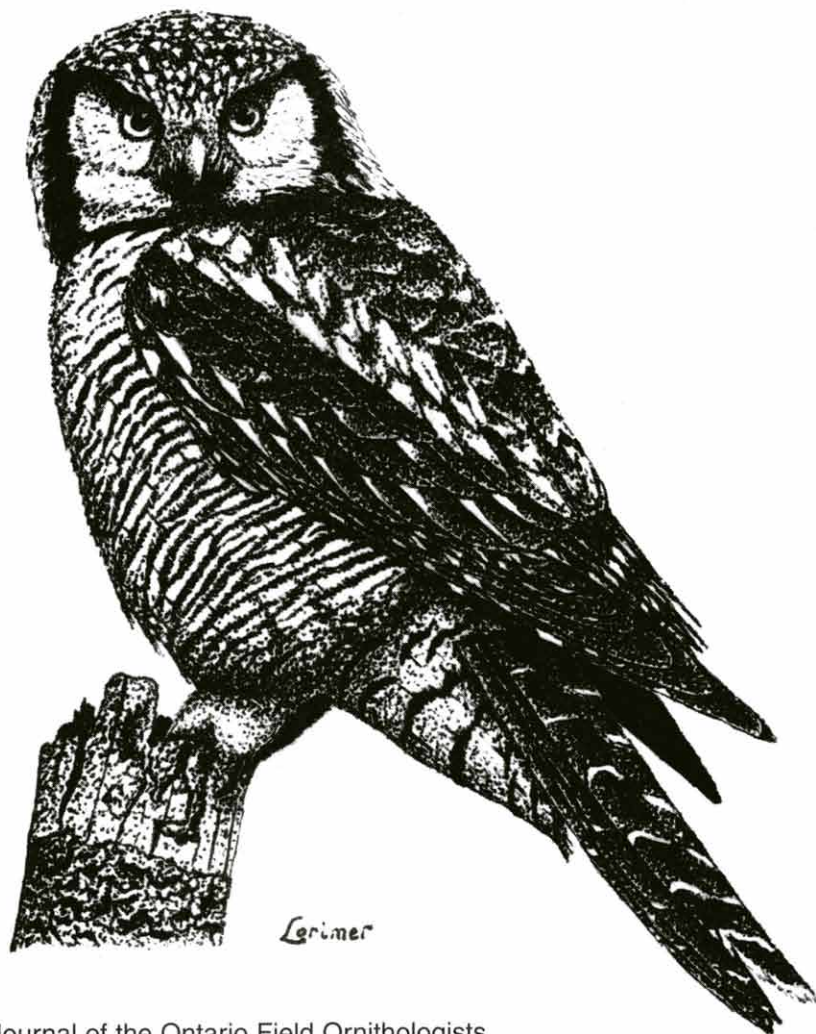


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Ontario Field Ornithologists

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by *Peter Lorimer*

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Articles

Northern Owls in Sudbury and Manitoulin Districts: High Numbers, Out of Season Occurrences and Breeding

Charles J. Whitelaw

Introduction

This article reviews the status of the Great Gray Owl (*Strix nebulosa*), the Snowy Owl (*Nyctea scandiaca*) and the Northern Hawk Owl (*Surnia ulula*) in the Sudbury and Manitoulin districts of Ontario. Past records of the Sudbury Ornithological Society and the Manitoulin Nature Club have been searched (Nicholson 1970-1994, Lemon 1994-1997). Available records go back as far as 1967, a period of 30 years.

Great Gray Owl

During the 1970s and throughout most of the 1980s, the Great Gray Owl has been an irregular and uncommon winter visitor, with most appearances during the period of December to March. In some years, they have not shown up at all.

Recent Visitations

During the winter of 1991-92, Great Grays showed up in rather large numbers. The first arrivals were seen by early December 1991. By January 1992, sightings became rather frequent in both Sudbury

and Manitoulin districts. As many as five or six birds could frequently be seen on a given day in the Sudbury Region, many within the city itself. The peak was reached by early February, when as many as 25 were found on a single day on Manitoulin Island. Toward the latter part of February, a storm brought freezing rain which soon covered the country with ice. Before long, there was evidence of widespread starvation among the population of visiting Great Gray Owls. Dead birds were picked up in a number of locations, and many were shot by the ill-informed (Rodney Campbell, pers. comm.).

During the winter of 1993-94, an invasion occurred which followed much the same pattern as two years earlier. Numbers matched those of the earlier invasion, particularly on Manitoulin Island.

Out of Season Occurrences

The Great Gray Owl normally breeds far to the north of Sudbury and Manitoulin districts (Peck and

James 1983). However, there has been recent breeding in Algonquin Provincial Park (Forbes et al. 1992), and as well, there is a very old (1911) breeding record from Chisolm Township, Nipissing District (James 1991).

More recently, in late April and early May of 1997, a single adult bird was seen several times in Tehkummah Township, Manitoulin Island (Don Ferguson, pers. comm.). The mate of this bird, if one was in the area, was not located. During February 1997, as many as six Great Gray Owls were found in a single day on Barrie Island, Manitoulin. Late into the spring (June), individual birds were seen on occasion on the north side of Barrie Island. During July, two birds were seen together in the same general area. A juvenile Great Gray Owl (still with down feathers) was photographed in mid August at 45° 56' 12" north latitude on Barrie Island, by Camille Campbell. On 15 September 1997, three birds were seen together at this location, two of which were believed to be young of the year. These particular birds showed some down feathers, were generally quite dark with no white crescent at the chin, and had shorter tails than an adult bird normally has. On 17 September, two were seen, one of which was a juvenile. On 21 September, one adult was seen. Local nesting was strongly suspected.

Northern Hawk Owl

As with the Great Gray Owl, the

Northern Hawk Owl has been an irregular and uncommon winter visitor to Manitoulin and the southern Sudbury districts during the 1970s and 1980s. Individuals have generally appeared by mid November and stayed until late December in most cases, after which most have moved on. The odd one has been known to stay for the entire winter, occupying a hunting territory which was established shortly after arrival in November. In the 1990s, the numbers of individuals seen during November has generally increased. At the same time, the regularity of overwintering birds during these years has also increased.

High Numbers

The winter of 1996-97 saw Northern Hawk Owls overwinter on Barrie Island, Manitoulin in unprecedented numbers. Barrie Island is a township joined to mainland Manitoulin by a short causeway. It is strictly a rural farming community. Road access during the winter months is limited to an area of about ten square kilometres, yet during January and February of 1997, as many as 11 Northern Hawk Owls were tallied in this area on a single day. The high numbers appeared to be due to an extremely high vole (*Microtus pennsylvanicus*) population. This particular invasion did lead to a confirmed nesting.

Out of Season Occurrences

At least two pairs of Northern

Hawk Owls nested and raised families during 1997 on Barrie Island, Manitoulin (Campbell et al. 1998). In both cases, family groups were seen together on their home territory after the young were fledged in the month of June.

In Sudbury District, there are records of two cases where an individual bird, and possibly a mated pair, spent the summer on a territory. In neither case was there any evidence of successful nesting. The first of these occurred near the community of Whitefish, just west of the city of Sudbury, where a single bird was seen regularly throughout the summer of 1996, from 14 June until 1 October (Igor Konikow, pers. comm.). The second summer occurrence of the Northern Hawk Owl in the southern part of the Sudbury District was on the former Burwash Industrial Farm property, south of the city. One bird occupied a territory beginning in December 1996. This bird, and occasionally two, were seen here throughout the winter and into the following spring (Heather Baines, pers. comm.). On 1 June 1997, the Sudbury Ornithological Society had a field outing to the Burwash property. One of the Northern Hawk Owls cooperated and was seen by most members present that day. One or sometimes two birds were seen on occasion during the summer. The last sighting was on 24 September 1997. There was no evidence of nesting. The Burwash site is currently used

by the Militia of the Canadian Army for training exercises. Access to the property by birdwatchers is not always available, although entry is generally possible on weekends.

Snowy Owl

Of the three species dealt with in this report, the Snowy Owl has possibly been the most consistent as a winter visitor. Again, the Snowy Owl has generally shown up in November, with most birds moving on farther south, but occasionally the odd one has overwintered. The one exception to this pattern was in the winter of 1971-72, when as many as 33 Snowies were believed to have overwintered in and around the city of Sudbury (Young 1973).

Out of Season Occurrences

During the winter of 1996-97, when large numbers of Great Gray Owls and Northern Hawk Owls overwintered on Barrie Island, Manitoulin, there were two Snowy Owls also present. At least one of these, believed to be an adult male, stayed throughout the following spring and summer on Barrie Island. Unfortunately, it was found dead on 1 September 1997. A second Snowy Owl also spent at least part of the summer of 1997 in nearby Gordon Township (Doreen Bailey, pers. comm.). This particular bird was believed to be an adult female, or possibly an immature bird, as it was very heavily marked. This recent occurrence of Snowy Owls during

the summer in Ontario appears to be unusual (James 1991); however, the species has been observed during summer in the settled parts of eastern North America in the past (Bent 1938).

Conclusion

In summary, there is some evidence that the numbers of invading and overwintering northern owls, and their occurrence during the nesting season, have increased in recent years in Sudbury and Manitoulin districts.

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The author wishes to acknowledge with thanks the records of northern owls from Doreen Bailey, Heather Baines, Chris Bell, Camille Campbell, Rodney Campbell, Roy Campbell, Igor Konikow, and George Peck; and a review of the preliminary draft of this report with some valuable suggestions by Chris Blomme and George Peck.

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Nesting of the Northern Hawk Owl on Manitoulin Island in 1997

Roy S. Campbell, Floyd C. Cosby and Charles J. Whitelaw

Introduction

The Northern Hawk Owl (*Surnia ulula*) breeds in the Boreal Forest zone of Ontario (Weir 1987). Nesting of this species was confirmed on Manitoulin Island during 1997. This nesting followed a winter when the Northern Hawk Owl population in the surrounding countryside was at a very high level, with as many as 11 individuals seen on a particular day in February over an area of approximately ten square kilometres (Whitelaw 1998). Local farmers observed that the vole (*Microtus pennsylvanicus*) population was particularly high that winter.

At least two pairs successfully raised and fledged young during the nesting period. Behaviour of the birds during and after courtship, during the actual nesting period (including incubation and feeding young), and family life after fledging, have been observed and documented, and are described here. The actual nest at Site 1 was discovered and observed. The nest at Site 2 was not observed; however, behaviour of the adult birds and young was noted. The observed nest at Site 1 is only the sixth reported nesting in Ontario (Peck and James 1994).

Attempts to keep these breeding sites confidential were not com-

pletely successful. Site 1 had a number of visitors, some of whom contributed observations which are included in this report. Disturbance of the birds by visitors to the nest site was minimal, and young owls were successfully raised. Site 2 was kept completely confidential, and had no disturbance.

Site 1 was located along a sideroad at the fence line, at 45° 55' north latitude. This location is the second most southerly known nesting in the province for the Northern Hawk Owl. The most southerly was near Mer Bleue Bog (45° 23' north latitude), southeast of Ottawa (Smith 1970).

Observations at Site 1

The nest tree (Figure 1) was a dead White Birch (*Betula papyrifera*), which has since been blown down (October 1997). The nesting cavity appeared to be an old Northern Flicker (*Colaptes auratus*) hole which had been broken open. The opening faced northeasterly, and was at a height of approximately ten metres above ground level. The incubating adult bird (Figure 2) could be seen from the road, so the cavity was not deep.

Courtship by this pair was observed on 1 February. The nest



Figure 1: Nest site of Northern Hawk Owl; nest cavity in left fork of standing dead White Birch. Photo by *Charles J. Whitelaw*.



Figure 2: Adult Northern Hawk Owl incubating, 29 April 1997.
Photo by *George K. Peck*.



Figure 3: Young Northern Hawk Owls in nest cavity, early June 1997.

Photo by Sally James.

site was discovered on 29 March. The exact date on which incubation began was not determined. Young owls in the nest (Figure 3) were observed being fed over a period of several weeks during May and early June. The date when the young were fledged was 17 June. From the observations gathered, it became apparent that Northern Hawk Owls are attentive to their young. The male was observed bringing food to

the incubating female. The family stayed together for some time after the young were out of the nest.

The following sightings cover the period from courtship on 1 February until young of the year were observed hunting alone on 25 August. Observations during September, October and November failed to turn up any Northern Hawk Owls in the area.

February 1:

Pair seen perched together on a bare branch near the eventual nest site. They exhibited courtship behaviour at this time. It was noticed that one bird (thought to be the female) was larger than the other. This sighting occurred during a Friends of Misery Bay field outing which had been arranged specifically to observe owls on Barrie Island (Bailey 1997). Eleven different Northern Hawk Owls were seen on that day, as well as two Snowy Owls (*Nyctea scandiaca*), four Great Gray Owls (*Strix nebulosa*), one Boreal Owl (*Aegolius funereus*) in a hay shed, and one Northern Saw-whet Owl (*Aegolius acadicus*) in a barn in nearby Gordon Township.

March 29:

The pair was seen at the nest tree. One entered the hollow top of the stub, while the second bird flew from the nest cavity, which was approximately two metres below the top of the stub. This sighting by Floyd Cosby was the first suspected nesting activity.

April 8:

One adult bird incubating.

April 12:

One incubating adult was observed to come up through the hollow top of the stub above the nest cavity, and then fly off.

April 13:

Pair at the nest site; one incubating.

April 14 and 17:

One adult bird incubating.

April 23:

Female incubating (0900h). The male was perched in a poplar (*Populus* sp.) grove some 50 m from the nest tree. Shortly, the male brought a mouse (sp. ?) to the female on the nest. He stayed for about three minutes, then left carrying what appeared to be a regurgitated pellet in his bill.

April 29:

Female incubating. The male was perched in a single tree in an open field, several hundred metres away. After a short time, the male flew to the poplar grove near the nest tree, but did not approach closer.

May 3:

Pair seen together at nest tree.

May 16:

Female sitting on nest. The male flew in with a mouse, stayed for 30 seconds, then passed the mouse to the female. She began tearing at the mouse with her bill, ingested some, then fed small pieces to what was presumed to be very small young that could not be seen.

May 18:

Adult in nest cavity. The heads of three small young could be seen.

May 19:

The active nest of a pair of European Starlings (*Sturnus vulgaris*) was noted in a cavity above the cavity being used by the Northern Hawk Owls (Doreen Bailey, pers. comm.).

May 20:

Adult seen feeding young.

May 30:

Four young seen in nest cavity.

May 31:

One adult and four young seen in the nest cavity. It was noted at this time that one of the young birds was much smaller than the other three.

June 3:

Adult observed feeding four young (0900h). Four young seen in the nest cavity (1500h). It was noted that one of these young birds was in rather poor condition. Its appearance suggested that it had been attacked by one or more of its older siblings, although this was not observed (Cheryl Pearce, pers. comm.).

June 4:

Three young were observed in the nest cavity. The fourth young was heard calling from the long grass near the nest tree. One adult bird nearby showed considerable alarm.

June 5:

One young was found on the road near the nest tree. It was moved to a position over near the fence line. It is believed that this nestling, which was smaller than the others, had been ejected from the nest cavity by its larger siblings. It was not seen again after this date.

June 16:

Three large young in nest cavity.

June 17:

Three young fledged from the nest and were subsequently found in the poplar grove near the nest tree. They were calling and were being fed by the parent birds.

June 18:

Three young with one adult in the poplar grove near the nest tree. All three were able to fly and were perched in safe positions, well above the ground. One was slightly smaller than the other two. These young uttered a "hissing" note as they called for food. Two of the young were photographed at this time (Figure 4).



Figure 4: Juvenile Northern Hawk Owl on 18 June 1997, one day after fledging.

Photo by *Charles J. Whitelaw*.

June 30:

Three young with two adults were located approximately 1.5 km northeast of the nest tree. The family group appeared to be doing well.

August 25:

One juvenile seen alone, perched in a tree near the road at a location roughly 1 km south of the nest site. This individual appeared to be hunting on its own (Rodney Campbell, pers. comm.).

Observations at Site 2

Although only one adult was usually observed at a time, the Northern Hawk Owls at this location were seen regularly from late January through until June (Doreen Bailey, pers. comm.). On 10 June, four fledged young were seen along with one adult. The actual nest site was not found, although its approximate location is known. This site is at 45° 54' 30" north latitude, and is approximately 2 km southeast of Site 1.

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Breeding Birds of Ontario: Nidology and Distribution

Volume 2: Passerines (First Revision – Part B: Thrushes to Warblers)

George K. Peck and Ross D. James

As was set forth in Part A (Peck and James 1997) of this revision of Volume 2 of Breeding Birds of Ontario (Peck and James 1987), we are again following the order and sequence as proposed in the Forty-first Supplement to the American

Ornithologists' Union Check-list (AOU 1997). In this present revision, the European Starling (Family *Sturnidae*) has been moved to immediately follow the Brown Thrasher (Family *Mimidae*).

Breeding Bird Species

Eastern Bluebird, *Sialia sialis*

6144 (ca. 6436 nests) representing 46 provincial regions. The various nest box programs have continued to benefit this species and it remains fourth highest in nest card numbers in the Ontario Nest Records Scheme (ONRS).

Cowbird parasitism 5102 nests with 4 parasitized (0.1%)

Mountain Bluebird, *Sialia currucoides*

1 nest representing 1 provincial region. No new breeding data have been received since 1986.

Veery, *Catharus fuscescens*

448 nests representing 42 provincial regions. A 1989 nest in Haldimand-Norfolk was the only new regional nesting. Two Haliburton nests had outside depths of 5 and 6 cm (2 and 2.4 inches) and inside depths of 3 and 4.5 cm (1.2 and 1.8 inches).

Cowbird parasitism 429 nests with 82 parasitized (18.9%).

INCUBATION PERIOD 10 nests; 1 of 10 days, 3 of 11 days, 2 of not more than 11 days, 1 of not more than 12 days, 2 of 12 days, 1 of not more than 14 days.

EGG DATES A nest with eggs on 28 July in Lanark was the latest egg date reported.

Gray-cheeked Thrush, *Catharus minimus*

2 nests representing 1 provincial region. No new breeding information of this northern species has been received.

Swainson's Thrush, *Catharus ustulatus*

197 (200 nests) representing 18 provincial regions.

An unusual nest location and site were reported from Nipissing (Tozer et al. 1996), describing a deciduous forest location and a nest positioned on top of a bracket fungus growing on the trunk of a Sugar Maple.

EGGS 140 nests with 1 to 4 eggs; 1E (7N), 2E (11N), 3E (59N), 4E (63N).

Average clutch range 3 to 4 eggs (122 nests).

Cowbird parasitism 174 nests with 1 parasitized (0.6%).

INCUBATION PERIOD 5 nests: 2 of 12 days, 1 no more than 12 days, 1 ca. 13 days, 1 at least 13 days.

Hermit Thrush, *Catharus guttatus*

206 nests representing 26 provincial regions. A 1993 nest in Prescott was a new regional nesting.

An unusual nest record was received from Muskoka DM, describing a 1991 nest built on top of an old nest of Eastern Phoebe, located on a nesting tray beneath the eaves of a cottage, at a height of 2.1 m (6.9 ft) (Tozer 1997). An elevated nest in Hastings (1997) was reported in an Eastern Hemlock at a height of 4.3 m (14 ft), and on a limb also 4.3 m (14 ft) from the trunk.

A 2-egg clutch in Timiskaming was incubated and hatched 2 young.

Cowbird parasitism 195 nests with 11 parasitized (5.6%).

INCUBATION PERIOD 7 nests, 11 to 13 days.

Wood Thrush, *Hylocichla mustelina*

452 nests representing 41 provincial regions. Newly reported nesting regions were Glengarry (1996), Huron (1983), Northumberland (1992), Prescott (1993), and Prince Edward (1994). The big increase in nest records is due largely to a 1996-97 Canadian Wildlife Service (CWS) nest monitoring project, mainly involving woodlands in 3 provincial regions. This project resulted in the finding of 154 nests of which 30.5% were parasitized by Brown-headed Cowbird – an above average percentage. The nest card increase due to this intensive study should not cause undue optimism, because the Wood Thrush has suffered a marked decline in Ontario in recent decades.

Ten nests had outside diameters ranging from 11 to 14 cm (4.3 to 5.5 inches), inside diameters from 7 to 10 cm (2.8 to 3.9 inches), outside depths from 6 to 9 cm (2.4 to 3.3 inches), and inside depths from 2.5 to 6 cm (1 to 2.4 inches).

Cowbird parasitism 384 nests with 110 parasitized (28.6%).

INCUBATION PERIOD 8 nests: 2 of 10 days, 1 of 11 days, 2 of at least 11 days, 2 of 12 days, 1 of at least 12 days.

EGG DATES 216 nests, 4 May to 2 August (271 dates); 108 nests, 2 June to 20 June. The extremes of these dates strongly suggest second broods, and one instance was reported from Waterloo RM in 1996.

BREEDING DISTRIBUTION

Little change in distribution has been noted in the past decade. The species is experiencing a decline due, at least in part, to fragmentation of breeding woodlots. Possibly as a result, cowbird parasitism has increased overall by 1.4%. This small increase is unlikely to be a major factor in the decline.



Figure 1: Wood Thrush at nest with young, Victoria County, 14 June 1986.
Photo by G. K. Peck.



Figure 2: Nest and eggs of Wood Thrush, south of Dwight, Muskoka
District, 11 June 1970. Photo by G. K. Peck

American Robin, *Turdus migratorius*

7404 (ca 7450 nests) representing all 52 provincial regions.

A Niagara (1994) nest was built on top of an abandoned nest that contained 2 infertile eggs.

Cowbird parasitism 6004 nests with 17 parasitized (0.3%).

A 4 April (calculated) early egg date was recorded in York in 1943, and a nest with 1 egg was reported from Grey (1995) on 6 April. Both dates are earlier than our previous earliest egg date.

Gray Catbird, *Dumetella carolinensis*

1520 (1524 nests) representing 45 provincial regions. In Volume 2 (Peck and James 1987), Kenora was included as a nesting region. The record was actually a breeding record, and thus the nesting regions have been reduced to 45.

Cowbird parasitism 1241 nests with 20 parasitized (1.6%).

Northern Mockingbird, *Mimus polyglottos*

101 (107 nests) representing 31 provincial regions. New nesting regions were Essex (1986), Lennox & Addington (1997), Renfrew (1987), Simcoe (1993), and Wellington (1987).

A low nest from Manitoulin was 0.3 m (1 ft) above ground in an apple tree. Ten nests had outside diameters ranging from 12 to 20.3 cm (4.7 to 8 inches), inside diameters from 6 to 16 cm (2.4 to 6.3 inches), outside depths from 5.1 to 12 cm (2 to 4.7 inches), and inside depths from 3 to 6 cm (1.2 to 2.4 inches).

Cowbird parasitism Although the Northern Mockingbird is reported to be an acceptor species (Rothstein 1975), the absence of parasitism in Ontario is noteworthy.

INCUBATION PERIOD 9 nests, 11 to 13 days.

Brown Thrasher, *Toxostoma rufum*

899 (904 nests) representing 45 provincial regions. Glengarry (1997) was a new nesting region.

A small, shallow nest from Victoria had an outside diameter of 14 cm (5.5 inches), inside diameter of 10 cm (3.9 inches), outside depth of 6 cm (2.4 inches), and an inside depth of 4 cm (1.6 inches).

Cowbird parasitism 768 nests with 18 parasitized (2.3%).

INCUBATION PERIOD 22 nests, 10 to 14 days; 19 nests ranged from 11 to 13 days.

A nest in York RM still contained 2 young on 7 August, suggesting a later egg date than that given in Volume 2.

European Starling, *Sturnus vulgaris*

3005 (3107 nests) representing all 52 provincial regions. No new information.

American Pipit (Water Pipit), *Anthus rubescens*

5 nests representing 1 provincial region. No recent breeding information has been received for this northern nesting species.

Bohemian Waxwing, *Bombycilla garrulus*

Although breeding has been confirmed, no provincial nests have yet been reported.

Cedar Waxwing, *Bombycilla cedrorum*

1184 (1189 nests) representing 48 provincial regions. A nest was reported from Glengarry in 1995.

EGGS 403 nests with 1 to 8 eggs; 1E (17N), 2E (19N), 3E (68N), 4E (167N), 5E (121N), 6E (10N), 8E (1N).

Average clutch range 4 to 5 eggs (288 nests).

The 8-egg clutch was discovered and photographed in Grey in 1991. Examination of the eggs indicated that the clutch was the product of two females (see Figure 3).

Cowbird parasitism 952 nests with 70 parasitized (7.4%).

INCUBATION PERIOD 31 nests, 10 to 13 days; 29 nests ranged from 11 to 13 days.



Figure 3: An 8-egg clutch of Cedar Waxwing – the product of two females, as evidenced by the variation of the eggs, Collingwood Twp., Grey County, 27 July 1991. Photo by G. K. Peck.

Blue-winged Warbler, *Vermivora pinus*

18 nests representing 5 provincial regions. Haldimand-Norfolk (1997) was a new nesting region; a possible Oxford breeding (Weir 1990), and a confirmed Northumberland (1994) breeding were reported.

In Elgin, 2 nests were at the base of goldenrod stalks, and a third at the base of a hawthorn. Three Elgin nests were lined entirely with pine needles. Seven nests had outside diameters ranging from 10 to 12 cm (3.9 to 4.7 inches), inside diameters from 5 to 6.5 cm (2 to 2.6 inches), outside depths from 6 to 14 cm (2.4 to 5.5 inches), and inside depths from 3 to 7 cm (1.2 to 2.8 inches).

EGGS 8 nests, 2 to 6 eggs; 2E (1N), 3E (1N), 4E (3N), 5E (2N), 6E (1N).

Average clutch range 4 to 5 eggs (5 nests).

Cowbird parasitism 12 nests with 3 parasitized (25%).

EGG DATES 6 nests, 19 May to 19 June (8 dates); 3 nests, 2 June to 18 June.

Golden-winged Warbler, *Vermivora chrysoptera*

35 nests representing 11 provincial regions. A 1991 nest added Elgin to the list of provincial nesting regions; this nest was attended by a Golden-winged male and a Blue-winged Warbler female. A hybrid adult "Lawrence's" Warbler was observed with a flying fledgling in 1988, in Haldimand-Norfolk, suggesting a possible local breeding (Graham and Wormington 1988).

A deep-cupped Elgin nest had an inside depth of 7 cm (2.8 inches)

Cowbird parasitism 33 nests with 13 parasitized (39.4%).

Tennessee Warbler, *Vermivora peregrina*

30 nests representing 6 provincial regions. Nipissing (1997) was a new nesting region.

EGGS 24 nests with 3 to 7 eggs; 3E (1N), 4E (6N), 5E (7N), 6E (9N), 7E (1N).

Average clutch range 5 to 6 eggs (16 nests).

EGG DATES 20 nests, 8 June to 21 July (24 dates); 10 nests, 12 June to 29 June.



Figure 4: Ground nest and eggs of Tennessee Warbler, Garvey Twp., Sudbury District, 29 June 1985. Photo by G. K. Peck.

Orange-crowned Warbler, *Vermivora celata*

1 nest representing 1 provincial region. No new breeding information.

Nashville Warbler, *Vermivora ruficapilla*

103 nests representing 27 provincial regions. A 1944 nest record was recently received by the ONRS and added York County as a provincial nesting region.

Cowbird parasitism 93 nests with 10 parasitized (10.8%).

Northern Parula, *Parula americana*

4 nests representing 3 provincial regions. No new breeding information has been received.

Yellow Warbler, *Dendroica petechia*

2003 nests representing 48 provincial regions.

Cowbird parasitism 1464 nests with 422 parasitized (28.8%).

INCUBATION PERIOD 23 nests, 9 to 14 days; 19 nests ranged from 11 to 13 days.

Chestnut-sided Warbler, *Dendroica pensylvanica*

282 nests representing 37 provincial regions. Essex (1993), Glengarry (1996), Haldimand-Norfolk (1997) and Prince Edward (1993) were recent new provincial nesting regions.

Cowbird parasitism 235 nests with 51 parasitized (21.7%).

INCUBATION PERIOD 26 nests, 10 to 13 days: 7 of 10 days, 12 of 11 days, 1 of at least 11 days, 5 of 12 days, 1 of 13 days.

Magnolia Warbler, *Dendroica magnolia*

139 (140 nests) representing 22 provincial regions. Haldimand-Norfolk (1997) was a new nesting region, and the most southerly to date.

A nest in Common Juniper in Parry Sound (1990), was the first report for this plant species.

Cowbird parasitism 122 nests with 12 parasitized (9.8%).

INCUBATION PERIOD 10 nests, 11 to 13 days. Another 12-day period was noted for a Sudbury nest.

EGG DATES A nest with 4 eggs on 30 May, indicated an earlier egg date than that in Volume 2.

Cape May Warbler, *Dendroica tigrina*

5 nests representing 3 provincial regions. No new breeding information.

Black-throated Blue Warbler, *Dendroica caerulescens*

36 nests representing 13 provincial regions. Haldimand-Norfolk (1987) was a recently added nesting region, and is the most southerly to date.

EGGS 24 nests with 2 to 4 eggs; **2E** (2N), **3E** (3N), **4E** (19N).

Average clutch range 4 eggs (19 nests).

Cowbird parasitism 26 nests with 4 parasitized (15.4%),

INCUBATION PERIOD 3 nests, 12 days.

Yellow-rumped Warbler, *Dendroica coronata*

215 nests representing 26 provincial regions. A probable breeding record in Ottawa-Carleton was noted.

Outside diameters of 11 nests ranged from 7.5 to 15 cm (3 to 6 inches); inside diameters of 10 nests ranged from 4.4 to 6.3 cm (1.7 to 2.5 inches); outside depths of 11 nests ranged from 6 to 11 cm (2.4 to 4.3 inches); and inside depths of 10 nests ranged from 3.8 to 6 cm (1.5 to 2.4 inches).

EGGS 69 nests with 1 to 6 eggs; **1E** (5N), **2E** (5N), **3E** (12N), **4E** (35N), **5E** (10N), **6E** (2N).

Average clutch range 4 eggs (35 nests).

Cowbird parasitism 139 nests with 39 parasitized (28.1%).

A female on a nest in Muskoka on 12 May 1976, suggests an earlier egg date than given in Volume 2.



Figure 5: Female Yellow-rumped Warbler at nest in Jack Pine at a height of 12 m (39 ft), Garvey Twp., Sudbury District, 25 June 1987.
Photo by G. K. Peck.

Black-throated Green Warbler, *Dendroica virens*

60 nests representing 19 provincial regions. Regional nesting additions were Elgin (1990), and Peterborough (1991).

Heights of 55 nests ranged from 0.5 to 15 m (1.5 to 50 ft), with 27 averaging 2.3 to 7.6 m (7.5 to 25 ft). An Elgin nest had an outside diameter of 8.5 cm (3.3 inches), inside diameter of 4.5 cm (1.8 inches), outside depth of 10 cm (3.9 inches), and inside depth of 6 cm (2.4 inches).
EGGS 40 nests with 1 to 5 eggs; 1E (1N), 2E (3N), 3E (16N), 4E (17N), 5E (3N).

Average clutch range 3 to 4 eggs (33 nests).

Cowbird parasitism 42 nests with 11 parasitized (26.2%).

EGG DATES A Nipissing nest held 3E on 3 June, for our earliest egg date.

Blackburnian Warbler, *Dendroica fusca*

36 nests representing 14 provincial regions. Bruce (1986), Elgin (1991), and Haldimand-Norfolk (1997) were recent regional nesting additions.

A nest at a height of 10 m (33 ft) in an Eastern Hemlock was ca. 5 m (16 ft) distant from the trunk.

Cowbird parasitism 12 nests with 4 parasitized (33.3%).

BREEDING DISTRIBUTION

The Elgin and Haldimand-Norfolk nestings were well south of the former southern breeding limit.

Pine Warbler, *Dendroica pinus*

17 (26 nests) representing 13 provincial regions. Elgin (1992), and Wellington (1994) were recent regional nesting additions. A 1985 breeding record from Bruce and another in 1995 from Waterloo, were reported.

The Wellington record described ca. 10 nests in close proximity in a mature coniferous woods, primarily pine with some spruce. The nestings approximated a colonial situation. Heights of the observed nests ranged from 3.7 to 9 m (12 to 30 ft).

The Elgin record was of a nest with two young at a height of 20 m (65 ft) in a Red Pine. The nest had an outside diameter of 7.5 cm (3 inches), inside diameter of 5 cm (2 inches), outside depth of 5 cm (2 inches), and inside depth of 3 cm (1.2 inches).

Cowbird parasitism 8 nests with 4 parasitized (50%). The finding of more nests of this species will probably lower this high percentage parasitism as compared with that of other areas (Friedmann, Kiff and Rothstein 1977).

[Kirtland's Warbler], *Dendroica kirtlandii*

No additional information on this hypothetical breeding species.

Prairie Warbler, *Dendroica discolor*

45 nests representing 8 provincial regions.

Thirteen new nests were in juniper spp. (5N), hazel spp. (3N), viburnum spp. (2N), Downy Arrow-wood (1N), White Oak (1N), and sumac sp. (1N). Height of a low nest in Frontenac was 0.24 m (0.8 ft).

EGGS 33 nests with 1 to 6 eggs; 1E (2N), 2E (3N), 3E (6N), 4E (14N), 5E (7N), 6E (1N).

Average clutch range 4 to 5 eggs (21 nests).

Cowbird parasitism 37 nests with 10 parasitized (27%).

EGG DATES 26 nests, 17 May to 9 July; 13 nests, 11 June to 20 June.

Palm Warbler, *Dendroica palmarum*

21 nests representing 9 provincial regions. Prescott (1993), Sudbury (1976), and Timiskaming (1955), were new nesting regions.

A nest from Timiskaming was elevated at a height of 0.9 m (2.9 ft) (no details).

EGGS 17 nests with 3 to 5 eggs; 3E (1N), 4E (10N), 5E (6N).

Average clutch range 4 eggs (10 nests).

EGG DATES 12 nests, 25 May to 6 July (13 dates); 6 nests, 8 June to 20 June.

Bay-breasted Warbler, *Dendroica castanea*

19 nests representing 6 provincial regions.

EGGS 13 nests with 4 to 6 eggs; 4E (1N), 5E (6N), 6E (6N).

Average clutch range 5 to 6 eggs (12 nests).

EGG DATES 12 nests, 10 June to 3 July (13 dates); 6 nests, 18 June to 28 June.

Blackpoll Warbler, *Dendroica striata*

5 nests representing 1 provincial region. No new breeding information.

Cerulean Warbler, *Dendroica cerulea*

81 nests representing 12 provincial regions. Haldimand-Norfolk (1983) and Simcoe (1968) were newly submitted nesting regions. A breeding record from Essex in 1986 was reported (Weir 1986).

The considerable increase in card numbers of nests of this rarely found nesting species was due largely to a 1994-95 study conducted in Frontenac County by Queen's University's Department of Biology (Oliarnyk and Robertson 1996).

Nests were invariably in medium to large deciduous trees which, in order of preference

were maple spp. (26 nests), oak spp. (22 nests), elm spp. (5 nests), basswood (4 nests), chestnut (1 nest), hickory (1 nest), and ironwood (1 nest). Heights of 65 nests ranged from 4.6 to 19.8 m (15 to 65 ft), with 33 averaging 8.8 to 13.1 m (29 to 43 ft).

Thirteen nests had outside diameters that ranged from 6 to 8 cm (2.4 to 3.1 inches), inside diameters from 4 to 5.3 cm (1.6 to 2.1 inches), outside depths from 3.2 to 7 cm (1.3 to 2.8 inches), and inside depths from 2.3 to 3 cm (0.9 to 1.2 inches).

EGGS 45 nests with 1 to 5 eggs; 1E (4N), 2E (2N), 3E (15N), 4E (21N), 5E (3N).

Average clutch range 3 to 4 eggs (36 nests).

Cowbird parasitism 57 nests with 8 parasitized (14%).

INCUBATION PERIOD 9 nests, 11 to 13 days: 5 of 11 days, 1 of at least 11 days, 2 of 12 days, 1 of 12-13 days.

EGG DATES 42 nests, 24 May to 27 June (44 dates); 21 nests, 5 June to 14 June.



Figure 6: Female Bay-breasted Warbler incubating 6 eggs, Garvey Twp., Sudbury District, 30 June 1985. Photo by G. K. Peck.

Black-and-white Warbler, *Mniotilta varia*

66 nests representing 27 provincial regions. Bruce (1989), Haliburton (1997), Renfrew (1993), and Waterloo (1957) were recently added nesting regions. Early (1926, 1931) breeding records from Norfolk (Snyder 1931, Baillie and Harrington 1937) were overlooked in Volume 2.

EGGS 54 nests with 1 to 6 eggs; 1E (2N), 2E (1N), 3E (10N), 4E (23N), 5E (17N), 6E (1N).

Average clutch range 4 to 5 eggs (40 nests).

Cowbird parasitism 55 nests with 9 parasitized (16.4%).

EGG DATES 38 nests, 22 May to 30 July (46 dates); 19 nests, 5 June to 24 June.

American Redstart, *Setophaga ruticilla*

513 (514 nests) representing 47 provincial regions. Regional nesting additions were Grenville (1985), Lincoln (1939), Prince Edward (1993), and Waterloo (1957).

In 1995-96, among 55 submitted nest records from Bruce County, 49 nests were in coniferous trees: 42 in White Cedar, 5 in Balsam Fir, and 2 in Canada Yew. This is in marked contrast to the preferred deciduous nest tree selection reported from other regions.

Cowbird parasitism 364 nests with 61 parasitized (16.8%). In Bruce County, 47 nests in 1995-96 were not parasitized, lowering the percentage parasitism (Peck 1997) from the 20% reported in Volume 2.

INCUBATION PERIOD 17 nests, 10 to 13 days; 14 nests ranged from 11 to 12 days.

Prothonotary Warbler, *Protonotaria citrea*

118 (120 nests) representing 6 provincial regions.

Eight 1997 nests were located in nest boxes set out for this declining breeding species.

EGGS 40 nests with 1 to 6 eggs; 1E (1N), 2E (1N), 3E (4N), 4E (11N), 5E (16N), 6E (7N).

Average clutch range 4 to 5 eggs (27 nests).

Cowbird parasitism 48 nests with 13 parasitized (27.1%).

INCUBATION PERIOD 3 nests: 1 at least 10 days, 1 of ca. 11 days, 1 of no more than 12 days.

EGG DATES 46 nests, 25 May to 3 July (55 dates); 23 nests, 9 June to 16 June. In 1997, a double brood was reported in different but adjacent sites.

BREEDING DISTRIBUTION

The status of this species was changed from vulnerable to endangered by COSEWIC (Page 1996a). In 1996, it bred at only two sites in the regions of Haldimand-Norfolk and Kent, and it was estimated that no more than 13 pairs remained at these sites. In 1997, after a nest box program was begun, 14 nestings occurred in 4 provincial regions.

** Note: The photograph at the bottom of p. 385 in Volume 2 was captioned incorrectly. The nest is not that of a Prothonotary Warbler, but rather that of a Song Sparrow with 1 egg of the host and 10 eggs of the Brown-headed Cowbird. The picture was made at Oakville, Halton County, 12 July 1968.



Figure 7: Nest of Prothonotary Warbler with 6 eggs of the host and 1 egg of Brown-headed Cowbird, Kent County, 7 June 1969.

Photo by G. K. Peck.

Ovenbird, *Seiurus aurocapillus*

331 nests representing 43 provincial regions.

EGGS 218 nests with 1 to 6 eggs; 1E (4N), 2E (4N), 3E (27N), 4E (96N), 5E (82N), 6E (5N).

Average clutch range 4 to 5 eggs (178 nests).

Cowbird parasitism 298 nests with 34 parasitized (11.4%).

Northern Waterthrush, *Seiurus noveboracensis*

109 (114 nests) representing 24 provincial regions. Elgin (1997) and Haldimand-Norfolk (1997) were new nesting regions. A probable breeding record for Ottawa-Carleton (1988) has been received.

A Sudbury nest was in the side of an old beaver dam, and hidden by grasses. Outside diameters of 9 nests ranged from 7.5 to 11.5 cm (3 to 4.5 inches), inside diameters from 4.5 to 8.3 cm (1.8 to 3.3 inches), outside depths from 4 to 7.5 cm (1.6 to 3 inches), and inside depths from 2 to 4 cm (0.8 to 1.6 inches).

EGGS 84 nests with 1 to 5 eggs; 1E (3N), 2E (3N), 3E (11N), 4E (44N), 5E (23N).

Average clutch range 4 eggs (44 nests).

Cowbird parasitism 94 nests with 11 parasitized (11.7%).

Louisiana Waterthrush, *Seiurus motacilla*

15 nests representing 9 provincial regions. Possible breeding in Halton (1979) has been reported (Eagles and McCauley 1982).

Two Elgin nests were in a mixed woods, dominated by Eastern Hemlock. One of the nests was positioned under live and dead fronds of Christmas Fern, on the slope of a creek 0.9 m (3 ft) above the creek surface. The other Elgin nest described a characteristic 'drift' or pathway of leaves (see Harrison 1984) in front of the nest.

EGGS 10 nests with 2 to 5 eggs; 2E (2N), 3E (2N), 4E (3N), 5E (3N).

Average clutch range 4 to 5 eggs (6 nests).

Cowbird parasitism 11 nests with 2 parasitized (18.2%).

EGG DATES 5 nests, 1 June to 8 July.

BREEDING DISTRIBUTION

The Louisiana Waterthrush in southern Ontario is currently listed as "Vulnerable" by COSEWIC (McCracken 1991, Page 1996b). Difficulty in finding nests may account for the few provincial records.

[Connecticut Warbler], *Oporornis agilis*

1 nest (undocumented) representing 1 provincial region. To date, no documented nest of this northern breeding warbler has been reported.

Mourning Warbler, *Oporornis philadelphia*

39 nests representing 21 provincial regions. Elgin (1987), and Middlesex (1963) (Darley and Scott 1988) were new nesting regions. A record from Bruce was removed because of a probable misidentification.

EGGS 30 nests with 1 to 5 eggs; 1E (2N), 2E (3N), 3E (6N), 4E (15N), 5E (4N).

Average clutch range 4 eggs (15 nests).

Cowbird parasitism 35 nests with 3 parasitized (8.6%).

EGG DATES 24 nests, 25 May to 20 July (32 dates); 12 nests, 15 June to 28 June.

Common Yellowthroat, *Geothlypis trichas*

206 nests representing 43 provincial regions. Elgin (1987), Grey (1988), Victoria (1993), and Waterloo (1954) were the added nesting regions.

Cowbird parasitism 187 nests with 36 parasitized (19.3%).

Hooded Warbler, *Wilsonia citrina*

120 (121) nests representing 6 provincial regions. Hamilton-Wentworth (1993), and Simcoe (1989) were recent regional nesting additions. Possible breeding (nesting?) in Oxford was noted by Weir (1988, 1989, 1990) but no data were given. The large increase in nest card numbers was due to an intensive nesting study from 1986 to date, mainly in Haldimand-Norfolk, and the new information follows.

Nests in mixed (47 nests), deciduous (44 nests), and rarely coniferous (2 nests) tree stands. Wooded areas were more often dry than wet, and all had characteristic understories of saplings, shrubs, and vascular plants. Deciduous saplings and shrubs (66 nests) were greatly preferred over coniferous (7 nests), and fern spp (7 nests). Three nests were in vascular plants (Horse-balm, May-apple and Sweet Cicely). Heights of 73 nests ranged from 0.2 to 1.5 m (0.7 to 4.9 ft), with 37 averaging 0.4 to 0.7 m (1.3 to 2.3 ft).

Five nests had outside diameters ranging from 7 to 10 cm (2.8 to 3.9 inches); inside diameters from 4 to 5.5 cm (1.6 to 2.2 inches); outside depths from 6 to 9 cm (2.4 to 3.5 inches); and inside depths from 3 to 5 cm (1.2 to 2 inches).

EGGS 46 nests with 1 to 5 eggs; 1E (1N), 2E (1N), 3E (17N), 4E (26N), 5E (1N).

Average clutch range 4 eggs (26 nests).

Cowbird parasitism 114 nests with 54 parasitized (47.4%).

INCUBATION PERIOD 6 nests, 11 to 12 days: 2 of at least 11 days, 2 of 12 days, and 2 of ca. 12 days.

EGG DATES 53 nests, 1 June to 7 August (80 dates); 27 nests, 16 June to 6 July. One double brood was reported with both broods in the same nest.

BREEDING DISTRIBUTION

This species nests almost exclusively in the Deciduous Forest region of Ontario with the only exception being an unsuccessful nest in Simcoe County.



Figure 8: Male Hooded Warbler at nest with young in May-apple, Haldimand-Norfolk RM, 13 June 1987. Photo by G. K. Peck

Wilson's Warbler, *Wilsonia pusilla*

15 nests representing 6 provincial regions. Manitoulin (1988) was the latest addition to regional nesting, and is the most southerly provincial nesting to date (Weir 1988).

Canada Warbler, *Wilsonia canadensis*

29 nests representing 18 provincial regions. No new nests have been reported since the publication of Volume 2.

Yellow-breasted Chat, *Icteria virens*

20 nests representing 8 provincial regions.

A Niagara nest was in a peat bog. One Essex nest was in a Ground Juniper and another was in an unspecified shrub at a low height of 0.3 m (1 ft).

EGGS 17 nests with 1 to 5 eggs; 1E (1N), 2E (3N), 3E (2N), 4E (7N), 5E (4N).

Average clutch range 4 to 5 eggs (11 nests).

Cowbird parasitism 19 nests with 4 parasitized (21.1%).

EGG DATES 16 nests, 2 June to 1 July (22 dates); 8 nests, 8 June to 16 June.

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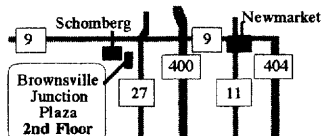
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The 1996 Piping Plover Census in Ontario

Leo E. Heyens

Introduction

An intensive survey of former breeding locations of the Piping Plover (*Charadrius melodus*) in Ontario was conducted during 1996 as part of the International Piping Plover Census. Former breeding locations along the Lake Erie and Georgian Bay shorelines, and known breeding locations on Lake of the Woods, were surveyed as part of this census. In addition, a number of potential breeding sites at Sault Ste. Marie, Ontario (Lake Huron and Lake Superior shorelines and offshore islands) were censused during 1996. This article describes the 1996 census results in comparison with the 1991 census, and relates these results to historical numbers and distribution of the Piping Plover in Ontario, where possible. Lastly, a brief discussion is included which summarizes the status of the plover in Ontario, and conservation measures to protect this endangered species.

Methods

Seventeen locations within the province were censused during 1996 (Table 1), compared to three locations censused during the 1991 survey. All of these locations were surveyed on foot, with some locations requiring the use of a boat to access offshore islands.

Two known plover nesting sites on the Ontario portion of Lake of the Woods were censused twice during the survey period. Windy Point and the Sable Islands Provincial Nature Reserve were surveyed on 5 and 6 June, respectively. No plovers were observed on these dates, with inclement weather conditions present (high winds and rain). These locations were again surveyed on 13 June under more favourable weather conditions. These sites were accessed by boat from Kenora. The entire length of Sable Islands was walked (6 km), and approximately 1 km of suitable habitat at the tip of Windy Point was covered on foot during both surveys.

A number of small sand beaches on the south side of Big and Bigsby Islands (Lake of the Woods) were also surveyed during 1996. Ten potential nesting sites were surveyed on Lake Superior and Lake Huron from Sault Ste. Marie. Former nesting locations at Wasaga Beach (Georgian Bay), and Long Point (Lake Erie), were surveyed during 1996 as well.

Results

Piping Plovers were located at only one of the seventeen sites censused (Table 1). Three adults were observed at Windy Point, Lake of

Table 1: Locations and numbers of Piping Plovers found in Ontario in 1996.

Date	Map Sheet 1:50,000	Site Location (Description)	Distance Covered (km)	No. of Adult Birds	Habitat Assessment
5/6/96	52E/2	Big Island Lake of the Woods	2	0	M
5/6/96	52E/2	Bigsby Island Lake of the Woods	1	0	M
5/6/96	52D/15	Windy Point	1	0	G
13/6/96		Lake of the Woods	13	3	
6/6/96	52D/15	Sable Islands	6	0	G
13/6/96		Lake of the Woods	6	0	
3/6/96	40I/9	Gravelly Bay	3	0	G
		Long Point			
6/6/96	40I/9	Courtright Ridge	1	0	M
		Long Point			
4/6/96	41A/9	Wasaga Beach	2.5	0	M
		Lake Huron			
6/6/96	41N/7	Agawa Bay	5	0	M
		Lake Superior			
6/6/96	41K/15	Beaver Rock	.5	0	M
		Lake Superior			
6/6/96	41N/2	Alona Bay	.6	0	U
		Lake Superior			
6/6/96	41K/15	Methany Bay	.5	0	U
		Lake Superior			
6/6/96	41K/15	Sawpit Bay	.3	0	U
		Lake Superior			
6/6/96	41K/16	Batchawana Bay	2	0	U
		Lake Superior			
12/6/96	41G/10	Desert Point	2	0	G
		Great Duck Island			
		Lake Huron			
12/6/96	41G/10	Horseshoe Bay	.5	0	G
		Great Duck Island			
		Lake Huron			
12/6/96	41G/10	Western Duck Island	2	0	G
		Lake Huron			
17/6/96	41N/5	Caribou Island	5	0	G
		Lake Superior			

Symbols: U = Unsuitable; M = Marginal; G = Good

the Woods on 13 June 1996. One pair of plovers was defending territory, and one nest containing two eggs was located. The other plover appeared to be an unpaired bird and was continually being chased by the mated pair. A nest enclosure was erected on this nest. It took approximately ten minutes to erect the enclosure, and a plover returned to incubate the eggs about one minute after we departed to a safe distance. The nest enclosure consisted of 2x2 inch wire mesh, five feet high with an approximate diameter of six feet. The wire mesh was buried in the sand to a depth of about six inches, and supported by four six foot lengths of half inch rebar. Coloured string was randomly strung across the top of the enclosure. In addition, two endangered species signs prohibiting public access were erected on each side of the nest site (about 100 m away).

The nest enclosure was next checked on 3 July 1996. The nest was abandoned (and empty), and did not appear to have been predated. The enclosure and the endangered species signs were removed on this date. Two adult plovers were observed. One of the adults appeared to be aggressive toward the other adult and kept chasing it within the immediate area. An extensive effort was not made to locate fledged young. Windy Point was again surveyed on 21 July 1996, and no plovers were observed on this date.

Piping Plovers were not

observed at any of the remaining sixteen surveyed sites during 1996. One adult plover was observed at Beaverton (near Lake Simcoe) on 2 June 1996 by Margaret Bain (Dobos 1997). This was a colour-banded bird and was most likely banded as a chick in Michigan during 1995. This plover was not observed after this date.

General Comments

Weather conditions were less than ideal during the 5 and 6 June survey dates, with rain and high winds occurring on both days. The subsequent survey on 13 June was conducted during sunny, clear weather conditions.

Water levels on Lake of the Woods were high during the nesting period (elevation 1061.4 on 13 June 1996). Beach areas were significantly reduced this year, resulting in less suitable habitat for Piping Plovers. This situation was very obvious on the tip of Windy Point, with terns and gulls, and the one plover nest, all in very close proximity to each other.

Discussion

According to the *Atlas of the Breeding Birds of Ontario* (Lambert 1987), the Piping Plover was once widespread throughout the Great Lakes Region, with numbers estimated to be approximately 150 breeding pairs. Significant population declines occurred during the 1960s and 70s with the last known

breeding in southern Ontario occurring in 1977 at Long Point Beach on Lake Erie (Lambert and Nol 1978). Piping Plovers are still occasionally seen at Long Point Beach and at Turkey Point Beach. However, these birds appear to be transients as they do not remain at these sites during the breeding season.

A variety of explanations has been put forward to explain the population decline. It would appear that one of the primary reasons is the increasing use of beach habitat for recreational purposes. The destruction of nests and young by pedestrian and vehicular traffic, and the disturbance of nesting birds by recreationists, are the main concerns. It has also been suggested that increasing numbers of natural predators such as raccoons, foxes, gulls, and crows have contributed to the decline (Cairns and McLaren 1980).

A small population of Piping Plovers continues to breed in the extreme northwest portion of the province on Lake of the Woods. This population consists of an Ontario and a Minnesota segment. The Minnesota population breeds primarily on two offshore barrier sand islands (Pine and Curry Islands). This group has continued to decline from a high of approximately 50 adults during the early 1980s to 10 adults in 1996 (Maxson et al. 1996).

In recent years, the Ontario

population has been restricted to the Sable Islands Provincial Nature Reserve and to Windy Point. The number of adult plovers observed on the Sable Islands remained relatively constant until 1992, when no plovers were observed (Table 2). Plovers were not observed on the Sable Islands during the 1995 and 1996 breeding seasons. Prior to 1995, plovers would occasionally be observed on Windy Point, although nesting success was very poor. It would appear that predation by foxes and Ring-billed Gulls (*Larus delawarensis*) was the primary factor contributing to unsuccessful nesting attempts at this site. The very tip of Windy Point was breached by a late 1994 fall storm, which resulted in a small island being formed at the tip of the point. Since this event, at least one pair of plovers has successfully nested on Windy Point during the 1995, and again during the 1996, breeding seasons. This small offshore island now presents a barrier to mammalian predators and, coupled with the use of nest enclosures, nests are not being predated prior to hatching.

It does not appear that the availability of suitable habitat on Windy Point or on the remainder of Lake of the Woods is a limiting factor on the viability of this population. An investigation of nineteen sites by Lambert and Risley (1989) during a 1989 survey found that six of these sites were categorized as fair or good habitat, while the

Table 2: Number of Piping Plovers observed at Lake of the Woods, Ontario (1938-96).

Year	Breeding Birds			
	Sable Islands		Windy Point	Total
	(Adults)	(Young)	(Adults)	(Adults)
1938	6	n.d.	n.d.	6
1974	5	n.d.	n.d.	5
1978	5	n.d.	n.d.	5
1979	2	n.d.	4	6
1980	3	n.d.	n.d.	3
1981	4	n.d.	n.d.	4
1983	2	2	n.d.	2
1986	6	n.d.	n.d.	6
1987	5	1	5	10
1988	3	3	n.d.	3
1989	6	7	2	8
1990	4	1	0	4
1991	5	2	0	5
1992	0	0	2	2
1993	1	0	0	1
1994	3	0	0	3
1995	0	0	3	3
1996	0	0	3	3

Sources: Heyens 1986-88, 1990-96; Ratcliff 1979

remaining sites were categorized as marginal or unsuitable habitat.

Extensive habitat is available at the Sable Islands. The major threats to this population are from recreationists and from fluctuating water levels on Lake of the Woods. Both of these impacts are manageable, and attempts have been made by the Ontario Ministry of Natural Resources to educate recreationists regarding the protection of Piping Plovers and their habitat requirements. Signage is in place at three

separate locations on the Sable Islands advising recreationists of the protected status of the Islands and that the use of all-terrain vehicles is prohibited. During the 1996 breeding season, endangered species signs were erected on Windy Point to prevent human disturbance of the nesting plovers. The Lake of the Woods Water Control Board is the agency responsible for controlling water levels on the lake, and it has been made aware of the habitat requirements of this endan-

gered species.

In conclusion, a small remnant population of Piping Plovers continues to breed in Ontario in the extreme northwestern portion of Ontario at Lake of the Woods. The 1991 International Piping Plover Census documented five birds at this location, while the 1996 census documented three birds there. Plovers continue to be reported on a sporadic basis from other parts of Ontario as well. However, these birds appear to be transients and do not breed at these locations. Annual censuses will continue on the Lake of the Woods population, and nest enclosures and endangered species signage will continue to be used at any nest sites.

Acknowledgements

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continued support of the Piping Plover Program, and his kind permission for allowing the census to be conducted on his property at Windy Point, Lake of the Woods.

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Recent Nestings of Red-necked Grebe on Lake Ontario

Robert Z. Dobos and Gavin Edmondstone

Introduction

The breeding range of the Red-necked Grebe (*Podiceps grisegena*) in North America extends from Alaska through western and central-southern Canada and north-western United States east to northeastern Ontario and west-central Quebec (Godfrey 1986, Lapointe 1996). Within Ontario, it is considered a rare breeder restricted to specific traditional areas, generally in the northwestern and south-central parts of the province (Armstrong 1987). In southern Ontario, it is known to have bred formerly at isolated locations in Wellington and Simcoe Counties, Peel and Halton Regional Municipalities and Manitoulin District (Peck and James 1983). However, there has been a reduction in the distribution and number of breeding pairs in Ontario over the past several decades, and as a result, this species has been identified as being of conservation concern (Austen et al. 1994).

The historical nestings of Red-necked Grebe on Lake Ontario at Burlington, Halton, are of interest, since this is the most southerly nesting location for this species in Canada. It was first found nesting in 1943, with up to seven nests present, and two nests subsequently in

1944 (Speirs et al. 1944). The 1943 nests were either built in submerged crotches of small willows along the shoreline, or as floating mats of vegetation. The latter nest type is more typical of this species, as it usually nests in freshwater marshes (Harrison 1984). A nest was also found farther east along the Lake at Lorne Park (present day Mississauga), Peel, in 1946 (Gunn 1951). These nestings were not entirely surprising, since it was known by as early as the 1930s that Red-necked Grebes regularly spent the summer along the Halton and Peel lakeshores in numbers up to about 100 birds (Gunn 1951). This summering occurrence has continued up to the present, although in smaller numbers. Over the past decade, a summering flock of 20-40 birds typically has been present along the Burlington lakeshore each year (pers. obs.).

The purpose of this article is to document recent nestings of this species along the western shoreline of Lake Ontario within Halton Regional Municipality.

Appleby Creek Nesting

On 25 July 1994, Dobos found a pair of Red-necked Grebes with a nest along the Lake Ontario shoreline at the mouth of Appleby Creek

in the City of Burlington, Halton. The shoreline in this vicinity is heavily urbanized, with private residences occupying the lakeshore. The shoreline itself has been altered drastically with concrete, boulder or steel sheetpile revetments for erosion protection along most of its length. Essentially no natural shoreline remains in this area.

At this location, two adult grebes were first sighted very close to shore. It was then noticed that a floating wooden board about one square metre in size, located between the shore and an "L"-shaped concrete breakwall which juts into the lake, supported an obvious nest structure made from vegetation. The board was tied by a

small rope to the breakwater, and appeared to have been intentionally placed at this location. The nest was a low mound consisting of large twigs, branches, aquatic vegetation and algae, about two feet across. The nest had a slight depression in the centre within which could be seen a minimum of four large, tan-coloured eggs. After a short time, one of the grebes swam up to and hopped onto the board, then settled onto the nest to incubate the eggs.

This nest was visited again on 27 July 1994 by Dobos, at which time photographs were taken of an adult Red-necked Grebe incubating this nest (Figure 1). The site was next visited on 11 August, when two adult grebes were seen swimming nearby, but the nest apparently had



Figure 1: Red-necked Grebe incubating nest at mouth of Appleby Creek, 27 July 1994. Photo by *Robert Z. Dobos*.

been abandoned. Upon closer inspection, there were no signs of any egg shells, and the nest mound was reduced and appeared to be unmaintained. There were no grebe chicks evident with the adults, and the birds did not display any territorial behaviour. It was concluded that the nesting had not been successful.

The next year, this site was visited on 7 and 26 June 1995 by Dobos. Two adult Red-necked Grebes were present on both occasions, along with the floating board, but no sign of nesting activity was evident. A final visit on 13 July produced only a single grebe, and no nesting activity. The site was checked the following year on 4 July 1996, and eight adult grebes were present offshore nearby, but the floating board was no longer present and no nesting activity was detected.

Bronte Harbour Nesting

On 30 June 1997, Edmondstone observed two adult Red-necked Grebes vocalizing in Bronte Outer Harbour on the Lake Ontario shoreline near the mouth of Bronte Creek in the Town of Oakville, Halton. This harbour is protected from the lake by a pair of stone breakwalls. In the 1997 boating season, the outer harbour had not been developed, with only eight floating tires being available for visiting boats to moor at and no permanent dock space available.

On 1 July 1997, the birds were observed piling vegetation onto the tire in the northeast corner of the harbour. There was a sailboat moored at the tire at the time. On 8 July, one of the birds was observed incubating. Four eggs were observed from shore on 13 July. Both birds took turns incubating. Mallards (*Anas platyrhynchos*) and Canada Geese (*Branta canadensis*) that came too close to the nest were subject to attack from below. The incubating birds seemed little disturbed by the boat activity in the harbour. The approach of a jet ski would sometimes cause the bird to slip off the nest briefly.

On 5 August 1997, one chick was seen at the nest. On the next day, the chick was swimming. Often, it was offered fish that were too big for it to swallow. Two chicks were observed on 7 August. On the night of 8 August, a visiting sailboat ran over the nest tire in an attempt to moor at it. Bystanders informed the boaters of the nest and the boaters left. There was no sign of the other two eggs when the nest was checked by Edmondstone using a boat on 11 August. Once mobile, the grebe family seemed quite unperturbed by any human activity. These birds developed a following in the local community, with as many as 20 people at a time gathered to watch them.

There was an abundance of small fish for the growing birds. Rivalry for feeding was not

observed; on at least one occasion, a chick declined a fish offered by a parent. On 16 August 1997, the two chicks were photographed at the nest (Figure 2), one of the last times the nest was used. On 29 August, the chicks were observed catching insects. By early September 1997, the chicks were frequently left alone by their parents. The last sighting of all four birds was on 7 October. The remaining chick was last seen on 26 October. The adults remained until the end of November 1997, even chasing off a Horned Grebe (*Podiceps auritus*) on 26 November.

Additional Breeding Attempts

A pair of Red-necked Grebes engaged in nest building activity was observed on 8 June 1991 by Kevin A. McLaughlin (pers. comm.) on the lakeshore off Shoreacres (a.k.a. McNichol Park) in Burlington. The birds were gathering algae and bringing it onto an isolated part of a low concrete wall which was partly submerged and extended perpendicular from the shoreline. One of the birds also was observed sitting on the concrete wall at times. On the next visit to the site on 20 June (and subsequent visits over the next month), there



Figure 2: Red-necked Grebe with two chicks on a floating tire nest in Bronte Harbour, 16 August 1997. Photo by Gavin Edmondstone.

were no signs of a possible nest.

During a visit to the same Shoreacres site on 29 May 1994 by K.A. McLaughlin, Paul Pratt and others, a pair of Red-necked Grebes was briefly observed copulating (K.A. McLaughlin, pers. comm.). This site is about 1.2 km from the location of the nest found two months after this event (as described above), but it is unknown whether the same birds were involved.

On 4 July 1997, Dobos observed two Red-necked Grebes in nest building activity on the lakeshore off Sioux Lookout Park in Burlington. These birds were diving to retrieve vegetation, then carrying algae and small branches to a site on the shore behind a short concrete pier on the east side of the mouth of Roseland Creek. The actual site where the nest was being constructed could not be seen and was unapproachable since it was on private property. On subsequent visits over the following weeks, there were no signs of these birds and no indication of successful nesting.

Additional breeding behaviours have been observed amongst the summering grebes at Burlington on many occasions. Vocalizations of breeding calls have been heard regularly throughout the summer months (pers. obs.).

Discussion

Given the numbers of summering

Red-necked Grebes at the west end of Lake Ontario, it is not surprising that nesting attempts have been documented occasionally. The highly altered and developed nature of the shoreline in this area provides extremely limited nesting habitat for this species. Human activity, primarily from recreational boaters and jet skis, urban wildlife predators, and wave disturbance during storm events would all provide hazards to successful breeding and fledging of young. The recent successful nesting at Bronte Harbour occurred in an area that provided some shelter from some of these factors, since it was located within the outer harbour area which is protected from the waves of the open lake by an exterior rock breakwall.

Following the discovery of the first nests at Burlington in 1943, local members of the Hamilton Nature Club (HNC) started a program of providing artificial nesting platforms for these birds. The two nests found at Burlington in 1944 were built on floating wooden platforms specifically put out for the birds (Speirs et al. 1944). These platforms were placed behind a breakwall in Burlington Harbour (the current site of Spencer Smith Park) which provided some shelter similar to the current Bronte Harbour situation. The HNC continued to put out these nesting platforms until at least the early 1950s, as well as at sites in Dundas Marsh,

Hamilton-Wentworth, and at the west end of Hamilton Harbour, Hamilton-Wentworth (Benner 1952). However, no indication could be found that these structures continued to be used by nesting grebes during the 1950s.

In light of its status as a rare Ontario breeder, and given the recent nestings of Red-necked Grebes on artificial structures, as well as the continuing presence of summering grebes on Lake Ontario, it may be a worthwhile activity for wildlife agencies or local naturalist groups to undertake an artificial nesting structure program for this species at appropriate locations.

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Notes

Two Song Types of the Pine Grosbeak

Ron Pittaway

The song of the Pine Grosbeak (*Pinicola enucleator*) is described in much of the literature (see Bent 1968, Farrand 1983, Clement et al. 1993) as being like that of a Purple Finch (*Carpodacus purpureus*). On 16 February 1998, I watched an adult male Pine Grosbeak singing for about 10 minutes around 1515h at the Leslie M. Frost Natural Resources Centre in Haliburton County, Ontario. The weather was mild for February (about freezing) and sunny with no wind. The male was perched about 25 metres up, near the top of a Northern Red Oak (*Quercus rubra*), close to where several Pine Grosbeaks were eating sunflower seeds spread on the snow. It perched upright on the branch, once changing positions slightly. It sang almost continuously, with short pauses between songs. The song was similar to a Purple Finch's song, but slightly less loud, a little more varied, and long continued. I heard a shorter version of this song earlier in January 1998. This appears to be the "whisper singing" of Bent (1968) and Taylor (1979).

The function of this winter song is unknown. These Pine Grosbeaks were on winter range, long before the breeding season, and they also were outside their normal breeding

range. In the mid 1970s, I kept an adult male Pine Grosbeak (with a wing injured by a car) for three years in Algonquin Provincial Park. It also sang a similar "whisper song" in winter, on many occasions. However, it also had another much different song that it sang for an hour or two at dawn in April, May and into June. This song was a loud, "twanging" warble, much louder and much shorter than the winter song. It began and ended abruptly, and was repeated at very short intervals. This song was unlike the song of the Purple Finch. The season of this second song suggests that it is the territorial and breeding song. I believe that the two different songs described above are confused in much of the literature.

In summary, the Pine Grosbeak has two song types: a "whisper song" that is reminiscent of a Purple Finch's song and is sung in winter, and a much louder territorial song that is sung during the breeding season.

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I thank Ron Tozer for his comments and assistance in obtaining references.

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PRODUCT NOTICE

The Large Gulls of North America. 1997. The Advanced Birding Video Series (ABVS). Video Number 1. A Peregrine Video Production. \$34.95 US plus \$3.85 shipping, Visa and Mastercard accepted. Available from producer John Vanderpoel, phone toll free 1-888-893-2287 (ABVS) or e-mail <jvanderp@peregrinevideo.com> or visit website <<http://www.peregrinevideo.com>>.

This fabulous 119 minute video is jammed full of identification tips; even the experts will learn many new field marks. Narrated by Jon Dunn, the script was written by Larry Rosche and Jon Dunn with input from North American and Eurasian authorities on gulls. The video covers 13 species of large gulls: Herring, California, Great Black-backed, Lesser Black-backed, Yellow-legged, Western, Yellow-footed, Kelp, Glaucous-winged, Glaucous, Iceland, Thayer's and Slaty-backed. Subspecies (races) and several hybrids are also shown and discussed.

The introduction outlines gull topography, structure, plumage terminology and ageing characteristics. Most large gulls acquire their first adult winter plumage in their fourth year when they are about three and a half years old. For most species in the video, the juvenile, first winter, second winter, third winter, adult winter and adult breeding/summer plumages are shown and discussed. However, not all first, second and third summer plumages are shown. Timing of molts is mentioned for many species. Key identification features of each species are highlighted using arrows, stop action and split screen comparison shots of similar species in flight, perched and swimming. A video locator card allows you to fast forward and quickly find a particular species. The film quality is excellent.

Gulls are one of the most fascinating and challenging groups of birds in the world. The Large Gulls of North America video is the most important contribution to our knowledge of gull identification and ageing since the publication of Peter Grant's classic guide on gulls. This video is highly recommended.

White-winged Crossbills Foraging on Wood

Bill Crins and Doug McRae

The feeding ecology of crossbills has been studied extensively. They are best known for their ability to extract seeds from between the scales of conifer cones with their modified bills [in the case of White-winged Crossbills (*Loxia leucoptera*), especially from spruces (*Picea* spp.) and Eastern Larch (*Larix laricina*)]. They are known to eat the seeds of certain deciduous trees and shrubs, and herbs, as well as various insects (Benkman 1992, Terres 1982). The attraction to mineral sources (particularly sodium and calcium) by Red Crossbills (*Loxia curvirostra*) also is well documented (Tozer 1994). White-winged Crossbills also are attracted to mineral sources, particularly road salt (Benkman 1992, Terres 1982), but this behaviour is less fully documented in this species.

On 4 January 1997, the authors observed White-winged Crossbills engaged in peculiar foraging behaviour. A group of about 30 crossbills was observed visiting dead, decomposing coniferous tree snags [Black Spruce (*Picea mariana*) and Eastern Larch] along the edge of a low, open conifer swamp bordering Highway 60, near the East Gate, in Algonquin Provincial Park. The foraging or excavation was occurring well above water or ground

level (1 to 10 m above snow level). When engaged in this activity, the crossbills could be approached quite closely, to within 10 m or so. In fact, the birds seemed to be reluctant to leave these snags. Most of the activity was focused on two or three of the snags. In order to ascertain the attraction of these snags, we approached one of them, and found that there were numerous small wood fragments and chips over the surface of the snow below the snag. We also examined the freshly worked wood, but found no evidence of visible mineral deposits, nor of insects, fungi, or other visible organisms that might have been serving as a food source. Nevertheless, as soon as we moved a short distance away from this snag, the crossbills returned to it to continue working at the wood.

After mentioning our observation to others, Ron Tozer (pers. comm.) reported that he and Doug Tozer had made a similar observation in the Cache Lake marsh, also in Algonquin Provincial Park, on 19 February 1995. On that occasion, they observed four White-winged Crossbills (3 males, 1 female) apparently eating wood from a very soft, rotting stump about 1 m high. The stump was riddled with insect tunnels, but the crossbills apparently were eating the soft, exposed,

inner wood, which was removed with the tongue, while holding the bill open widely. In their observation, the crossbills also allowed close approach, to within about 2 m. Tozer (1994) also has observed Red Crossbills crawling over, and probing in the crevices of, a small stump that may have been previously submerged in muddy, roadside (mineral-rich?) water.

Benkman (1992) and Manville (1941) have noted that this behaviour has been observed in White-winged Crossbills, which have been seen clambering about on, and probing into, the bark and lichens on the trunks of trees. A possible explanation for similar behaviour observed in the Parrot Crossbill (*Loxia pytyopsittacus*) in Finland was proposed by Pulliainen et al. (1978). Analyses of wood from decaying logs on which Parrot Crossbills were feeding revealed that the outermost surfaces of those logs were rich in ash and calcium. Thus, crossbills appear to be attracted to mineral sources of various types, and this may provide a rea-

sonable explanation for the observations reported in this note.

Acknowledgements

We thank Ron Tozer, the Algonquin Park Visitor Centre Library, and the Ontario Ministry of Natural Resources Library in Peterborough for providing additional observations, comments, background information and/or literature on crossbill feeding behaviour.

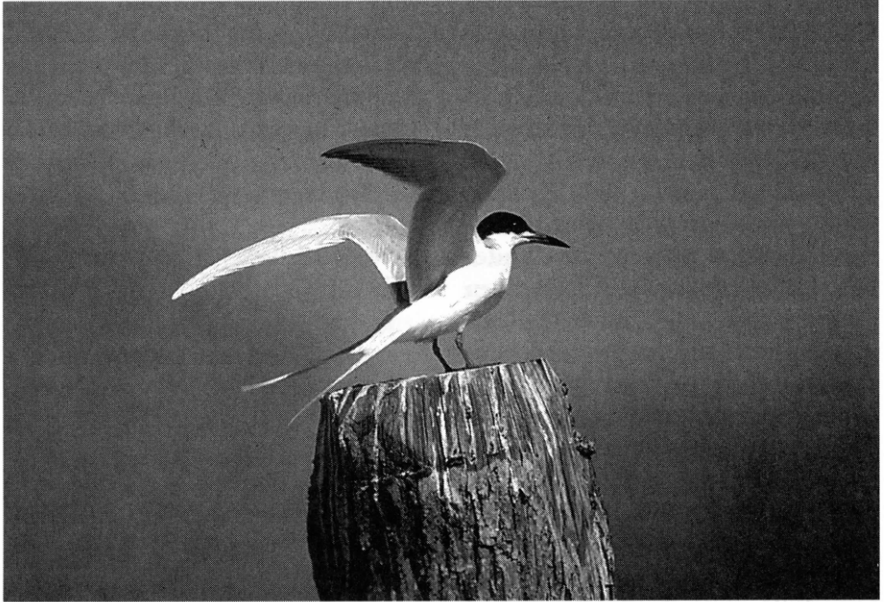
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Photo Quiz

Bob Curry



This white bird with long, slender, pointed wings and a forked tail, standing on a post, is clearly a tern. The bill is comparatively slender, with an unpronounced gonydeal angle. This, in combination with the light coloured legs, eliminates the larger terns such as Caspian, Royal and Sandwich. The Least Tern has a white forehead in all plumages, and the *Chlidonias* terns (Black, White-winged and Whiskered) are much duskier birds. To say that we are left with the intermediate *Sterna* terns is no small utterance, as these are among the most difficult identification challenges facing observers.

The four Nearctic species involved are Arctic, Common, Forster's and Roseate. Common Tern is widespread throughout Ontario, while Arctic breeds along the north coast, and Forster's in the large marshes of the extreme south and southwest of the province. Roseate must be considered in these deliberations; although it seems not to be doing well on its East Coast breeding grounds, it remains a possibility for Ontario.

With terns, establishing the age of the bird is paramount to correct identification. This bird has a solid black cap and lacks any duskiess

in the contour (body) feathering which might suggest immaturity. Nor does it have any blackish areas on the upper surface of the primaries which, in most species, occurs as a result of feather wear in late summer and is a precursor to the prebasic molt. Thus, this is an adult medium-sized *Sterna* tern in definitive alternate (adult breeding) plumage.

Some of the difficulties of tern identification are exacerbated when, as in this case, there is but one bird, precluding comparison with others. Nevertheless, based upon our memory pictures of thousands of terns, this bird seems rather lanky. The outer retrices are long; we can imagine that if the wings were folded up, these tail feathers would extend beyond-beyond their tips. In addition, the bill and legs seem rather long, and at the same time, quite stout even for these close congeners.

A persistent problem complicating tern identification involves light conditions. In bright sunshine and especially with dazzling reflection off water, subtle shades of grey will be bleached out. Conversely, underwings and bellies in dull light or in shadow can appear darker than they really are. Nevertheless, this bird seems bright white, particularly on the underparts, and the upper surface of the right wing is gleaming white; it is a lighter shade than the upper wing coverts and there is no black on the outer pri-

maries. The underside of the left wing reveals dark grey along the trailing edge of the primaries. The rump is whiter than the tail, and the outer web of the left outer retrix, which is directly facing us, is white.

Arctic Tern is the easiest of the four to eliminate. It has a shorter, more slender but straighter bill, with less downcurve to the culmen. It can have a little black at the bill tip, but this would not extend nearly as far towards the base as it does on the quiz bird. Arctic has a smaller, more rounded head and much shorter legs. Overall, it is a much greyer bird with no contrast on the dorsal surface of the wing, a fine black margin along the trailing edge of the underprimaries and much greyer underparts. The outer web of the outer tail feather is blackish.

Except for a short period when it is feeding chicks, Roseate Tern has a mostly blackish bill which is considerably more slender than on this bird. Hence, a Roseate in Ontario would almost certainly have an entirely dusky bill. The outer two primaries on the upperwing are boldly black, and the trailing edge of the underside of the wing is translucent, unlike the greyish trailing edge on this bird.

Our quiz bird is a **Forster's Tern**. Common and Forster's are the two species found regularly in southern Ontario and the two most likely to be confused. Common is grey on the breast and belly, whereas Forster's is white. But remember

the caveat about bright light. In the older field guides, much is made of bill and leg colour differences – more reddish in Common and more orange in Forster's. While this may frequently hold, do not rely on soft-part colours, which may vary from bird to bird. Just as well, inasmuch as we're dealing with a black and white photograph! Remaining with these parts, however, the bill on Common Tern is not so long or as stout as on this bird, and the legs are slightly shorter. The distal black on the bill on average extends farther towards the base on Forster's, as in this bird. The wing and tail proportions on Common Tern are different; the wings are longer (remember that Common is a much longer distance migrant than Forster's, which mostly winters in North America) and the tail shorter, so that the latter does not extend beyond the folded wingtips. In definitive alternate plumage, the upperwings in these two species are diagnostic. Unlike this bird, Common Tern shows a contrast between blackish outer primaries and paler inner ones. This is, however, less noticeable in spring and may

be difficult to discern on flying birds in bright light. However, it would certainly show as a dark wedge in the middle of the wing on a standing Common Tern, unlike the entirely flashing white wing in the photo. Again, the earlier guides discuss differences in the tail. I find this very difficult to determine in flying birds, but on this bird the white outer web of the outer tail feather serves to distinguish it from Common as, in this pose frozen by the camera, the outer edge of the tail would be blackish in Common.

It is instructive to closely study standing terns. There is, for instance, a subtle difference in the black caps of these two species. In Common, the lower edge of the cap is straight whereas in Forster's there is a slight downward bulge just below the eye, as seen in this bird. Moreover, the white wedge between the black cap and the gape is longer and broader in Forster's. Look for this in spring and note that the quiz bird has a broad white wedge.

This Forster's Tern in definitive alternate plumage was photographed by Michael Runtz at Sturgeon Creek, Leamington, in May 1982.

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