# 2006 Fall Newsletter

Welcome to the fall newsletter. It has been over 10 years since OEBS hosted the 1996 North American bluebird society meeting at RBG in Burlington. How time flies!!

**The 2007 AGM is set for Saturday March 17th** at the Royal Botannical Gardens in Burlington, Ontario. The feature speaker will be Chris Earley. Chris is the Interpretive Biologist Education Coordinator at the Arboretum, University of Guelph. He will give a talk on hawk appreciation and also discuss the wasp project (see further in newsletter). Chris is looking for volunteers to take part in this study.

The summer of 2006 was 1.4 degrees above normal, eclipsed only by the summer of 1998 when it was 1.7 degrees above normal. Environment Canada defines the normal summer temperatures as the average that prevailed in the 30 year period between 1951 and 1980[1].1 The warm summer also continues a trend of above average seasonal readings that has lasted for nearly nine years leading some weather experts to suggest Canadians are seeing the early signs of global warming.

With both the past winter and spring, the warmest on record, Environment Canada said the last eight month period has been the warmest such stretch experienced in the country since the government began compiling modern temperature data in 1948. Many bluebirds overwintered successfully (2005-2006) with 580 counted on the 106 Audubon Christmas bird counts in Ontario. The previous year only 223 were counted (105th count).

It was very warm up until May 12th when it became colder and wetter ending in the very cold wet May long weekend (almost a tradition). This resulted in very heavy nestling mortality in Southern Ontario. Don Wills fledged a second best 647 young (1998 - 721 young) despite losing a record 75 young during the two days of May 21 and 22. Don who raises meal worms set up feeders at each of the 17 bluebird boxes near his house to keep them alive. The rest of the nesting season was ideal with warm weather and plenty of precipitation. I was able to fledge 210 young despite loosing many nestlings during the May weekend. Chris Lyons, near Port Hope, fledged 230 young (his best season ever) from 36 pairs of EABL. Chris has moved many boxes inland from sites that were near Lake Ontario in order to reduce the lake effect in early spring. During the cold weather, Chris put blocks of styrofoam under the nest in the bottom of the box and placed a 16-hour chemical hand warmer in-between the block and the nest to keep the young warm. This was very effective during that cold May 21, 22 weekend. Nestboxes were completely sealed with no ventilation holes and the entrance hold facing south-east to avoid cold winds from the east and northwest. No ventilation holes are necessary in Ontario. Extreme heat does not bother bluebirds only cold winds in the spring which can result in heavy nestling mortality.

Dennis and Gwen Lewington fledged 96 young on their trail near Wiarton. They were plagued by red squirrels and weather related mortality in June. Sylvia Van Walsum of The Halton Bluebird Club stated they had a lot of aggressive tree swallows, in several cases they took both nestboxes of a nestbox pair, driving out bluebirds. They have now moved paired boxes closer together and have a few more boxes as singles. They fledged 17 EABL's from 40 eggs laid and 165 tree swallows fledged from 262 eggs.

1. Environment Canada Weather Office

## 2006 Hamilton Fall Bird Count

The summer was hot with a lot of precipitation which produced abundant berry crops like sumac and buckthorn. This should mean more bluebirds overwintering in Ontario in 2006-2007. The 2006[2] Hamilton fall bird count reported 202 EABL's (3rd highest). At the old cut banding station of the Long Point Bird Observatory, 180 EABL's were counted with 53 in October and 127 in November 2006. Peak days were November 2nd with 34, November 4th with 25 and November 9th with 33.

Bluebirds migrate along the shores of Lake Ontario and Lake Erie until they reach the end of the Lake Erie where they cross over into Michigan. Some follow the causeway and then fly out to the tip of Long Point before they turn around and go back west again.

2. Held the first Sunday in November each year.

## Birds of Hamilton and surrounding areas

*By Bob Curry*

I wrote the history of the Eastern Bluebird in the Hamilton study area for this book. I have reprinted a copy included in this newsletter. There is also an article on prothontary warblers by Don Wills and Kim Barrett, included in the book which will be available at our March 27th 2007 meeting at RBG for $60.00.

## Fort Frances Sportsmens Club

Henry Miller, who is in charge of the Get Outdoors Club, sent me some information on conservation work with bluebirds, that their club is doing in that area. The Get Outdoors Club is the junior club of the Fort Frances Sportsmens Club, an affiliate of OFAH. Hundreds of students and adults have been involved in this program which fledged close to 100 EABL's in 2006. Keep up the good work Henry!!

## Free-Roaming Cats Bad for Birds

The American Bird Conservancy (ABC) has published a new report that says a free-roaming cats are bad for birds.

*The report, Impacts of Feral and Free-ranging Cats on Bird Species of Conservation Concern: A Five-State Review of New York, New Jersey, Florida, California and Hawaii* analyzes for the first time the effects cats are having on some of America's most at-risk bird species at cat predation hotspots.

The five-state review cites troubling threats to endangered species such as the Florida Scrub-jay, Piping Plover, and Hawaiian Petrel, and other key birds such as the Painted Bunting, Least Tern, and Black Rail.

The report highlights the growing trend of so-called "managed" feral cat colonies that use Trap/Neuter/Release techniques and their effects on birds, particularly at state and Globally Important Bird Areas.

The evidence is clear, the report shows - free-roaming cats are bad for birds.

The report says state and federal resources for controlling feral cats must be significantly increased to achieve the goals identified in Endangered Species Recovery Plans and State Comprehensive Wildlife Conservation Strategies.

## What Bluebirding is all about

The idea behind bluebirding is to provide a safe, predator-proof nestbox for Eastern Bluebirds to fledge more young than in natural cavities. Boxes should be built with no ventilation holes and the entrance hole should face away from the prevailing winds (in Southern Ontario most storms come out of the northwest and the east). The Ontario Eastern Bluebird Society will not endorse boxes that do not have full predator protection. A thorough application of grease on a t-bar or metal pole has proven to be almost 100% effective in keeping raccoons from climbing them. A special stove pipe guard can also be used to stop climbing predators. Bluebirding has progressed from just nailing up boxes to the nearest tree or fence post (these in most cases become feeding boxes for raccoons), to superior management techniques, supplemental feeding and heat in the box. Top bluebirders spend their own money on nestbox materials and don't rely on money from other sources to keep them going. In fact, the bigger the grant, the less that is done. Bluebird trails with boxes located on fence posts can have a negative effect on bluebird populations. Raccoons, after finding food in a box (a female bluebird or young) will visit other boxes in the area and predate those as well. It is up to you to stop this from happening. Since natural cavities are located on a random basis, only that one nest would be lost. If you are not able to protect your boxes, you should consider removing them in order to help the bluebird population. Unmanaged poorly located boxes continue to hurt the bluebird population.

## OEBS Conservation Award

An award is given out each year to an individual or group that has made an outstanding contribution to Eastern bluebird conservation during the preceeding year. The 2005 award was given to Joe Hurst of Port Stanley. Joe started his bluebird trail in 1967 with a few boxes and was able to fledge his first two bluebirds in 1969. His best year was 2003 when he fledged over 300 bluebirds.

| OEBS Conservation Award Recipients | |
|---|---|
| 1995 | George Coker |
| 1996 | Leo Smith |
| 1996 | Hazel Bird |
| 1998 | Don Wills |
| 1999 | Sheldon Anderson/Doug Harrison |
| 2000 | Norm Shantz |
| 2001 | Robert Burton |
| 2002 | Halton Bluebird Club |
| 2003 | Herb Furniss/Don Parkes |
| 2004 | Glanbrook Conservation Committee |
| 2005 | Joe Hurst |

# History of the Eastern Bluebird in the Hamilton Study Area

*by Bill Read*

The Hamilton Study area (HSA) is a circle with a radius of 40.2 km whose center is situated at Dundurn Castle in Hamilton, Ontario, Canada.

The Eastern Bluebird is a cherished sight for birdwatchers in the Hamilton Study Area (HSA). It held a special place in the folklore of our early settlers who welcomed it as a true harbinger of spring. During the pre-settlement era, the Eastern Bluebird would have been a rare to uncommon sighting, limited as the species was to forest fire burns, clearing created by indigenous peoples and prairie edge opening. Populations increased dramatically in the late 1700s and 1800s as settlers cleared the dense forest to plant crops and build their farms. Fencerows were lined with tree stumps and split rails creating ideal nest cavities for Eastern Bluebirds. These combined factors helped bluebirds become common to abundant in the HSA and across Eastern North America likely reaching population peaks in the mid to late 1800s.

The introduction of the House Sparrow(ca. 1850) and the European Starling (ca.1890) created problems for Eastern Bluebirds nesting in settled areas. These more aggressive species out-competed bluebirds for nest cavities. As early as 1918, Dr. Lawrence Zeleny found that House Sparrows nearly always evicted bluebirds from his nesting boxes unless he was constantly vigilant (Audubon Society of Omaha). European Starlings had not yet spread to Minnesota at this time. Despite this competition bluebirds remained common in the HSA well into the 1940s.

According to Jim Dowall (pers.comm.) Eastern Bluebirds were fairly common in the HSA in the forties and early fifties but, during the latter part of the 1950s, numbers declined dramatically. Bob Elstone (pers.comm.) states that numbers of Eastern Bluebirds began to decline just after 1945, when intensive spraying of DDT began. Even Cootes Paradise was sprayed in 1946. Furthermore, farms became more mechanized after 1945. Larger farms, fewer wooden posts, more t-bars, and barbed wire reduced the number of available nest cavities. The expansion of urban areas and a decline in the amount of pastured areas and mixed farming operations also contributed to a decline in suitable habitat.

George North tallied 650 Eastern Bluebirds migrating on 27 October 1946 presumably past Woodland Cemetery in Burlington. The only modern total in the HSA close to that was the 180 on 20 October 2001 past Woodland Cemetery. The modern total for Ontario is 825 Eastern Bluebirds migrating by Holiday Beach near Windsor on October 27, 1991 (Holiday Beach Migration Observatory). Most Eastern Bluebird records from the HSA from 1951 - 1985 are of spring and fall migrants. There are summer records in most years but only of one to three each year, with no records from 1951 - 1958, 1960, 1967, and 1968. Summer sightings became somewhat more regular in the mid to late seventies and early eighties. A sighting of two Eastern Bluebirds on Coker Rd. by Denys Gardiner on 4 August 1985 would almost certainly be from one of George Coker's and Ray Hughes' boxes. They started a nest box trail in that area in 1982. Most summer sightings of Eastern Bluebirds from 1951 - 1985 were from Cootes Paradise, Middletown Road near West Flamboro, Rockton and Campbellville. Fall transients through the HSA were from further north and undoubtedly some would have been from Leo Smith's 508-nestbox trail near Caledon, established in 1968, or that of Dennis Barry and Jim Richards who had a very successful trail near Bowmanville which they established in 1967 (Barry & Richards 1980). DDT probably impacted Eastern Bluebirds negatively as it was used as a common insecticide for just about everything until it was banned in Canada in 1972. Apple orchards were routinely sprayed every 10 days with either DDT, lead arsenate or sulphur. Today

with less toxic sprays and an integrated pest management approach Bluebirds nest successfully in sprayed apple orchards.

Weather has always been the primary limiting factor contributing to Eastern Bluebird population declines but these declines were usually followed by rebounds to former levels within a few years. Beginning in the early 1950s these rebounds appear to have failed. Initially after their introduction European Starlings stayed in urban areas but about 1950, however, they began nesting in more rural areas as well, usurping natural cavities that Bluebirds could have used. Forestry practices favouring removal of dead trees also reduced or eliminated the number of natural cavities. Well-managed predator-proof nestbox trails now provide a means for successful rebounds.

Eastern Bluebirds continued to decline during the 1960s and 1970s in Eastern North America. The 1970s were the snowiest decade on record (D. Phillips pers. comm.). Extreme local (Pinkowski 1979) and regional (Pitts 1981) declines were noted in association with severe weather during the winter of 1976 - 1977. Sauer and Droege (1990) suggested that climatic events have been a dominant force in affecting the population trends of Eastern Bluebirds over the period 1966 - 1987. During the 1970s, Zeleny in Maryland had been alerting people to the plummeting Eastern Bluebird population in his monthly column in the Purple Martin news (now the nature society news) of Griggsville, Illinois. Zeleny's article in the June 1977 issue of National Geographic brought more attention to the Eastern Bluebird's plight. The extremely cold winters of 1978-79 and 1979-80 further reduced the Eastern Bluebird population. Eastern Bluebird numbers as recorded by the Breeding Bird Survey(BBS) in Canada showed a decline (percentage change per year) of 1.072% from 1966 - 1978 and an increase of 11.895 % from 1978 - 1987. Overall from 1968 to2005 BBS data indicate an annual increase of 6.5%(Sauer and Droege 2006) The increase can be attributed to warmer weather during the 1980s and 1990s both of average temperatures and number of cold days below -15° C. The formation of the North American Bluebird Society in 1978 also contributed to the increase in numbers by encouraging thousands of individuals and groups across North America to put up nestboxes for the three species of Bluebirds.

**Measured at the Hamilton Airport Weather Station.**
**Winter December 1 - March 31**

| Year | Average temp for decade (both highs and lows) | Average # of cold days (-15c) or below/decade/year |
|---|---|---|
| 1960's | -4.2°C | 21 |
| 1970's | -4.2°C | 18 |
| 1980's | -3.5°C | 17 |
| 1990's | -3.0°C | 15 |

In response to this continued decline, Lawrence Zeleny, Chuck Dupree, Bob Patterson, and Mary Janetatos formed the North American Bluebird Society in 1978. All present bluebird societies across North America, including the Ontario Eastern Bluebird Society, have sprouted up because of the support and example that this group provided. At present much of the work

first taken on by the North American Bluebird Society has passed to the various state and provincial Bluebird societies across North America.

After a review by Risley (1981), the Eastern Bluebird was classified as rare in Canada by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). At this time the known Canadian population was only 383 pairs, although the actual population was thought to be closer to 1,000 pairs. In his entry in the Atlas Of Breeding Birds Of Ontario Risley (1987) documented breeding evidence for Eastern Bluebirds in 702 of the 1824 squares with between two and 10 pairs in most squares. This represented a range of 1,404 - 7,020 pairs of Bluebirds in Ontario at the end of 1985.

In 1987 I conducted a survey of all known Eastern Bluebird nestbox trails in the province. A total of 97 trails reported 1,222 pairs fledging 4,950 young. This survey did not take into account Bluebirds nesting in natural cavities. I also asked if there was interest in forming an Ontario Eastern Bluebird Society. Of 84 respondents, 74 (88%) responded affirmatively. Thus the Ontario Eastern Bluebird Society was informally started in 1988 and has continued with an annual meeting at the Royal Botanical Gardens (RBG) in Burlington since 1990. In 1996 the Ontario Eastern Bluebird Society hosted the North American Bluebird Society meeting at the RBG.

## Nestbox Programs in the Hamilton Study Area

In response to lowered numbers of breeding Eastern Bluebirds in the HSA individuals and groups began building and setting up bluebird nextboxes. In Hamilton-Wentworth a friend of W.E. Saunders of London was the first person to succeed in attracting bluebirds to a nestbox at least as early as 1913 (McNicholl et al. 1995). Bob Elstone was another pioneer in this effort when he built and placed nestboxes along the north shore of Cootes Paradise and at his farm in Aldershot starting in 1954. Bluebirds nested at both locations. The Guelph Field Naturalists started a trail of 400 nestboxes in 1971. Thirty of these boxes were located within the HSA near Arkell and Eden Mills. Tony Salvadori told me that up to one third of these boxes were occupied by Eastern Bluebirds in most years. Phil and Jean Gosling donated wood and materials with Tony Salvadori, Bryan Wyatt, Don Graham, Steve Lougheed and Charles Francis building the boxes. David Brewer was involved with the banding. The project was discontinued in 1980. At the Mountsberg Wildlife Area, Park Superintendent Martin Wernaart set up 12 boxes in the bison compound and a grid of Tree Swallow boxes near the reservoir in 1975. From one to two pairs of Eastern Bluebirds occupied the boxes in the bison compound in each year but only one second brood of Eastern Bluebirds was ever recorded in the grid, this after the Tree Swallows had fledged. Rick Dowson, Senior Resource Interpreter at the Taquanyah Nature Centre near Cayuga set up 15 nest boxes on the property by 1977. Bruce Duncan who took over in 1977 continued to erect more boxes at Taquanyah and the surrounding area to a total of 30 when he left in 1988. Both met with some success. Bill Tindale set out five boxes near his home in Campbellville in 1982. Norma Ridge set out her first two boxes in Mount Hope in 1982. Albert Butwick, who started placing from 12 - 51 boxes in the Millgrove area in 1985, has met with some success. I set out 80 boxes in pastured areas north of Branchton and St. George in 1986. Some of these boxes were incorporated into the Canadian Wildlife Service research project that started in 1988 (Bishop et al. 2000).

George Coker and Ray Hughes started their trail in 1982 in the Winona area with about 60 boxes. George's brother Albert had put out some boxes in the thirties, with George maintaining a few boxes on his farm through the 1960s and 1970s. George and Ray's trail grew to 120 boxes after George retired from fruit farming in 1989. After Ray died in 1993 part of their trial on the rail line was given to Mike Doyle near Alberton who looked after it for a few years. Mike still maintains boxes on his property near Alberton. Coker is famous for his mudroom nestbox. This

is a special box designed to keep the young dry during wet weather. Coker has distributed hundreds of boxes to bluebird enthusiasts across southern Ontario. From 1982 - 2005 this trail has fledged 1,585 Eastern Bluebirds.

Environment Canada's Canadian Wildlife Service (CWS) initiated a significant study in 1988 to examine the effect of chemical sprays in apple orchards using Eastern Bluebirds and Tree Swallows as biomonitoring species (Bishop et al. 2000). Boxes were also placed in non-sprayed sites as controls to compare with the sprayed orchards. Christine Bishop, who received her Doctorate degree based on the findings, headed this study. Fertility, daily egg survival, daily chick survival and clutch size were examined during the seven-year study from 1988 to 1994. This study appears to show small but statistically significant declines in reproductive success associated with residues arising from the historic use of organochlorine pesticides particularly DDE, a metabolite of DDT. In nests initiated prior to 1 June (first broods) no declines were noted in the above parameters. Percentage declines after 1 June (second broods) were noted in two of the seven years. In 1994 declines were noted as follows: in fertility (4%), daily egg survival (0.04%) and daily chick survival (5.7%). In 1992 a decline of 1.9% was detected in daily chick survival. The oldest Eastern Bluebirds recorded during the study were a seven-year-old female and a seven-year-old male. Both successfully fledged two broods in two different sprayed apple orchards. Chip Weseloh, Mary Gartshore, Karen Pettit, Glenn Barrett, Cynthia Pekarik, Neil Burgess, Nancy Mahoney and I worked at various times over the study period. Over the course of these studies from 1988 - 2002, over 3,600 Eastern Bluebirds were fledged from these sites. I have continued to monitor the sites through 2006. During this period I have banded 4,917 bluebirds (young and adults).

In 1999 the Glanbrook Conservation Committee put up 20 nestboxes at the Binbrook Conservation Area. This group was founded in 1990 and works to improve habitat in Glanbrook. They have given many talks on Eastern Bluebird conservation and organized numerous nestbox workshops in the HSA. Bill May, Andy Fevez, Rod Fevez, Tom Kott, Marion Laing, Linda Lieske and Martin Bryant have all been active in this committee.

Don Wills began erecting boxes in the late eighties and has kept records since 1995. Don's trail is one of the largest in Ontario. His 420 nestboxes have fledged 5,345 Eastern Bluebirds from 1995 - 2006. Don is the conservation chairman of the Ontario Eastern Bluebird Society and has given numerous talks and workshops on Eastern Bluebird conservation in the HSA. Don has also set up boxes for Wood Ducks and Prothonotary Warblers.

Leo Smith who maintained a bluebird trail of 508 boxes in the Caledon area north of Toronto from 1968 until his death in 2000, put up some 8 - 10 boxes in the Glen Morris-Paris area after he moved to Brantford. His trail in Caledon fledged over 10,000 bluebirds and some of these were probably counted in the HSA as they migrated south through Ontario.

Dave Wilson who resides near Copetown started his trail in that area in 1995. Dave took over 24 boxes on George Coker's rail line trail in 1995 and currently has about 80 boxes. Habitat in this area has been lost to expanding housing developments; he fledged 349 bluebirds from this trail between 1995 and 2005.

The Halton Bluebird Club was founded in 1989 by Sandy Gage, Ken Burgess, Ted Cole and Floyd Elder. This group has placed 62 boxes in Bronte Creek Provincial Park and has fledged 347 Eastern Bluebirds from 1989 - 2006. Members have included Ted Cole, Don Morrison, Howard Aster, William Poaps, John Bennett, Bill Evans, Clive Hodder, Bob and Karen Wood, June Hitchcox, Bobbi Greenleese, Joyce LeChasseur, Paule McMahon, and Sylvia van Walsum. Sylvia has raised over $5,000 as Ontario Eastern Bluebird Society representative for the Baillie Birdathon. Twenty-five percent of the money raised went to the Ontario Eastern Bluebird Society and the rest to Bird Studies Canada. Don Bull started the Ruthven Parks

Eastern Bluebird trail near Cayuga in 1999 with 15 boxes. Habitat Haldimand donated 37 boxes in 2000 to increase it to 52 until 2005 when 31 more boxes were added to bring it to 83. Allan and Linda Thrower have taken over responsibility for monitoring. Other monitors have included Don Bull, Loretta Mousseau and Rick Ludkin. From 2000 to 2005 they fledged 87 Eastern Bluebirds.

It is because of the dedicated work of all these individuals in the Hamilton Study Area and others in Ontario that the Eastern Bluebird was delisted in 1996 based on a COSEWIC report (Read and Alvo 1996).

## Current Eastern Bluebird Population Levels

Highly volatile weather in this decade has resulted in fluctuating Bluebird numbers It could be argued that the effect of pesticides has little significance in comparison to the widespread mortality of Eastern Bluebird nestlings that can occur due to unusually cold weather in early spring. The Eastern Bluebird population in Ontario probably reached its highest point in the last 60 years in the fall of 2002, but has since declined. The period from 1 November 2001 to 31 March 2002 was the warmest on record at +1.1 C. David Philips (pers. comm.) has referred to this period as the year without winter. This allowed more Bluebirds to survive over the winter to breed in 2002. Peak numbers were recorded on both the Hamilton Fall Bird Count and the Hamilton Christmas Bird Count (CBC) of 2002 (table 2) Conversely, the ice storm of early April 2003 killed many Eastern Bluebirds in the HSA. Don Wills removed 13 dead adult Eastern Bluebirds after the storm and I removed three dead adults from my boxes near St. George. Loretta Mousseau near Cayuga reported several pairs of Bluebirds before the ice storm and none after. Fortunately, the winter of 2005-2006 was one of the warmest on record, allowing more Bluebirds to survive to breed in 2006.The 2005-2006 Ontario Christmas Bird Counts recorded 580 Eastern Bluebirds.

The Ontario Breeding Bird Atlas project of 2001-2005 (Birds of Ontario 2006) found Bluebirds in 1,237 of 1,824 squares within the 47 atlas regions-almost 500 more than the previous atlas (1981-1985; Cadman et al.1987). An estimate of 2 - 10 pairs per square would represent a range of 2,474 to 12,370 pairs of Eastern Bluebirds in Ontario at the end of the breeding season in 2005. Given the weather related declines of the last few years, I would estimate the population to be at the lower end of that range. With warmer weather both on their wintering grounds and during the breeding season, and access to predator proof nestboxes, bluebirds should recover to 2002 levels within a few years.

## Overwintering Eastern Bluebirds in the Hamilton Study Area.

During the first half of the twentieth century Eastern Bluebirds were not seen during the winter months despite the fact they were common during spring and fall migration and in the breeding season. The Eastern Bluebird was recorded on only four counts between 1921 and 1983 (Table 1) compared to 19 of 22 between 1984 and 2005. A single Eastern Bluebird was recorded on the 1953 Christmas Bird Count. Jim Dowal recorded a sighting of a single winter Bluebird in the HSA at the mouth of Hopkins Creek, Dundas Marsh, on 2 January 1954.

| Hamilton Fall and Christmas Bird Count Results | | | | | | |
|---|---|---|---|---|---|---|
| Year | Fall Bird Count | Christmas Bird Count | | Year | Fall Bird Count | Christmas Bird Count |
| 2005 | 124 | 13 | | 1985 | 2 | 0 |
| 2004 | 42 | 13 | | 1984 | 0 | 3 |
| 2003 | 76 | 13 | | 1983 | 23 | 0 |
| 2002 | 328 | 52 | | 1982 | 132 | 1 |
| 2001 | 113 | 10 | | 1981 | 2 | 0 |
| 2000 | 127 | 11 | | 1980 | 3 | 0 |
| 1999 | 137 | 23 | | 1979 | 4 | 0 |
| 1998 | 204 | 26 | | 1978 | 0 | 0 |
| 1997 | 83 | 45 | | 1977 | 0 | 0 |
| 1996 | 142 | Count Week | | 1976 | 1 | 0 |
| 1995 | 92 | 3 | | 1975 | 6 | 0 |
| 1994 | 116 | 6 | | 1974 | 0 | 0 |
| 1993 | 8 | 0 | | 1973 | No Data | 0 |
| 1992 | 20 | 3 | | 1972 | No Data | 0 |
| 1991 | No Data | 13 | | 1971 | No Data | 2 |
| 1990 | 12 | 6 | | 1961-1970 | No Data | 0 |
| 1989 | 6 | 10 | | 1960 | No Data | 2 |
| 1988 | 3 | 5 | | 1954-1959 | No Data | 0 |
| 1987 | 6 | 10 | | 1953 | No Data | 1 |
| 1986 | 13 | 4 | | 1950-1952 | No Data | 0 |
| *Hamilton Fall Bird Count held first Sunday in November each year<br>**Hamilton Audubon Christmas Bird Count held December 26 each year | | | | | | |

Bluebirds overwintered in very small numbers up until 1986; since then they have increased dramatically and have been present on every Hamilton Count since, except 1993 and 1996 (count week). This same trend is also evident on the other CBCs in Ontario. Numbers peaked in 2002 with 52 on the Hamilton CBC and 779 on all 2002 Ontario CBCs.

What factors influence Eastern Bluebirds to overwinter given that they did not 60 years ago, when they were more common? One factor is available food supply and, indirectly, warmer temperatures which affect wild fruit abundance and winter insect activity. How has the climate changed in the HSA? Average winter temperatures in the area increased in the 1980s a trend that continued in the 1990s. The number of cold days (-15° C or below) decreased during the 1980s and 1990s, which increased the probability that Bluebirds would overwinter successfully (D. Phillips pers. comm.). Overall in the Great Lakes- St. Lawrence Lowlands (roughly Windsor to Quebec City), average winter (December-February) temperatures from 1947 - 2005 have increased by 0.6° C. During the spring (March through May), temperatures in this same area increased by 0.8° C while summer (June through August) temperatures have increased by 0.5° C. During this same period, Eastern Bluebirds started overwintering in large numbers.

There have been notable exceptions to the warming trend. The summer of 2004 was one of the coldest on record. The winter that followed saw fewer Bluebirds than in previous years overwinter in the HSA. This abnormally cold summer produced a very poor crop of edible fruits; winter foods, such as European Buckthorn and Staghorn Sumac were not as plentiful. As a result Bluebirds in the HSA migrated south earlier despite a much warmer fall and very few overwintered. Only 223 Eastern bluebirds were recorded on the 2004-2005 Ontario Christmas bird counts. Don Wills did not see a single Bluebird during the winter period, the first time this has happened since 1995. The summer of 2005 was the hottest on record and wild fruit bearing trees had abundant crops. More Eastern Bluebirds were seen in the HSA in the fall of 2005 than in the previous two years.

The other factor affecting food production and overwintering is the amount of precipitation. During the period from 1947 - 2005, rainfall has increased from 340 mm to an average of 400 mm (a 25% increase) in the May through September growing season. This extra precipitation would be beneficial to fruit bearing trees and shrubs. When fruit bearing shrubs and trees produce little fruit as they did in the summer of 2004 Eastern Bluebirds migrate south earlier in the fall. Available food supply seems to be the primary factor determining whether Bluebirds overwinter. Warmer temperatures enable more birds to survive during this period. If Bluebirds overwinter successfully one year will they attempt to do so the next? Quite possibly, but no data are available to validate this claim. A colour banding study might supply the answer.

In summary, temperatures and precipitation have a direct effect on Bluebird winter food availability. With climatic changes producing both warmer winters and increased precipitation, Eastern Bluebirds should continue to overwinter in the HSA.

## Acknowledgements

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## The Wasp Project

*by Chris Earley*

Many of you have already met the featured creature of this newsletter article. If you haven't, allow me to formally introduce the introduced Polistes dominulus, more commonly known as the European Paper Wasp. And if you've decided that you don't want to meet this new neighbour on the block, I'm afraid it's too late. In North America, the European Paper Wasp was first reported in the late 1970's in Massachusetts. In just over 15 years it could be found throughout the northeastern states and into Canada. It is also found in the western part of the continent, too. And just so we don't feel too special, the European Paper Wasp has been accidentally introduced to South America and Australia, and it has been spreading its range in its native European, Asian and North African homeland as well.

So, what does this have to do with birds? Well, the European Paper Wasp can build its nest in a variety of locations: inside aluminum ladder rungs, under eaves, in between siding boards, under garbage can lids. But, one of their favourite nesting sites are bird nest boxes.

## The Good News

The best thing about European Paper Wasps for a diligent bird box line monitor is that they are fairly non-aggressive. While they are certainly capable of stinging and will do so, they are not aggressive like yellow jackets are. The European Paper Wasp seems to "know" this and one of their best defenses is a false one; they mimic Yellow Jackets. This means they are bright black and yellow, just like a Yellow Jacket, so much so that they can be hard to tell apart at first.

The best clue is to look at their nests. Paper wasps build a tier or level of cells out of the papery pulp they spit out. Yellow Jackets do this, too, but they also eventually cover the whole tier with a papery covering; think of those big, grey balls you see in trees in the fall once the leaves have fallen. Those are actually Bald-face Hornet nests, but the papery covering is similar to what their relatives the Yellow Jackets make. Yellow Jackets will use bird boxes occasionally and when you open those boxes, they will often attack instantly, stinging and chasing you, the intruder (from their point of view, anyway). On the other hand, paper wasps usually just go about their business when you open the box. Joe Kral, who monitors over 500 boxes near Guelph Lake, carefully removed 100's of paper wasp nests this year with a putty knife and was never stung. The wasps may not even be too aggressive towards birds, at least initially. In a preliminary study this summer, some early paper wasp nests were active at the same time that Tree Swallows were on eggs - in the same box.

## The Bad News

European Paper Wasps seem to be very prolific. Joe had almost 40% of his boxes be invaded by paper wasps at some point in the summer. Bryan Wyatt, who was helping Joe this year, found 80 boxes with wasp nests in them before the end of May. A researcher in Michigan who has studied the native Paper Wasp, Polistes fuscatus, for many years on his university campus, has now had almost all of his wasp boxes taken over by the European Paper Wasp. Both the European and the native paper wasps may be excluding birds from nest boxes, too. Is it possible that they could be a bigger threat than introduced European Starlings or House Sparrows? And what about natural cavities? If this is a problem for nest boxes where monitors remove the wasp nests, what effect is it having on birds using natural cavities?

## The Wasp Project

Considering these wasps appear to be such a problem for birds using nestboxes across much of eastern North America, you'd think many researchers would be studying them, right? Wrong. It seems that no one really knows the effects of this invader on breeding bird success. I am starting a part-time Master's Project that will be focusing on the European Paper Wasp and its effects on cavity nesters and I am looking for volunteers who have bird box lines to be a part of the study. If you are interested in finding out more about this project or in being a part of the study, please contact me at **cearley@uoguelph.ca**. I will give you more information on the project. I will also add you to a list and once the study methods are finalized, I will provide you with more details. Then you can decide if the study is something you would like to join. Together, we might be able to add some pieces to this complex but intriguing puzzle! Chris Earley is the Interpretive Biologist and Educational Co-ordinator at the University of Guelph Arboretum. He'd like to thank Joe Kral, David Lamble, and Bryan Wyatt for their work last summer on the wasp project.