186          |
| Cooper's Hawk                                      |           | 1       |            | 1          |         |           |            |            |           |            |          |              | 2            |
| American Woodcock                                  |           |         |            |            | 1       |           |            |            |           |            |          |              | 1            |
| Mourning Dove                                      |           |         |            |            |         | 1         |            |            |           |            |          |              | 1            |
| Yellow-billed Cuckoo                               |           |         |            |            |         |           | 1          |            | 3         |            | 1        | 3            | 8            |
| Black-billed Cuckoo                                | 1         |         | 1          |            |         |           | 2          |            |           | 1          | 2        | 2            | 9            |
| Northern Saw-whet Owl                              | 13        | 8       | 55         | 9          | 21      | 5         | 48         | 44         | 7         | 12         | 1        |              | 223          |
| Eastern Screech-Owl                                | 2         | 1       | 7          | 1          | 2       | 1         | 1          | 2          |           | 1          |          | 1            | 18           |
| Ruby-throated                                      | 16        | 8       | 5          | 14         | 7       | 9         | 7          | 7          | 11        | 15         | 4        | 1            | 104          |
| Hummingbird<br>Red-bellied Woodpecker              |           | 2       | 1          |            | 2       | 1         |            | 1          |           |            |          |              | 7            |
| Downy Woodpecker                                   | 10        | 12      | 25         | 17         | 27      | 13        | 14         | 13         | 12        | 9          | 12       | 14           | 178          |
| Yellow-bellied Sapsucker                           | 10        | 12      | 25<br>4    | 17         | 21      | 3         | 14         | 13         | 2         | 9          | 12       | 14           | 178          |
| •  | 0         | 0       | 4          | 2          | 4       | -         | -          | 2          |           |            |          | 2            |              |
| "Yellow-shafted" Flicker<br>Olive-sided Flycatcher | 8         | 9       | 1          | 2          | 4       | 5         | 3          | 3          | 1         | 2          | 1        | 2            | 47           |
| •  |           | 4       |            | 4          | E       | 2         | e          | 1          | Λ         | 2          | 2        | 7            |              |
| Eastern Wood-Pewee                                 | 3<br>27   | 1       | 10         | 4          | 6       | 2         | 6<br>76    | 1<br>32    | 4         | 3          | 3        | 7            | 40           |
| Yellow-bellied Flycatcher                          | 21        | 18<br>1 | 19<br>2    | 27         | 32<br>1 | 61        | 76         | 32         | 79        | 134<br>1   | 58       | 39           | 602<br>6     |
| Acadian Flycatcher                                 | E         |         |            | 7          | 14      | 15        | 17         | 12         | 20        | 57         | 23       | 38           | 219          |
| "Traill's" Flycatcher                              | 6         | 4       | 6          | 14         | 14      | 15        | 17         | 30         | 20<br>36  | 73         | 23<br>18 | - 38<br>- 51 | 219          |
| Least Flycatcher<br>Eastern Phoebe                 | 3         | 2       | 9          | 3          | 1       | 13        | 6          | 2          |           | 5          | 3        | 51           | 51           |
|  | 3         | 2       | 9          | 3          | I       | 2         | 0          | 2          | 4         | 5<br>4     | 3        | 1            | 10           |
| Great Crested Flycatcher                           |           | -       |            |            |         | 2         |            |            | 1         | 4          | 2        | 1            |              |
| Eastern Kingbird                                   | 1         | 0.4     |            | 07         | 0.4     |           | =0         | 40         |           | 440        | 2        | 40           | 3            |
| Red-eyed Vireo                                     | 16<br>2   | 21<br>2 | 69<br>2    | 27         | 64      | 30<br>1   | 53<br>1    | 40         | 141<br>11 | 113        | 71       | 48<br>4      | 693<br>32    |
| Warbling Vireo                                     | 2         |         |            | _          | 40      |           |            | -          |           | 6          | -        |              |              |
| Philadelphia Vireo                                 |           | 2       | 17         | 5          | 12      | 8         | 3          | 8          | 27        | 35         | 31       | 15           | 163          |
| White-eyed Vireo                                   |           | 2       |            | 0          | 2       | 3         |            |            | 4         | 1          | 1        | 1            | 14           |
| Yellow-throated Vireo                              |           |         |            | 2          |         |           |            |            |           |            |          |              | 2            |
| Blue-headed Vireo                                  | 4         | 21      | 18         | 17         | 10      | 20        | 16         | 14         | 26        | 36         | 28       | 17           | 227          |
| Blue Jay   | 12        | 2       | 10         | 5          | 11      | 9         | 14         | 17         | 3         | 50         | 8        | 13           | 154          |
| Tree Swallow                                       |           |         |            |            | 1       | 1         |            |            |           |            |          |              | 2            |
| Barn Swallow                                       | 2         |         |            |            |         |           |            |            |           |            |          |              | 2            |
| Black-capped Chickadee                             | 9         | 6       | 16         | 15         | 19      | 8         | 14         | 15         | 8         | 29         | 16       | 21           | 176          |
| Red-breasted Nuthatch                              |           | 5       | 26         |            | 6       | 2         | 1          | 8          |           | 5          | 2        | 1            | 56           |
| White-breasted Nuthatch                            |           |         |            |            |         |           |            |            |           |            |          | 1            | 1            |
| Brown Creeper                                      | 13        | 41      | 57         | 20         | 28      | 43        | 74         | 21         | 25        | 29         | 30       | 13           | 394          |
| Carolina Wren                                      | 2         | 2       | 4          |            |         | 1         | 3          | 5          | 9         | 7          | 5        | 13           | 51           |
| House Wren   | 12        | 28      | 27         | 14         | 25      | 23        | 24         | 17         | 28        | 46         | 16       | 22           | 282          |
| Winter Wren  | 20        | 66      | 22         | 13         | 22      | 44        | 48         | 26         | 21        | 80         | 48       | 14           | 424          |
| Marsh Wren   | 0.55      | 465     | 0.10       | 415        | 0.00    | 2         | 0.15       | 100        | 0/2       | 765        | 1        | 1            | 4            |
| Golden-crowned Kinglet                             | 250       | 408     | 310        | 110        | 229     | 244       | 312        | 168        | 218       | 766        | 312      | 151          | 3478         |
| Ruby-crowned Kinglet                               | 92        | 153     | 159        | 82         | 115     | 254       | 211        | 102        | 423       | 485        | 325      | 134          | 2535         |
| Blue-gray Gnatcatcher                              | 4.5       | 10      | 47         | 1          | 1       | 0.1       | 0.4        | -          |           |            | 3        | 1            | 6            |
| American Robin                                     | 15        | 16      | 17         | 11         | 18      | 21        | 34         | 6          | 9         | 6          | 11       | 6            | 170          |
| Wood Thrush  | 12        | 32      | 13         | 12         | 19      | 11        | 21         | 27         | 24        | 18         | 18       | 12           | 234          |
| Veery  | 27        | 48      | 69         | 51         | 62      | 49        | 66         | 74         | 128       | 83         | 67       | 79           | 803          |
| Swainson's Thrush                                  | 382       | 215     | 547        | 270        | 463     | 272       | 315        | 314        | 389       | 542        | 314      | 312          | 4335         |
| Gray-cheeked Thrush<br>Hermit Thrush               | 141       | 111     | 189<br>199 | 190<br>108 | 146     | 156       | 152<br>166 | 110<br>154 | 91<br>228 | 222<br>269 | 100      | 56<br>141    | 1664<br>2283 |
| Gray Catbird                                       | 230<br>27 | 228     | 39         |            | 241     | 176<br>32 |            | 154<br>44  |           |            | 143      | 141<br>64    |              |
| Brown Thrasher                                     | 27        | 29<br>2 | 39         | 31         | 33<br>2 | 32        | 39<br>1    | 44         | 51<br>1   | 48         | 43<br>2  | 64<br>2      | 480<br>19    |
| Cedar Waxwing                                      | 2         | 2       | I          |            | 6       | 4         | 5          | 2          | I         | 3          | 2        | 2            | 23           |

| European Starling               |     |     |     |     |     |     | 1   |     |      |     |     |     | 1    |
|---------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|------|
| Northern Parula                 | 10  |     | 2   | 1   | 3   | 1   | 7   | 2   | 6    | 1   | 2   | 2   | 37   |
| Orange-crowned Warbler          | 2   | 2   | 3   | 5   | 5   | 6   | 1   | 5   | 7    | 4   | 17  | 10  | 67   |
| Tennessee Warbler               | 9   | 7   | 16  | 25  | 25  | 5   | 24  | 14  | 39   | 23  | 16  | 85  | 288  |
| Blue-winged Warbler             | 1   | 1   | 3   | 1   | 3   | 2   | 3   | 1   | 5    | 3   | 9   | 4   | 36   |
| Golden-winged Warbler           |     | 2   | 1   | 1   | 3   |     |     | 1   | 3    | 1   | 1   | 1   | 13   |
| "Brewster's" Warbler            |     |     |     |     |     |     | 2   |     |      | 1   |     |     | 3    |
| Nashville Warbler               | 25  | 31  | 79  | 33  | 71  | 46  | 53  | 64  | 67   | 127 | 57  | 90  | 743  |
| Yellow Warbler                  | 44  | 35  | 41  | 41  | 34  | 31  | 59  | 50  | 41   | 88  | 45  | 70  | 579  |
| Chestnut-sided Warbler          | 31  | 5   | 31  | 26  | 43  | 33  | 39  | 40  | 117  | 75  | 45  | 45  | 530  |
| Magnolia Warbler                | 128 | 92  | 175 | 203 | 244 | 289 | 349 | 236 | 617  | 410 | 337 | 335 | 3415 |
| Cape May Warbler                |     |     | 4   | 6   | 11  | 2   | 3   | 3   | 6    | 6   | 5   | 6   | 52   |
| Black-throated Blue             | 40  | 53  | 92  | 61  | 101 | 93  | 100 | 38  | 84   | 67  | 104 | 60  | 893  |
| Warbler<br>Blackburnian Warbler | 5   | 3   | 9   | 14  | 9   | 10  | 6   | 10  | 33   | 31  | 5   | 9   | 144  |
| "Myrtle" Warbler                | 55  | 138 | 398 | 85  | 168 | 109 | 168 | 143 | 154  | 270 | 156 | 131 | 1975 |
| Black-throated Green            | 4   | 8   | 19  | 14  | 100 | 8   | 100 | 143 | 21   | 7   | 130 | 10  | 1375 |
| Warbler                         |     |     |     |     |     |     |     |     |      |     |     |     |      |
| "Western" Palm Warbler          | 2   | 11  | 20  | 3   | 4   | 5   | 6   | 4   | 1    | 5   | 14  | 2   | 77   |
| Bay-breasted Warbler            | 4   | 4   | 9   | 11  | 4   | 7   | 4   | 6   | 25   | 19  | 10  | 6   | 109  |
| Blackpoll Warbler               | 15  | 10  | 41  | 41  | 121 | 24  | 28  | 19  | 17   | 41  | 55  | 22  | 434  |
| Worm-eating Warbler             |     |     | 2   | 6   | 1   |     |     |     |      | 1   | 1   |     | 5    |
| Prothonotary Warbler            | 6-  | 1   | 10  | 2   | 67  |     |     | (2) | 4.10 | 1   |     |     | 4    |
| Black-and-white Warbler         | 25  | 16  | 48  | 77  | 65  | 44  | 57  | 49  | 146  | 71  | 38  | 39  | 675  |
| American Redstart               | 75  | 40  | 116 | 172 | 212 | 109 | 161 | 84  | 273  | 162 | 141 | 159 | 1704 |
| Ovenbird                        | 77  | 93  | 102 | 87  | 131 | 111 | 95  | 77  | 119  | 107 | 82  | 73  | 1154 |
| Louisiana Waterthrush           |     | 1   |     |     |     | 1   |     | 1   |      |     |     |     | 3    |
| Northern Waterthrush            | 52  | 35  | 25  | 41  | 57  | 41  | 38  | 26  | 27   | 38  | 35  | 43  | 458  |
| Kentucky Warbler                |     |     |     |     |     | 1   |     | 1   | 2    |     |     |     | 4    |
| Connecticut Warbler             |     | 1   | 2   | 2   | 1   | 1   |     | 2   | 4    | 3   | 2   | 3   | 21   |
| Mourning Warbler                | 9   | 9   | 11  | 9   | 26  | 12  | 11  | 12  | 18   | 22  | 8   | 16  | 163  |
| Common Yellowthroat             | 21  | 30  | 34  | 32  | 35  | 34  | 38  | 42  | 41   | 57  | 35  | 43  | 442  |
| Hooded Warbler                  | 2   | 2   | 2   | 5   | 4   |     | 2   | 2   | 1    |     |     |     | 20   |
| Wilson's Warbler                | 16  | 6   | 10  | 17  | 29  | 24  | 19  | 30  | 46   | 32  | 33  | 28  | 291  |
| Canada Warbler                  | 28  | 11  | 13  | 50  | 59  | 36  | 50  | 38  | 54   | 60  | 24  | 44  | 468  |
| Yellow-breasted Chat            |     |     |     |     |     | 1   | 1   | 1   | 1    | 1   | 3   | 1   | 9    |
| Summer Tanager                  |     |     |     |     |     |     |     |     |      | 1   |     | 1   | 2    |
| Scarlet Tanager                 | 1   |     |     | 1   | 1   |     |     | 2   | 2    | 3   |     | 3   | 13   |
| Northern Cardinal               | 32  | 8   | 10  | 14  | 18  | 10  | 13  | 9   | 6    | 10  | 9   | 22  | 161  |
| Rose-breasted Grosbeak          |     | 2   | 7   | 8   | 1   | 3   |     | 3   | 3    | 12  | 13  | 5   | 57   |
| Indigo Bunting                  | 8   | 3   | 12  | 4   | 9   | 6   | 6   | 9   | 8    | 19  | 4   | 20  | 108  |
| Eastern Towhee                  |     | 1   | 1   |     | 1   | 1   |     | 2   | 1    | 3   | 1   | 1   | 12   |
| American Tree Sparrow           |     | 1   | 2   | 1   | 4   |     | 7   | 1   | 13   | 3   |     |     | 32   |
| Field Sparrow                   | 1   |     |     |     |     |     | 1   | 2   |      | 3   | 3   |     | 10   |
| Chipping Sparrow                |     | 1   |     | 3   |     |     |     | 1   |      | 2   | 1   | 3   | 11   |
| Grasshopper Sparrow             |     |     |     |     |     |     |     | 1   |      |     |     |     | 1    |
| White-throated Sparrow          | 131 | 156 | 166 | 53  | 70  | 87  | 112 | 72  | 105  | 146 | 137 | 118 | 1353 |
| E. White-crowned Sparrow        | 4   | 3   | 8   | 3   | 6   | 3   | 5   | 8   | 9    | 7   | 6   | 6   | 68   |
| Fox Sparrow                     | 5   | 4   | 9   | 4   | 7   | 2   | 6   | 3   | 9    | 14  | 3   | 2   | 68   |
| Song Sparrow                    | 6   | 8   | 11  | 9   | 12  | 6   | 19  | 10  | 14   | 10  | 5   | 12  | 120  |
| Lincoln's Sparrow               | 1   | 8   | 5   | 5   | 11  | 6   | 7   | 10  | 11   | 20  | 10  | 18  | 112  |
| Swamp Sparrow                   | 13  | 11  | 23  | 14  | 6   | 12  | 20  | 15  | 2    | 27  | 31  | 17  | 218  |
| Slate-colored Junco             | 14  | 25  | 32  | 18  | 14  | 9   | 29  | 25  | 16   | 91  | 34  | 24  | 331  |
| Brown-headed Cowbird            | 2   | 2   | 2   | 2   | 4   | 2   | 2   |     | 4    | 9   | 1   | 5   | 35   |
| Red-winged Blackbird            | 143 | 75  | 57  | 48  | 75  | 103 | 100 | 45  | 35   | 75  | 60  | 34  | 850  |
| Rusty Blackbird                 |     |     | 1   |     | 9   | 6   |     |     |      |     |     |     | 16   |
| Common Grackle                  | 36  | 10  | 14  | 16  | 54  | 12  | 33  | 15  | 6    | 23  | 18  | 24  | 261  |

| 9    | 4                               | 8   | 24  | 2  | 20   | 6  | 6   | 12  | 23   | 9  | 15  | 138  |
|------|---------------------------------|---|---|--|--|--|---|---|--|--|---|--|
|      |                                 |   | 1   |  |  |  |   |   | 1  | 1  | 5   | 8  |
|      |                                 | 9   |   | 12   | 1  | 5  | 2   |   | 1  | 1  | 1   | 32   |
|      |                                 |   |   |  |  |  |   | 1   |  |  |   | 1  |
| 3    | 1                               | 49  | 3   | 13   | 2  | 46   | 6   | 4   | 41   | 10   | 14  | 192  |
| 2014 | 2013                            | 2012  | 2011  | 2010   | 2009   | 2008   | 2007  | 2006  | 2005   | 2004   | 2003  |  |
| 2661 | 2505                            | 3710  | 2403  | 3498   | 2949   | 3534   | 2594  | 4288  | 5488   | 3388   | 3002  | 39875  |
| 75   | 83                              | 81  | 78  | 85   | 86   | 82   | 84  | 81  | 91   | 87   | 86  | 111  |
| 4497 | 4159                            | 4296  | 3356  | 4280   | 4500   | 5075   | 4739  | 3782  | 4795   | 2452   | 3398  | 49319  |
| 0.59 | 0.61                            | 0.86  | 0.72  | 0.82   | 0.66   | 0.71   | 0.55  | 1.13  | 1.14   | 1.38   | 0.88  | 0.81   |
|      | 3<br>2014<br>2661<br>75<br>4497 | 3         1           2014         2013           2661         2505           75         83           4497         4159 | 3       1       49         3       1       49         2014       2013       2012         2661       2505       3710         75       83       81         4497       4159       4296 | 1         1           3         1         9           3         1         49         3           2014         2013         2012         2011           2661         2505         3710         2403           75         83         81         78           4497         4159         4296         3356 | 1         1           3         1         9         12           3         1         49         3         13           2014         2013         2012         2011         2010           2661         2505         3710         2403         3498           75         83         81         78         85           4497         4159         4296         3356         4280 | 1       1       1         9       12       1         3       1       49       3       13       2         2014       2013       2012       2011       2010       2009         2661       2505       3710       2403       3498       2949         75       83       81       78       85       86         4497       4159       4296       3356       4280       4500 | 1       1       1       5         9       12       1       5         3       1       49       3       13       2       46         2014       2013       2012       2011       2010       2009       2008         2661       2505       3710       2403       3498       2949       3534         75       83       81       78       85       86       82         4497       4159       4296       3356       4280       4500       5075 | 1       1       1       5       2         3       1       49       3       13       2       46       6         3       1       49       3       13       2       46       6         2014       2013       2012       2011       2010       2009       2008       2007         2661       2505       3710       2403       3498       2949       3534       2594         75       83       81       78       85       86       82       84         4497       4159       4296       3356       4280       4500       5075       4739 | 1         1         1         5         2           9         12         1         5         2           1         9         12         1         5         2           3         1         49         3         13         2         46         6         4           2014         2013         2012         2011         2010         2009         2008         2007         2006           2661         2505         3710         2403         3498         2949         3534         2594         4288           75         83         81         78         85         86         82         84         81           4497         4159         4296         3356         4280         4500         5075         4739         3782 | 1         1         1         5         2         1           9         12         1         5         2         1           3         1         49         3         13         2         46         6         4         41           3         1         49         3         13         2         46         6         4         41           2014         2013         2012         2011         2010         2009         2008         2007         2006         2005           2661         2505         3710         2403         3498         2949         3534         2594         4288         5488           75         83         81         78         85         86         82         84         81         91           4497         4159         4296         3356         4280         4500         5075         4739         3782         4795 | 1         1         1         1         1         1           9         12         1         5         2         1         1           1         1         5         2         1         1         1           3         1         49         3         13         2         46         6         4         41         10           2014         2013         2012         2011         2010         2009         2008         2007         2006         2005         2004           2661         2505         3710         2403         3498         2949         3534         2594         4288         5488         3388           75         83         81         78         85         86         82         84         81         91         87           4497         4159         4296         3356         4280         4500         5075         4739         3782         4795         2452 | 1         1         1         1         5           9         12         1         5         2         1         1         1           3         1         49         3         13         2         46         6         4         41         10         14           3         1         49         3         13         2         46         6         4         41         10         14           2014         2013         2012         2011         2010         2009         2008         2007         2006         2005         2004         2003           2661         2505         3710         2403         3498         2949         3534         2594         4288         5488         3388         3002           75         83         81         78         85         86         82         84         81         91         87         86           4497         4159         4296         3356         4280         4500         5075         4739         3782         4795         2452         3398 |