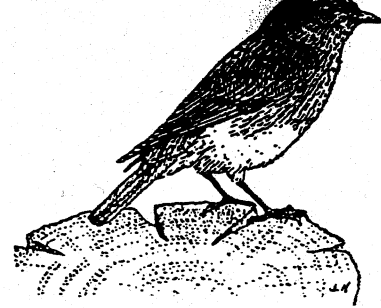


**Ontario Eastern Bluebird Society
1996 Fall Newsletter**

Editor: Bill Read

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Welcome to the 1996 Fall Newsletter!

The 1997 AGM will be March 22 at the Royal Botanical Gardens, Burlington, Ontario. Early reports from 1996 Nestbox trail operators indicate the number of EABL pairs returning to breed was down considerably from last year's record numbers. In my conversations with Ontario Bluebirders, they did tell me that those EABL's that did return were very successful in their nesting attempts with many pairs producing 2 broods in 1996.

Weather seems to affect the population much more than anything else (as indicated in your OEBS Nestbox survey returns). A warm winter means more pairs will return to breed the next year. After a cold winter, fewer pairs survive to return to their breeding areas. From November 1995 to May 1996, we recorded seven months of below average temperatures in most parts of Ontario.

After record early nestings in 1995¹ bluebirds delayed their first nesting attempts in 1996 because of this very cold wet spring. When the final analysis is complete, 1st nestings will probably be about a week to 10 days later than average. This delay proved to be a bonus as most first broods were successful with very few nestings succumbing to those 1 or 2 days of cold wet weather we usually get around the 25th of May. In most years, 1st brood young usually fledge at this time, but because of the delay, most pairs fledged their first young in early June. Young are very vulnerable just before fledging when food requirements are higher. You can compare it to the food requirements of your 5 year old versus your 15 year old teenager.

1996 Weather Report²

April	May	June	July	August	September
cooler than average	wetter and cooler than average	about average temp. - double the normal rainfall	a little cooler than average - double the rainfall	very dry, warmer than average	warmer than average - record rain in some areas, Toronto 3X average.

1. 1995 OEBS Fall Newsletter, Page 1

2. Environment Canada Weather Office - Toronto

It was a very cold wet spring. In my field notebook, I did not record a warm day until May 17 when it warmed up considerably. It warmed up even more the next day and I recorded in my notebook - winter to summer in one day. Apple Blossoms were delayed in most orchards by up to 10 days.

Since the Environment Canada Weather Office at the Waterloo-Wellington Regional Airport closed in the fall of 1995, I have not been able to get the detailed weather data to include in the newsletter.

On October 24, 1996, my quest finally came to an end. I placed a call to Dave McDonald, CKCO's television weatherman in Kitchener. After explaining my problem, Dave recommended calling 1-900-565-1111 and told me that a real person would actually talk to me.

I finally phoned and got an Environment Canada weather official, at \$1.95 per minute - 2 minutes minimum, who provided the monthly weather summary on page 1. She suggested I phone the universities to see if they subscribed to the monthly meteorological summaries.

Sure enough, the University of Waterloo had summaries from three areas, Windsor, Sarnia and Thunder Bay. Richard Pinnel who is in charge of this told me that he would look into it. He phoned back saying after review they will be resubscribing to the Kitchener-Waterloo weather summary.

In the next newsletter I hope to have more detailed information.

From September 12 - 15, the OEBS hosted the 19th annual NABS Conference. It was a great success with 180 people attending from across Canada and the United States. I would like to thank our committee and the other individuals who helped to make it successful. Many favourable comments have been received.

Robert Bateman very generously donated a Bluebird print that we were able to use as a fund raiser at the conference. Michael and Elizabeth Shaw, longtime OEBS members, of Ottawa were the lucky winners of the Bateman print. Through the sale of raffle tickets, \$378.41 was raised which was sent to the Prothonotary Warbler Recovery Team, c/o John McCracken at the Long Point Bird Observatory.

Eastern Bluebird now Delisted in Canada

Based on an update cosewic report written by myself (William F. Read) and Robert Alvo, the cosewic¹ have delisted the eastern bluebird from its former category of vulnerable. This is indeed a good news story as the efforts of bluebirders across the country have been directly responsible for its population increase. The recommendations of this report is to monitor the population on a yearly basis (OEBS does this when you send in your annual nestbox reports) and to continue promoting **monitored predator proof nest box trails**. Unmonitored nestboxes put up by well intentioned individuals are counter productive and should be removed.

OEBS 1996 CONSERVATION AWARD

Leo Smith of Brantford is our 1996 OEBS Conservation Award winner. Leo has maintained a bluebird trail of over 500 boxes in the Caledon area, north of Orangeville since the late sixties. Each box is placed on an eight foot cedar post and wrapped with a sheet of metal to completely protect it from climbing predators. No one in Ontario has done more for bluebirds during this time than Leo. Hank Zuzek and Jane Hoed made a very beautiful plaque that was presented to Leo. The award was announced at the NABS banquet in Burlington on September 14, 1996.

Congratulations Leo for a job well done!

OEBS EXECUTIVE

Ted Presant, who has served as a director at large and was our display organizer at the NABS conference is stepping down. Many thanks to Ted for his contribution to OEBS.

DIRECTORS NEEDED

If you would like to serve on the Board of Directors, please give me a call at 1-519-748-4853.

1. Cosewic - Council on the status of endangered wildlife in Canada.

EABL Migration Holiday Beach Ontario

In the 1995 spring newsletter I wrote an article on fall EABL migration at Holiday Beach¹. Holiday Beach is located along the Lake Eric shoreline about 30 km due south of Windsor and 6 km from the mouth of the Detroit River.

Peak numbers of EABL's tend to occur during the last 5 or 6 days in October and the first 4 or 5 days of November. Count totals are dependant on weather conditions during these peak migration dates. Cold fronts with brisk north west winds tend to push the Eastern Bluebirds towards the lake where they can be more easily counted as they migrate. On October 27, 1991, 825 Eastern Bluebirds were counted as they passed Holiday Beach, many as they flew in off the lake to land in trees nearby. Without these northwest winds, bluebirds are more spread out as they migrate and many pass through further inland on their way to Michigan and further south.

EABL Fall Migration Report - Holiday Beach Ontario 1994-95²

Count Dates	Total EABL's	Count - peak day
August 27 - December 8 1994	86	28 November 10
September 3 - November 24, 1995	264	64 November 4

NEST BOX BANDING PROJECT IN NORTHUMBERLAND COUNTY by Elizabeth Kellogg

In spring 1996, Elizabeth Kellogg started a nest box banding project in Northumberland County under the Toronto Bird Observatory Permit.

Several members of the local naturalists club, the Willow Beach Field Naturalists monitored nest boxes on their property and notified her when the young hatched.

Nestings from 17 nest boxes at 5 sites in western Northumberland County were banded: 73 Tree Swallows, 7 Eastern Bluebirds and 7 House Wrens. She hopes to make this an on-going project and plans next year to make an effort to capture and band the adults as well as the nestlings. The Willow Beach members who assisted with this project have been very enthusiastic. Some have offered to build and place new nest boxes and/or modify the old ones so that it will be possible to trap adult birds. Banding data from this project will be submitted to the Cornell Nestbox Network, a project designed to study dispersal of young Tree Swallows and Eastern Bluebirds. As well, nest record cards have been prepared for the Royal Ontario Museum Nest Record Scheme for these nests.

1. OEBS 1995 Spring Newsletter - Page 7

2. Special thanks to Betty Learmouth for supplying me with this data.
Compiler Allan Chartier.

Editors Note

In the spring and fall 1994 OEBS newsletters, I raised these same concerns about tubex tree shelters as I was aware that bluebirds and other songbirds were becoming trapped inside them.

I wrote a letter to tubex in England outlining my concerns. All their tubex tree shelters are sent to the St. George Co. Limited in Paris Ontario, which is the only distributor for them in Canada. The response to that letter is in the 1994 fall OEBS newsletter, page 2.

Despite their good intentions, it still remains a problem. I have yet to see any tubex tree shelters with mesh guards. **I am** asking members if they see tree shelters without guards to ask permission from the property owners to check the tubes for dead songbirds. This can be done in late spring and late fall by looking in and if debris is present using a small stick to gently brush it aside. It is only with documentation that something can be done.

In a recent conversation with Peter Quail, who owns the St. George Co. he told me that roughly 20% of the tubex tree shelters are sent out with the protective mesh. I will be writing a letter to tubex recommending that all tree shelters that are sold in North America include the mesh net with them.

Bill Read



Time of day of egg laying by Eastern Bluebirds - The time of egg laying varies among species. Most passerines lay their eggs shortly after sunrise, but several species lay their eggs well after sunrise (Schifferli 1979). The time of egg laying is known accurately for relatively few species, partly due to the difficulty in determining when it occurs. An accurate assessment of the time of egg laying can be important for studies of reproductive strategies. In most passerines, eggs are fertilized at 24-h intervals, and the next egg in a sequence is fertilized in the hour after the laying of the previous egg. The time of egg laying thus indicates the time of fertilization. In species with sperm competition (Birkhead and Moller 1992), this hour after egg laying should be the optimal time for copulation attempts, because inseminations will be most likely to fertilize the next egg. Consequently, this will also be a critical time for mate guarding by males against extra-pair mating attempts. We report here an estimate of the time of day of egg laying in Eastern Bluebirds (*Sialia sialis*) using the method developed by Scott (1993) to analyze data we collected during a study of mate guarding (Meek and Robertson 1994).

Methods - We studied Eastern Bluebirds breeding in nest boxes near the Queen's University Biological Station, Chaffeys Locks, Ontario (44°34'N, 76°19'W) from April to July 1989 and 1990. Most birds were unbanded at the start of this study, because we usually captured bluebirds in the nestbox during late incubation or shortly after the young hatched. As part of a study on mate guarding, we observed the behaviour of Eastern Bluebird pairs before and during the egg-laying period. We made half-hour nest observations between 04:30 and 10:30h (EST). Following a nest observation, we checked the nest contents if we knew that the female was not in the box. In addition, we made regular checks of focal and non-focal nests after 12:00. In this way, we obtained 145 "nest check" observations during egg laying from 56 different females. All observations in this study were made between April 8 and May 10 on females laying their first clutches. Each time we visited a nest, we recorded the time of day and the presence or absence of new eggs in the nest. We assume that female Eastern Bluebirds lay their eggs at 24-h intervals, as is typical of passerines. The observations were categorized according to whether a new egg was present or absent and grouped into 1-h time intervals. For each time interval, we calculated the proportion of nests containing a new egg. At the medium time of the daily egg-laying period, the proportion of nests containing a new egg changes from <50% to >50%. We then tested whether there was a significant change in the proportion of nests containing a new egg between the two time intervals adjacent to the interval in which about 50% of eggs were laid. Further details of the logical basis and procedures of this method are in Scott (1993). We report all times as Eastern Standard Time (EST).

Results - No new eggs were laid before 06:30 (EST) (N=26 observations). A few eggs were laid before 07:00 and most new eggs were present by 09:00 (Table 1). Only three eggs were laid after 09:00. Hence, the daily laying period spanned about 2.5 hours, from 06:30 to 09:00. The proportion of nests containing a new egg changed significantly from 19% (4/21) between 06:01-07:00 to 86% (18/21) between 08:01-09:00 (G-test, $G_{adj} = 9.87$, $P > 0.005$). The proportion of nests with a new egg reached 50% between 07:01 and 08:00 (Table 1). Hence, we estimate that the mid-point of this hour, 07:30 was close to the median laying time for Eastern Bluebirds in eastern Ontario.

Discussion - Eastern Bluebirds have been reported to lay their eggs around 08:00 EST in Ithaca, New York (Hamilton 1943), and about 2h after sunrise at 08:30 in Arkansas (Thomas (1946). Our results agree with those observations. Sunrise in eastern Ontario is around 05:30 (EST) in April and 05:00 in early May (Weatherhead et al. 1991). All female Eastern Bluebirds laid their eggs after 06:30, at least one hour

after sunrise, and the median time of egg laying (07:30) was around two hours after sunrise. The timing of egg laying varies considerably among species. For example, Red-winged Blackbirds (*Agelaius phoeniceus*) lay shortly after sunrise, 04:37-06:01 EST (Muma 1986). Female Tree Swallows (*Tachycineta bicolor*) lay their eggs between 05:20 and 07:05 EST or 05:57 on average (Venier and Robertson 1991). In Gray Catbirds (*Dumetella carolinensis*) the median time of egg laying is 07:00 EST, about two hours after sunrise (Scott 1993) and in American Robins (*Turdus migratorius*), a member of the same family (Turdidae) as Eastern Bluebirds, the average time of egg laying is 10:32 EST (Weatherhead et al. 1991). The question of what time of day female birds should lay their eggs has not been frequently addressed. As a result, only a few hypotheses regarding when a female should lay her eggs have been proposed. Schifferli (1979) suggested that females lay early in the morning to minimize constraints on their activity. Because eggs are most vulnerable to destruction late in development, if females lay early in the morning, the eggs are most vulnerable at night when females are inactive anyway (Schifferli 1979). However, having an egg in the oviduct does not constrain activity of female American Robins (Weatherhead et al. 1991). Weatherhead et al. (1991) suggested that the timing of egg laying may result from selection on the optimal timing of fertilization or on the best time for copulations. Recently, Scott (1991) examined whether egg laying before sunrise by female Brown-headed Cowbirds (*Molothrus ater*) was a specialization for brood parasitism. Female Brown-headed Cowbirds lay their eggs on average 9 min before sunrise, whereas seven potential host species all lay their eggs after sunrise (Scott 1991) laying before sunrise may be advantageous to female cowbirds, but there are insufficient data on other icterines to assess whether early laying arose as an adaptation to brood parasitism (Scott 1991). Finally foraging strategies may influence the timing of laying. Aerial insectivores such as Tree Swallows must spend considerable time in flight and should oviposit early in the morning, both to increase their flying efficiency during the day and because foraging probably improves with time of day as the temperature increases and insects become more active. Species such as Eastern Bluebirds or American Robins which forage on the ground or from a perch do not need to fly as much, and holding an egg is probably of little consequence to foraging efficiently. These hypotheses have not yet been adequately tested, and there may be other equally plausible hypotheses that explain the timing of egg laying in birds. Most likely the timing of egg laying will be influenced by different factors in different species.

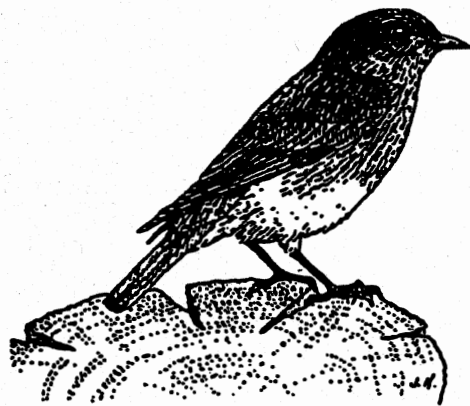


TABLE 1
The number and percentage of times that a new egg was present at the time of the observer's visit to an Eastern Bluebird nest.

New Egg

Time of Visit (EST)	Present	Not Present	Percentage of nests (N) with new egg
05:01 - 06:00	0	16	0% (0/16)
06:01 - 07:00	4	17	19% (4/21)
07:01 - 08:00	13	12	52% (13/25)
08:01 - 09:00	18	3	86% (18/21)
09:01 - 10:00	22	2	92% (22/24)
10:01 - 11:00	11	1	92% (11/12)
After 12:00	26	0	100% (26/26)

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Ontario Nest Records Scheme

The ONRS is essentially a collection of record cards each detailing one or more visits to an occupied birds nest, a nest under active construction, or to an active nesting colony in Ontario. An article about the ONRS and a nest record card was included in the 1995 OEBS spring newsletter. Additional cards can be obtained by writing the address below.

Eastern Bluebird - a total of 6021 nest cards places it 4th on the ONRS passerine list.

Book Sale - 1/2 Price

Breeding Birds of Ontario: Nidology and Distribution, Vol. 1: Nonpasserines

Breeding Birds of Ontario: Nidology and Distribution, Vol. 2: Passerines

We have a good supply of these books for sale at the ROM for \$40.00 for the set of two volumes. They are detailed summaries of such provincial breeding information as the ONRS files, nest records from the Atlas of Breeding Birds of Ontario, and all other available breeding data. The two volumes contain 708 pages of individual species accounts, each with its own distribution map; egg date charts, numerous line drawings and 138 photographs of birds, nests and nest habitats. All proceeds from the sales of these volumes will go to the ONRS to help this program continue.

To order a set of these books, contact:

Department of Ornithology, Royal Ontario Museum

100 Queen's Park Cres. Toronto, ON M5S 2C6

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