

# ONTARIO *Bird Banding*

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# ONTARIO BIRD BANDING ASSOCIATION

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# ONTARIO BIRD BANDING

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Cover illustration by R. E. Chandler.

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# CONSECUTIVE NESTING OF FEMALE TREE SWALLOWS AT LONG POINT, ONTARIO

MICHAEL S. W. BRADSTREET

## Introduction

It is well known that Tree Swallows Iridoprocne bicolor return to breed in the same area year after year (Fletcher 1926; Wetherbee 1932; Shelley 1935). Consecutive nesting females - that is, the nesting of the same individual in a study area in successive years - has also been noted at Long Point. This paper is an attempt to analyse the behaviour.

## Methods

During 1965, 1966 and 1967 breeding seasons, nest boxes were available for hole-nesting birds at the eastern end of Long Point, in Norfolk County, Ontario. A few boxes were also available in 1964. Although these boxes were used by House Sparrows, Passer domesticus, Eastern Bluebirds, Sialia sialis and House Wrens Troglodytes aedon, they were used to a far greater extent by Tree Swallows. Table 1 shows the numbers involved.

All nest boxes were checked regularly, so that the progress of nesting, and breeding success, could be determined. Female Tree Swallows were caught on the nest while either laying or incubating, and were banded. An attempt was made to capture all nesting females, but during the study, 3.8% of the birds were not captured; the data from these birds has been omitted from the analysis.

## Results and Discussion

The recapturing of female Tree Swallows in different years showed that many of them nested consecutively. Table 2 shows that:

- 1 female nested consecutively for 4 years
- 1 female nested consecutively for 3 years
- 6 females nested consecutively for 2 years.

Only certain females returned, and the table suggests that these may be the ones which were successful in raising a brood in the previous year.\* For purposes of definition, a successful bird was defined as one which raised at least one young to the free-flight stage.

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*This species never nests. Maybe some of the birds in successive years are the same birds, but they are not returned to the nest site in subsequent years.*

Thus in 1964, the only Tree Swallow which used a nest box was successful, and it returned the following year.

Of the 15 Tree Swallows which used nest boxes in 1965, only 3 were successful, including the returning bird from 1964. All 3 birds returned in 1966; none of the unsuccessful birds were known to have returned.

The situation was more complicated in 1966. Of the 6 females which were successful, only 4 returned in 1967. But Tree Swallows are not immortal, and females #6426952 and #6426945 may have died in the interval. On July 7, the young of the unsuccessful female #6426946 disappeared at the age of 12 days; however, this bird returned to nest in 1967. Since there are records of female Tree Swallows beginning to nest as late as July 10 at Long Point, it is possible that this bird re-nested successfully, but not in a nest box. It is also possible that the bird returning in 1967 considered the box it was using in 1967 to be in a different area than in 1966 - the two boxes are more than a mile apart.

However, this apparently aberrant female does not affect the main picture. 87% of all successful females returned, compared with only 4.4% of the unsuccessful ones. A chi-squared test showed the relationship between success and return to be statistically significant ( $p < 0.01$ ), and that successful birds are more likely to return to an area and nest consecutively than are unsuccessful birds. Presumably the function of this behaviour is to allow birds to continue to exploit environment known to promote successful breeding, while enabling them to move quickly on elsewhere when this is not so. There are parallels with the Kittiwake *Rissa tridactyla*; the pair-bond in these gulls, maintained over several seasons, tends to break down after unsuccessful breeding (Coulson 1966). It would be interesting to know whether there is a similar breakdown in unsuccessful Tree Swallows.

#### Acknowledgements

The author wishes to thank D.J.T. Hussell who kindly read the manuscript and offered many helpful suggestions. Grants to Long Point Bird Observatory by the Canadian National Sportsmen's Show, the Federation of Ontario Naturalists, the Province of Quebec Society for the Protection of Birds, and the Hamilton Naturalist's Club made this study possible. Many members of the Ontario Bird Banding Association assisted in the work of the Long Point Bird Observatory, and special thanks are due to G.L. Holroyd, T. Davis, G. Page and R. Montgomerie; who helped to collect the information on which this paper is based.

Table 2. Individual histories of female Tree Swallows. A "S" in a year column indicates that the bird was a successful nester in that year, a "U" indicates that it was unsuccessful.

Band Number of Female Tree Swallow	Year			
	1964	1965	1966	1967
6428197	S	S	S	S
6428934		S	S	S
6428935		U		
6428937		U		
6428938		U		
6428939		U		
6428940		U		
6428944		S	U	
6428945		U		
6428949		U		
6428955		U		
6428956		U		
6428962		U		
6426945			S	
6426946			U	S
6426950			S	S
6426952			S	
6426953			U	
6426954			S	U
6426955			U	
6426956			U	
6426958			U	
6426960			U	
6426962			S	S
6426991			S	S

Literature Cited

- Coulson, J.C. 1966. The influence of the pair-bond and age on the breeding biology of the Kittiwake Gull Rissa tridactyla. J. Anim. Ecol., 35: 269-279.
- Fletcher, L.B. 1926. An example of the Tree Swallow marital relations. Bull. N.E.B.B.A., 2: 56.
- Shelley, L.O. 1934. Two pairs of Tree Swallows mated during two successive years. Bird-Banding, 5: 91.
- Wetherbee, K.B. 1932. Two pairs of Tree Swallows mated during two successive years. Bird-Banding, 3: 72-73.

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Table 1. No. of nest boxes available compared to the number used by Tree Swallows over a four year period.

Year	1964	1965	1966	1967
No. of boxes available	C. 5	33	45	42
No. of boxes used by Tree Swallows	1	15	15	15



# DUCK STUDIES IN ELGIN COUNTY

ROBERT HUBERT

## Introduction

This paper describes my duck banding operations in the St. Thomas - Port Stanley area of Elgin County, south-western Ontario, between June 28 and October 8 1969, as well as some work with breeding Wood Ducks earlier in the season. I worked at three sites:

1. Carr's Bridge: a Crown game preserve  $1\frac{1}{2}$  miles north-east of St. Thomas. This site also served as an experimental release area for Wood Ducks.
2. Jones' Pond: Lot 15, South Lake Road, Port Stanley.
3. Corner's Pond: Lot 15, Concession 4, Yarmouth Township. (I have used this site since 1962.)

I visited these sites regularly. Because of shift work where I am employed, the times of day varied. But including the time spent erecting traps, I spent an average of 4 hours a day and weekends during the trapping period.

Combining the three sites, the following species were banded:

Mallard	<u>Anas platyrhynchos</u>	129 birds
Black Duck	<u>Anas rubripes</u>	8
Pintail	<u>Anas acuta</u>	1
Green-winged Teal	<u>Anas carolinensis</u>	2
Blue-winged Teal	<u>Anas discors</u>	5
Wood Duck	<u>Aix sponsa</u>	58

### Carr's Bridge

This site is the result of a large dam, about 1½ miles south of Carr's Bridge, which has dammed Kettle Creek into a large reservoir of about 150 acres of water. The portion I am interested in consists of large ponds about 3 ft. deep, formed by the overflowing of Kettle Creek. In these flooded areas there are dense beds of submerged and floating aquatic plants. The submerged plants include Pondweed Potamogeton sp. and Coontail Ceratophyllum demersum; Duckweed (Lemnaceae) is the main floating plant. Large stands of Cattail Typha sp. are also evident. Willows Salix sp. border Kettle Creek, and large stands of hardwoods and conifers cover the side hills.

#### a. Wood Duck nesting studies.

In the winter of 1965 I put up 9 nest boxes in this area, and a further 22 in February 1969. Most of these boxes were of rough lumber, 1" thick; they had a floor space of 9" x 10", and were 15" deep from the oval entrance hole, which was 4" wide by 3" high. The front of the box was removable. Each box was mounted on a narrow pole, sheathed by metal furnace pipe 15" in diameter and 4' long; these pipes made very satisfactory guards, and no nests were lost to predators. I also experimented with all-metal boxes, made from 2' lengths of the same furnace piping covered with conical tops, and with ¼" mesh screen inside to allow the young to climb up to the entrance hole. (In 1969, one of these metal boxes provided a nesting site from which 13 eggs hatched successfully.) All these boxes were distributed through the marshy areas, fastened to tree stumps standing in about 3 ft. of water.

All but two of the boxes were checked on April 27; 2 contained Wood Duck eggs, 10 had nest material apparently brought by Starlings Sturnus vulgaris, 1 had a nesting Screech Owl Otus asio, and 1 was used by Black Squirrels Sciurus carolinensis.

I was also interesting in introducing Wood Ducks to increase the population in the area. The problem was to find the proper way to release young birds. The system finally adopted by Marshall Field and myself was to check nests regularly until the eggs showed signs of pipping. As soon as this occurred, we covered the entrance with a piece of burlap bag and transported the

box, female and all, to the Carr's Bridge area from the Pinafore Park Sanctuary, St. Thomas, about  $4\frac{1}{2}$  miles away. The box was then fixed to a tree, standing in shallow water, and after about 30 minutes the burlap cover was removed. I continued to observe the box for several hours, to make sure that the female did not desert. I checked the boxes again next day, and always found eggshells and down, indicating a successful hatch. In all, 42 young Wood Ducks were released in this way.

The area chosen for this experiment lay just north of the main Carr's Bridge site. The pond in question was about 200 yards long and 30 yards wide, the result of spring flooding from Kettle Creek. The many Willows and Osiers in the area provided excellent cover for the young Wood Ducks. However, there was little sign of Duckweed to serve as food, so I transplanted about six bushels of it into the pond, and it soon became abundant.

#### b. Duck Trapping.

I used two "lily-pad" traps, each about 8' in diameter and 4' high; the sides were covered with 1" x 2" 16-gauge welded galvanised mesh, and the top with 1" chicken wire. They were placed in about five inches of water, and baited with corn spread on a feed tray. This tray measured 20" x 12" and was made of three-quarter-inch plywood, set just above the water level; I have found that when ducks have eaten the grain, they will quite often use the tray as a loafing platform. Birds were removed from the trap with a long-handled dip net. It is important that the traps be portable; I started my trapping in the experimental release area, but had to move when the water level dropped in late summer.

Raccoons Procyon lotor were my main problem; they would enter the traps in the evening and eat the bait - this, of course, greatly reduced the potential catch. They also killed three Wood Ducks. Since I was on a game preserve, I was unable to control these animals.

My first ducks were caught on July 14, and I stopped trapping on September 15. Table 1a. shows the results.

Table 1. Ducks banded in the three study areas, June 28 - October 8.

	Status:		HY		AHY		TOTAL
	Local Male	Local Female	Male	Female	Male	Female	
<u>a. Carr's Bridge:</u>							
Mallard	5	13	1	4	1	1	25
Pintail			1				1
G-W Teal			2				2
B-W Teal			4				4
Wood Duck	4	6	10	6	3	3	33
							<u>68</u>
<u>b. Jones' Pond:</u>							
Mallard			52	40	2	3	97
Black Duck			3	2			5
							<u>102</u>
<u>c. Corner's Pond:</u>							
Mallard			4	2		1	6
B-W Teal						1	1
Wood Duck			16	7	1	1	25
							<u>32</u>

### Jones' Pond

Here, a man-made earth dam has created a body of water about 350 yards long and 50 yards wide. There is no natural food in the pond, but the ducks were attracted to corn broadcast along the edge of the pond at the dam. Hardwoods, and numerous low bushes, cover the hillside around the pond.

I used only one trap, 15' long by 4' wide by 4' high, made of 2" chicken wire and with a collecting cage at one end. A third of the trap was in shallow water and the rest was on land. The ducks entered through a funnel.

This trap was worked between August 19 and October 8. Table 1b. shows that most of the ducks caught were Mallards.

### Corner's Pond

This pond is about 350 yards long and 150 yards wide; it is spring-fed, and dammed at the south end. It is surrounded by extensive cover - mainly Cattails, but Pondweed, Coontail, Duckweed and Sedges Carex sp. are also common. I erected 7 nest boxes there; in 1969, 1 was occupied, unsuccessfully, by a Wood Duck, and another by a pair of Screech Owls.

I used two "lily-pad" traps, of the design described above, but only 6' in diameter. The birds were attracted to corn, spread on a feed tray.

Ducks seemed to be scarcer in 1969 than in previous years. Table 1c. shows the numbers caught, between August 31 and September 28.

### Acknowledgements

I would like to acknowledge Messers Orville Back, Laurence Jones and William Corner, who were most kind in allowing me to band on their property; in particular, the success of the trapping at Jones' Pond would not have been realised without the cooperation of Mr. Jones. I also thank Marshall Field, who helped with the release programme and construction of nest boxes, and Mr. David Grice for valuable information on Wood Ducks.

I also want to thank the Atlantic Flyway Council for their financial assistance.

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# A NEARLY FROZEN MOURNING DOVE

KENNETH W. PRESCOTT

At my home in Pennington, New Jersey on the morning of 27 January 1966, I was surprised to find an apparently dead Mourning Dove *Zenaida macroura* nestled in a small depression in a snow bank just outside the door to my house. Its head and back were slightly below the swirling snow which had formed a small drift outward from the junction of a stone wall with my house.

The dove appeared to be dead. The right eye was almost completely closed, with only a small slit of the black iris showing and the left eye was half open. When I picked it up, it fluttered once or twice very weakly, and then lay motionless in my hand. The eyelids remained fixed as if frozen. Some blood was on the bill and in the snow.

I placed the motionless dove in a cardboard box, nestled in an old shirt, and put it in the basement where heat from the furnace kept the temperature in the mid-sixties. An hour later, at 0830, I showed the bird to my children. It was very much alive.

The eyelids were functioning properly; it turned its head following our movements. Because I had to leave town within the hour, I asked my family to set the box outdoors after lunch. They reported that the dove burst out of the box amid a shower of feathers flying strongly out of sight in the bright, snowless afternoon.

The U.S. Weather Bureau recorded a total of 2.5 inches the evening and early morning in question, although local drifts added considerably to the depth. The minimum temperature, at midnight, was 18°F.

Would the dove have recovered from its nearly frozen condition, if left outdoors? This is, of course, a matter of conjecture; yet, it would have been unable to escape a predator. But this incident suggests that, in this case, an apparently dead bird did recover the power of flight shortly after the environmental temperature rose above the freezing point. I have found no similar report in the literature.

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## REVIEW

### A bird-bander's guide to determination of age and sex of selected species.

Merrill Wood. 1969. Pennsylvania State University.  
\$3.00. (Obtainable from: Box 6000, University Park,  
Penn. 16802.)

In a recent study of banded Cardinals, I found it necessary to write that "For detailed analyses the information derived from most banded birds is highly inadequate, if not completely useless." This results from a bander's lack of ability or desire to age and sex many species he bands.

This publication is a step towards providing, at least, the ability. There has been a great need for such a manual, particularly for those involved with the banding of many species. The large size and spiral binding permit the book to be opened flat at any page, a real advantage with a bird in one hand. The typing and offset printing are neatly done and virtually error-free. I find the format, if mostly rather blank, generally attractive. Introductory sections outline general features useful in ageing and sexing birds and elaborate on the diagnostic usefulness of incubation patches, cloacal protuberances, and "skulling", a verb, like age and sex, that now seems firmly entrenched in American bird-banding jargon.

Each species' account provides the recommended band size and A.O.U. number. The remainder is a short key to Bird Banding Laboratory age and sex codes, accompanied by a synopsis of the timing of moult, mainly from Forbush's "Birds of Massachusetts and other New England States". Much space, generally most of each page, is blank presumably for reader's notes and diagrams. Useful cautions appear against skulling in cases where the method is inappropriate. Not all species are included. The choice was apparently guided by those encountered most frequently by banders: many passerines, a few hawks, owls, caprimulgids, and woodpeckers, the American Woodcock, Mourning Dove, Yellow-and Black-billed Cuckoo, Chimney Swift, Ruby-throated Hummingbird, and Belted Kingfisher. An index to species is located in a rather awkward position, and the book terminates with a short bibliography of literature cited.

How reliable are the methods presented? I'm sure every bander will turn to check the treatment of his favourite species. The author stresses the variability of birds as biological material (P. 3), and the reader should keep this in mind. Time

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will test these methods and as further information accumulates, they can be enlarged or modified. I turned to the accounts of species I have worked with most recently: Slate-colored Junco and Cardinal. Iris colour can certainly be tricky in the junco, and, as is indicated, wing measurements far from reliable. There is probably considerable geographic variation in the species. I would refer interested readers to a discussion of crown colour patterns, which I suspect apply to several species (Dow, D.D. 1966. Sex determination of Slate-colored Juncos by means of plumage characters. Ontario Bird Banding, 2(3): 1-14), to complement the present material. The discussion of the Cardinal fails to indicate that birds fitting the description of Jun-Dec HY can be found breeding in that plumage in July and early August. This also emphasizes the author's neglect of general discussion of feather-wear as an age indicator. An important paper has been omitted here: Scott, D.N. 1967. Postjuvencal molt and determination of age of the Cardinal. Bird-Banding, 38: 37-51.

The diagram on page 6 erroneously intimates that "culmen" is synonymous with "bill". That this is the author's impression is borne out (p. 46) by his confused definition: "Culmen (bill) length (tip to nostril)". The culmen is neither the bill nor the tip to nostril measurement, but is the mid-dorsal ridge of the maxilla. Diagrams of cloacal protuberances would have been helpful, and half of that page (p. 12) is blank anyway. Diagrams of feathers typical of different ages would also have been of advantage. (See Scott, op.cit. for Cardinal, fairly typical of many passerines.)

The literature used is not extensive, and readers will undoubtedly be aware of further sources. Some carelessness is evident. Amadon, 1965 (p. 3) should read Amadon, 1966. Roberts is referred to without a date (p. 20), as is Wiseman (p. 148). The Baird, 1964 reference (p. 13) is not included in the bibliography, nor is Roberts, 1967 (p. 17). These should be "Baird, James. 1964. Aging birds by skull ossification. EBBA News, 27(4): 162-163" and "Roberts, J.O.L. 1967. Iris colour and age of Sharp-shinned Hawks. Ontario Bird Banding, 3: 95-106."

All in all, this is a publication that will prove useful to bird-banders and is a welcome addition to the literature on technique.

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REQUEST FOR GULL REPORTS.

During May through July of each year for a five-year period, Ring-billed Gulls Larus delawarensis from three Great Lakes colonies will be wing-marked with  $1\frac{1}{2}$  inch diameter "Saflag" tags. Each colony is represented by a specific colour. An attempt is being made to determine the dispersal pattern, migration route, and winter range for each population.

Anyone observing such wing-marked gulls is asked to notify DR. WILLIAM E. SOUTHERN,  
DEPARTMENT OF BIOLOGICAL SCIENCES,  
NORTHERN ILLINOIS UNIVERSITY,  
DEKALB, ILLINOIS 60115.

Please report each observation of marked individuals, even though the same bird may be sighted on different days. The following information is desired: date, exact location, marker colour, and the observer's name. Respondents will receive information on colony locations and the date of marking.

## ONTARIO BIRD BANDING

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