Ontario Eastern Bluebird Society

2015 Fall Newsletter ~ Editor Bill Read

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The AGM is set for Saturday, March 19, 2016 at the Royal Botanical Gardens in Burlington. Our feature speaker is John Riley, who will discuss the ecological history of the Great Lakes.

Welcome to the fall 2015 OEBS newsletter

This past February was the coldest February in 100 years of weather records in the Waterloo region. The average temperature was -15.1 Celsius, putting it well below the previous coldest months which were February 1934 (-13.3) and January 1994 (-13.2). Overall it was 9 degrees below average with not one day that got above 0 Celsius. On family day, February 16 the temperature was -34.9 C beating the previous low of -32.3 C on January 27, 2005. The forecast from Environment Canada is for a milder winter in 2015-2016. Let's hope this is true. So far we have had a warm fall with the second warmest September on record, only September 1961 was warmer. Remarkably some over wintering bluebirds were able to survive this cold that extended well in to the central United States.

The Halton Bluebird Club reported bluebirds all winter in Bronte Provincial Park. There were other reports of bluebirds throughout the winter in other parts of Ontario. There was some mortality; Don Wills found 12 dead bluebirds in nest boxes (7 in one box). Sherry Shisler's bluebirds made it through the winter; Sherry lives in Sherkston Ontario and spends $3000 a year making sure the little fellas have an ample supply of mealworms. She feeds from 15-24 bluebirds each day. Sounds like a good hobby to me; unfortunately I don't live in a spot where this is possible. If anyone has bluebirds that are being fed all winter let me know as I am capturing and taking the weights of winter bluebirds to see if they gain weight as the bluebirds do in Tennessee (see 2013 Fall newsletter). OEBS will pay for the mealworms if you take part in this study. The offer of 50,000 meal worms for $35 plus Canada Post shipping is still available; see the home page of our website for more information.

Temperatures in March and April were around the normal mark. May was 3.5 degrees above normal but with periods of cold on May 14, 23 and the 31st when the temperature was around zero. This resulted in some nestling mortality but it was minimal compared to other years. Temperatures in June and July were around normal. Cold periods in June resulted in some Tree Swallow nestling mortality. Many of these pairs were able to re-nest successfully. Overall bluebirds had a productive year but numbers of returning adults were down probably because of the higher adult overwintering mortality of the last two winters. This meant that fewer young bluebirds were fledged. Tree Swallows by most accounts had another very successful year in Southern Ontario. I monitored two Tree Swallow grids of 50 nest boxes each in Windermere basin in Hamilton that fledged 521 Tree Swallows. Every nest box was occupied by Tree Swallows. My own trail produced 470 TRES. A full report on TRES and EABL reproductive success will be summarized in the 2016 spring newsletter. I also analyzed the recaptures of banded Tree Swallows at Port Rowan, Mud Creek and the Tip of Long Point.

The regular reporting form for 2015 breeding season is included with this newsletter. Make sure to send your report in for inclusion in the 2016 spring newsletter.

This winter scene of four males and two females was taken by David Kinnear. The cups are filled with meal worms.

OEBS Conservation Award

Each year the OEBS awards one individual or group the Conservation award for their efforts on behalf of cavity nesting birds. The winner for 2014 is Josef Kral who has maintained a trail (that reached 482 boxes in 2014) at Guelph Lake from 1992- 2014. During this time his trail has fledged over 30,000 Tree Swallows and 1881 bluebirds. The 2015 winner will be announced at the AGM on March 19, 2016.

If you would like to nominate someone for this award send me a note or email through the Bluebird Society and the reasons you believe this person or group deserves the award.

PREVIOUS OEBS CONSERVATION AWARD RECIPIENTS

1995 George Coker	2005 Joe Hurst
1996 Leo Smith	2006 Ottawa Duck Club
1997 Hazel Bird	2007 Gerry Powers
1998 Don Wills	2008 Ken Reger
1999 Sheldon Anderson Doug Harrison	2009 Chris Lyons
2000 Norm Shantz	2010 Don Bissonnette representing the Essex County Field Naturalists Bluebird Committee
2001 Robert Burton	2011 Henry Miller
2002 Halton Bluebird Club	2012 Lucille Coleman
2003 Herb Furniss Don Parkes	2013 David Hampton
2004 Glanbrook Conservation Committee	2014 Josef Kral

Results from Breeding Bird Atlases

The Quebec Breeding Bird Atlas

Initial reports from the Quebec breeding bird atlas indicate Eastern Bluebirds have increased by 50% from the first atlas. This increase was attributed to the placement of nest boxes. Other aerial insectivores did not fare as well. All Swallows, from the Purple Martin (-77%) to the Tree Swallow (-17%) are declining. The chimney Swift has declined by 47% and the Kestrel by 9%. The Loggerhead shrike was present in about 30 squares in the first atlas, but now has almost completely disappeared from Quebec. See Birdwatch Fall 2015 Number 73 for more results from the *Quebec Atlas.*

The ***Manitoba Breeding Bird Atlas*** is accessible online. Both Tree Swallows and Bluebirds have done exceptionally well. Bluebirds reach to the top of Lake Winnipeg and Tree Swallows all the way to very top of the province.

The ***British Columbia Breeding Bird Atlas*** is also available on line. Check the breeding status of Western Bluebird, Mountain Bluebird, Tree Swallow and Violet Green Swallow.

Bird Declines: Widespread and Simultaneous

As a group, the birds that are aerial insectivores (ie birds that capture insects in flight) are declining faster than any other group in North America. These declines are especially apparent in eastern Canada and the north eastern U.S. This group includes the cavity nesting Chimney Swift, great Crested Flycatcher, Purple Martin, Tree Swallow and Violet Green Swallow. The reasons behind this population freefall are unknown.

A group of scientists met in 2012 to discuss the declines. That meeting, hosted by Bird Studies Canada, prompted a small group of researchers to do a detailed mathematical analysis of the population trends. They found the populations of most swifts and swallows increased in the 1970's but populations across the continent suffered a sharp downturn in the 1980s, a trend that continues today, this was especially true in eastern Canada/northeastern U.S. Populations of flycatchers followed a similar pattern, but **the downturn started in some areas as early as the 1970s**, (lower Midwest, Kentucky, Tennessee) and as late as the 2000s (Western U.S., British Columbia, Alaska).

The fact that the downturn is common to nearly all aerial insectivores, and occurred at about the same time in all species (at least among swifts and swallows , suggests that a single cause is responsible, something that affects all members of this group. The researchers speculated on causes – changes in land use, pesticides, weather/climate-but further research is needed to pinpoint the cause(s).

Adam C. Smith, Marie-Anne R. Hudson, Constance M. Downes, and Charles M. Francis. 2015 Change Points in the Population Trends of Aerial-Insectiviours birds in north America: Sychronized in time across Species and Regions. PLos *ONE* *10*(7):e0130768. Doi:10.1371/journal. Pone.0130768.

Me! Me! Me!

Tommy Thompson bird banding station in Toronto where they banded a total of 6 Eastern Bluebirds – a station first.

Amanda Guerico

This nest box is on a greased metal pole in an apple orchard. The male has just fed the young and the female is waiting with food to do the same.

Photo credit - Angie Mueller

Discussion – Why are these declines happening, is it weather related? No one knows for sure. One over looked factor are poorly monitored unprotected nest boxes that lack House Sparrow control. House Sparrows will kill the Tree Swallows in the nest boxes.

As old style barns that accommodated **Barn Swallows** are being removed they are forced to find other places to nest. They have learned over time that being close to people provides some kind of advantage. They seek out homes and buildings to build their nest on. Unfortunately for Barn Swallows they do not take their fecal sacs away and instead the young drop them directly below the nest. This usually leads to their eviction as most people will only tolerate wild animals if they do not cause a problem. I suggest putting a plastic sheet below the nest to collect the fecal sacs that can be removed easily once the young have fledged. If we are to have them around we must find ways to accommodate and put up with these minor inconviences. **House Sparrows** are also a major problem for **Cliff Swallows** as they will take over their cavity like nests and remove the Cliff Swallow young.

Most reports from nest box trails reporting to OEBS in 2015 have shown stable or increasing numbers of fledged **Tree Swallows**. Most of these trails are in southern Ontario and are predator protected and monitored on a regular basis. House Sparrow control is utilized on these trails. **The best solution for House Sparrows is to humanely remove them.**

Unmonitored unprotected nest box trails have resulted in poor Tree Swallow reproductive success. Today there is a proliferation of nest boxes being built that end up without protection and monitoring. The Hamilton green party is building 200 nest boxes to be handed out as a green initiative to anyone who wants one. There are unfortunately many of these projects where boxes are built and distributed with good intentions only to become nesting sites for House Sparrows. **It is distressing to me that a number of national organizations dealing with birds have set up nest box trails and then neglected to monitor them.** People look on these initiatives as a good thing because they have no understanding of what the right thing is to do in order to help native species. I know of many abandoned unprotected nest box trails that end up being population sinks for cavity nesting birds especially if House Sparrows occupy most of the nest boxes. Because House Sparrows are year round residents they will occupy the boxes first, if a Tree Swallow attempts to enter the nest box the HOSP will follow and kill it. Unfortunately this scenario is happening across Ontario perpetrated by many well- meaning individuals.

It is a full time job for the Bluebird Society trying to educate people about the proper way to set up a nest box trail that will benefit native species

I believe we can agree that weather has become much less predictable and more volatile in the last 30 years because of global warming. Tree Swallows are coming back earlier than they did 30 years ago and sometimes get caught in bitterly cold weather with no available flying insects. In 2007 a trail monitor in New York State sent me a picture of 50 dead adult Tree Swallows in one nest box that arrived too early and got caught

in a stretch of bitterly cold weather. Many bluebirds also got caught and died. Most fruit bearing trees or shrubs have been depleted of their fruit by this time and bluebirds and Tree Swallows must rely on insects, if the ground is covered with ice as it was in 2003 it is very difficult for them to survive.

Here is a question for you – *What would happen to the Tree Swallow population in Canada if no nest boxes were made available for them to nest in and they had to revert to using natural cavities? We would undoubtedly see a huge decline in Tree Swallow numbers.* Once you establish a nest box grid and attract a nesting population there is a moral obligation to keep it going. That said if one individual has monitored their trail for many years and needs to retire they have already done their bit to increase the population of whatever native bird they were working with. Hopefully someone else will be able to take it over but in most cases this is not possible.

Eastern Bluebird Population Changes

The maximum population of Eastern Bluebirds in Ontario was probably reached sometime in the late 1800's. At that time most of the trees in Southern Ontario had been logged creating open areas for mixed farming operations; over 80% of the population lived in rural farming areas. Tree stumps were used for fencerows in these mixed farming operations creating ideal cavities for bluebirds to nest in. Fence posts were also utilized. Bluebirds were abundant at that time and were still classified that way by most accounts in 1910, the same time that House Sparrows reached their population peak. There were no European Starlings until they were introduced in 1890 and very few opposums. Starlings reached their population peak around 1950. If you are old enough you can remember the shotgun shoots in major Ontario cities to decrease the number of starlings in many downtown areas. The first shoot in Hamilton's Gore Park occurred on January 25, 1954 with 122 - Twelve Gauge shot gunners shooting them out of the stately White Elms that lined the park. Further shoots were planned twice a week until the end of April. Similar shoots in Waterloo and Galt lasted from 1945–1975. It wasn't long after that the Dutch Elm disease killed all these giants. Around 5000 starlings were shot each time. James L. Baillie from the ROM estimated Hamilton's European Starling population at 2 million.

By 1910 House Sparrows had increased dramatically but most nested in towns and this was offset somewhat by the sheer number of cavities available. Raccoons (major predators of bluebirds in unprotected nest boxes) were strictly controlled through hunting and trapping and their fur was utilized. It is only today that we have created an environment where raccoons are now abundant by providing them with a ready access to waste food. Today there is virtually no market for their pelts. House cats were not nearly as prevalent as they are today.

Don Wills talks about his Prothonnotary Warbler project at the 2015 AGM in Burlington while President Bill Read and Director John Balga (sitting) look on.

Photo credit ~ Rob Mueller

What was the population of bluebirds and other aerial insectivores before European settlement?

Were bluebirds more of a forest bird that occupied openings within the forest canopy like other Catharus Thrushes and only recently started occupying more open areas created by early settlers clearing the forest for their homestead. Or did this utilization of open areas occur during pre-settlement when our native peoples created large open areas as a result of their agricultural practices and from the gathering of firewood. Since firewood was utilized by native inhabitants for cooking and to provide warmth large open areas would have been created for bluebirds to forage in. Women were the primary collectors of firewood and as the village aged they had to go further and further distances to collect it. The bluebirds could nest in the trees that surrounded the open areas. One of the reasons native villages had to be moved every 20-30 years was the difficulty of firewood collection along with soil depletion and to a lesser degree sanitation. Forest burn areas in the boreal forest also created ideal habitat for bluebirds to nest in. Many bluebirds still nest in these remote areas above Lake Superior but today they also occupy clear cuts. There is a record of an Eastern Bluebird collected at Moosonee for the Smithsonian museum in the late 1800's. One of the bluebird pictures on our OEBS face book site was taken near Moosonee. **Chimney Swifts** very quickly changed from tree nesters to chimney nesters and became abundant in the early 20th century. Now as more and more chimneys are capped their population has suffered a decline.

Four nestlings at about 7 days old. By the time they leave this nest will be flattened out and have very little if any fecal matter on it. On the bottom of the nest you should find blowfly pupae in the nest material. This is always a good sign that they fledged successfully.

Photo credit -Bonna Talluto

Directors Delores Hamilton and Angie Mueller hold up the wood carvings they won in the bucket raffle. These wonderful barn board carvings were donated by Dave Wilson for the bucket raffle. Angie oversees all our social media sites.

Photo credit -Rob Mueller

A few years ago Don Wills had one pair of bluebirds nest in the middle of Backus Woods. They were not successful only because of a May cold snap that resulted in the death of their 14 day old nestlings and many other nestlings across Ontario. Both Tree Swallows and bluebirds have declined from what I term artificially high numbers in the late 1800's that in my opinion would not have been present pre settlement. Should we base population declines on these artificially high numbers or try to make some determination as to the pre settlement population and use that as our base. As our population increases with the accompanying urban sprawl and changing farming practices utilizing mono culture expand (mainly corn and soy beans in Ontario) can we really expect that populations of aerial insectivores will remain stable.

Incidental banding of Tree Swallows on bluebird trails and TRES grids

Incidental banding (banding Tree Swallows as you find them in the nest boxes) can lead to nest abandonment and lower clutch sizes. Banding should not be attempted until after the young hatch in both bluebirds and Tree Swallows.

An Analysis of the 2015 Tree Swallow recaptures at the Three Tree Swallow grids at Long Point – The Tip, the Sewage Lagoons and Mud Creek

During the breeding season all nest boxes in the three grids were monitored by Bird Studies Canada volunteers. All adult Tree Swallows were trapped and the band numbers of previously banded birds were recorded, and those without bands were banded. All nestlings were also banded. Below is an analysis of all recaptured adults for 2015.

Longevity

The average age of re-captured adults was basically the same at each grid with the Tip at **3.68** years, (see chart) the Sewage Lagoons at **3.58** and Mud Creek at **3.64**. First time banded females are recorded as ASY adults and would be labelled as 2+ as they are at least 2 years old but could be older. In the calculation they are counted as 2 years. The following year they would be at least 3 years old and would be labelled 3+. Males banded for the first time would be labelled as AHY adults and would be labelled as 1+. Only 8 one year old (SY) Tree Swallows were able to claim a nest box at the three grids; none at the tip, 5 at Mud Creek and 3 at the Sewage Lagoons. At the tip 82 of 84 recaptured Tree Swallows in 2015 were initially banded there. Almost 60 % (49/84) of these

TREE SWALLOW AGE DISTRIBUTION

AGE	1	1+	2	2+	3	3+	4	4+	5	5+	6	6+	7	7+	8	8+	9	9+
SEWAGE LAGOON PORT ROWAN	3	-	10	9	6	13	4	12	-	3	1	8	1	2	-	-	1	-
MUD CREEK	5	-	5	3	12	19	3	13	4	5	1	1	2	2	1	-	1	-
TIP	-	-	11	7	18	13	10	4	2	4	5	2	4		-	1	-	1

were banded as nestlings. This indicates that first time banded males will be on average older than 1 year. But to further complicate things this would only apply to new recruits into the population that were from non-grid areas. I am assuming that these one year old birds would have the same difficulty finding a spot in the grids as do birds initially banded as nestlings at one of the grids. All non-banded adults and young are banded each year at the three grids. Undoubtedly some will be older which would increase the average age slightly. It may be safe to say that the average age of recaptures is closer to 4 years. We could calculate a formula that would enable us to assign an age to these new females and males from non -grid areas at their initial banding. By calculating the time from initial nestling banding to first recapture for the 49 initially banded as nestlings at the tip we could come up with an average number for both females and males that could be applied to new recruits at their initial banding. This could be used to assign an age to newly banded recruits that would be used to calculate average age. At the tip 32 of 84 recaptured Tree Swallows were banded as new recruits into the population.

Discussion

It is unlikely that the overall cumulative age for longevity would change much in the ensuing years as these grids have now reached a climax state. In other words they have been in operation long enough for birds to reach their maximum ages at each grid. What might change slightly is the distribution of the number of adults in each age group. This is also true for Eastern Bluebirds, after 25 years of banding and recapturing. My studies of average age for Eastern Bluebirds are always around 2 years for recaptured adults. Bluebirds are much harder to recapture than Tree Swallows so the percentage of recaptured adults is slightly lower. Tree Swallows are longer lived than bluebirds. This may be partly due to their migration strategies. Most Tree Swallows spend the winter in the gulf coast area and are not subject to cold winters which can cause heavy mortality among bluebirds that attempt to overwinter both in Ontario and in the upper states that border the Great lakes. Tree Swallows can suffer heavy mortality when they return to early and get caught in unseasonably cold weather that lasts. A nest box monitor in Upper New York State sent me a photograph of 50 dead adult Tree Swallows he found in one nest box from the bitterly cold spring of 2007. I also had at least 7 dead TRES's that year in one nest box.

Tree Swallows also suffer mortality at the hands of House Sparrows when they return and attempt to nest. This is becoming more of a problem as many well intentioned individuals and groups put up unmonitored nest boxes that become occupied with House Sparrows. Tree Swallows return and attempt to find a suitable nest box that may be already occupied by a HOSP that has over wintered in that area. It may even be a box that the TRES used the previous year. Once they have nested successfully in a nest box they will return the following year to claim that same box. If a male HOSP catches a TRES in a nest box it hammers its head with its weaver finch bill until the Tree Swallow is dead. Bluebirds and Tree

An adult female Tree Swallow incubating 7 eggs. Eggs turn white after they have been incubated.

Photo credit ~ Donna Talluto

Swallows can co-exist in nest boxes that are very close together. If Tree Swallows attempt to nest in a nest box close to a House Sparrow nest they or their young will in most cases be killed by the male HOSP. Banding operations that have TRES grids nearby humanely remove House Sparrows for this reason. Once a TRES grid reaches full occupancy they seem better able to defend against HOSP's as more than one TRES will attack it and drive it off.

Age Distribution

Each grid had 1 nine year old Tree Swallow. The highest distribution was mainly at the 2-4 year age grouping. The sewage Lagoons had eight 6+ year old Tree Swallows. Each age class was represented up to 9 years. The recruits into the population all have a + beside them. A total of 108 / 229 recaptures or 47.16 % were initially banded at one of the grids as a nestling. The tip had the highest percentage of recaptures that were initially banded as nestlings at 58.3 %. All of these were banded at the tip. The isolation of this grid may be a factor leading to this higher percentage. Mud Creek had 29/77 or 37.66% of recaptures that were banded at nestlings but 13 of the 29 were initially banded as nestlings at the Sewage Lagoons. The Sewage Lagoons had the lowest percentage of recaptures that were initially banded as nestlings at 23/73 or 31.51%. Five of the 23 were banded at Mud Creek and 1 at the Tip. Overall in the three grids a total of 121/229 or 52.83 % were recruits into the population from other areas.

All adults were captured using a flap trap propped up by a piece of straw, when the Tree Swallow entered it knocked the flap down trapping the adult in the box.

AGE DISTRIBUTION FOR ALL THREE GRIDS

AGE	1	1+	2	2+	3	3+	4	4+	5	5+	6	6+	7	7+	8	8+	9	9+
QTY	8	0	26	19	36	45	17	29	6	12	7	11	7	4	1	1	2	1

Movement of banded Tree Swallows between grids

The **Tip** only had two birds that were not banded originally at the tip. One was a foreign re-trap banded at Rock Point by Jim Smith and the other bird (6 year old Female) was originally banded at the Sewage Lagoons as a nestling in 2009. One other bird was banded at the tip banding station which is adjacent to the tip grid. This indicates very high site fidelity. The isolated location of this grid and less competition from Tree Swallows that didn't originate there has led to a higher percentage of nestlings returning and eventually being able to claim a nest box there. Only 35/84 or 41.66% were new recruits and 58.33 % were initially banded there as nestlings. At the two other grids the percentages of new unbanded recruits was much higher. Mud creek had 48/77 or 62.34 % and the Sewage Lagoons was the highest at 50/73 or 68.49%. This may indicate there was more competition for nest boxes at these two inland sites than at the tip.

A brood of 8 Tree Swallow nestlings at about 9-10 days of age. Young are usually banded at about 10-11 days old.

Photo credit ~ Donna Talluto

An adult Tree Swallow.

Photo credit ~ Jim Bailey

Re-traped Tree Swallows at each grid that were originally banded as nestlings at that grid

The Tip had the highest number of birds banded as nestlings that were re-trapped at the tip in 2015. Almost 60% (49/84 – **58.33**%). The isolation of this grid may have influenced the high number. That and high site fidelity.

At the **Sewage Lagoons** only (23/73) 31.51% of birds banded as nestlings were recaptured there but only 23% (17/23 – 23.28%) were initially banded as nestlings at the Sewage Lagoons. Five were banded at Mud Creek and 1 at the tip.

Mud Creek had (29/77) 37.66 % of Tree Swallows that were originally banded as nestlings but only 16/77 – (20.78%) were banded as nestlings at Mud Creek. Thirteen were banded as nestlings at the Sewage Lagoons and are now nesting at Mud Creek.

WHERE INITIALLY BANDED FOR ALL RE-CAPTURES AT EACH SITE

	LOCATION BANDED @				
	THE TIP	MUD CREEK	SEWAGE LOGOONS	ROCK POINT	NANTICOKE
The Tip	82	-	1	1	-
Sewage Lagoon	1	15	68	-	1
Mud Creek	-	61	6	-	-

Foreign Recaptures at the Three Grids

Only 2 foreign re-traps were captured, one at the tip that was banded as a ASY Female at Rock Point by Jim Smith on April 30, 2013. This location is almost due north of the tip. One other 6 year old female nesting at the Sewage Lagoons was banded at the Nanticoke Power Station as a LU (nestling) in 2009. I would have expected to find more than 2 foreign re-trap birds in the grids. Only two recaptures at the tip were not originally banded there. Not one Tree Swallow re-trapped at the tip in 2015 was a SY (1 year old bird). Most SY birds are not able to gain a breeding spot in these grids as older birds have already claimed the available nest boxes. All the grids have 100% occupancy.

Only 8 second year (1 year old) birds were able to find and compete successfully for a nest box. One year old Tree Swallows will attempt to nest and if there is not a spot open they will stay nearby until one becomes available. They may also nest after most of the other Tree Swallows have finished nesting along with birds that have failed on their first nest attempt.

Tree Swallows fill their nests with feathers to insulate their young and keep them warm.

Photo credit ~ Donna Talluto

Richard Cope checking a nest box at the sewage Lagoons.

Photo credit ~ Donna Talluto