

Articles

The Black Scoter in Northern Ontario

by
R. Kenyon Ross

Introduction

The Black Scoter (*Melanitta nigra americana*) is a duck that can be found at various times of the year in many parts of Canada and yet it remains a species of considerable mystery. Unlike the European race (*M. n. nigra*), whose life history and distribution has been well documented (Cramp 1977), the North American race presents unanswered questions regarding such basic facts as breeding and wintering distributions. Godfrey (1986) still describes its Canadian breeding range in terms of local sightings scattered across the north. Description of the wintering distribution remains essentially at the qualitative stage and indicates that most of these scoters occur along the American coasts with particular concentrations around the Aleutians, and along the Atlantic shore of Georgia and the Carolinas (Bellrose 1980). The only other substantial concentrations of Black Scoters documented in North America are the flocks of moulting birds found along the coasts of James and Hudson Bays (Smith 1944; Manning 1952). An initial photographic survey of these birds (Ross 1983) enumerated a minimum of 88,700 male Black Scoters along the northern coast of Ontario during late July 1977. In 1991, an opportunity arose to undertake a

second survey of these flocks to monitor any changes in this segment of the population. These results are presented in this paper along with some observations of potential breeding pairs in northern Ontario.

Methods

The survey took place on 29 and 30 July 1991 and employed the timing and technique largely similar to that used in 1977 (Ross 1983). The flight was conducted in a DeHavilland DHC-6 Twin Otter flying at approximately 160 km/h and at least 150 m ASL so as not to cause diving by the ducks. As the flocks were visible from a considerable distance, total coverage was attempted by following a zig-zag course along the coast, covering a band extending from the shoreline to approximately 15 km offshore. Visibility was very good on both days. Weather conditions were as follows: 29 July (survey duration, 1100-1830h) - sunny, warm, winds light becoming moderate in late afternoon; 30 July (survey duration, 1100-1200h) - high overcast, warm, calm.

Almost all flocks were photographed with a hand-held 35mm camera (Olympus OM-2, 135mm lens, Kodachrome 64 film). The photographer sat in the copilot's seat of the aircraft which was flown directly over the flocks to allow for

an almost vertical camera angle. A second observer made visual estimates of the few small flocks that, because of their positions, could not be placed on the right side of the aircraft for photographing without undue and disruptive circling. The location of the aircraft throughout the survey was monitored by satellite navigation (GPS). The photographed ducks were enumerated by projecting the images of the flocks onto plain paper, and marking and afterwards counting all identifiable ducks. Where multiple photographs were needed to cover a larger flock, the resulting representations on paper were overlapped and boundaries established to eliminate double counting. The number counted should be considered a minimum as a few small flocks may have been missed and some birds may have been underwater at the moment of photography; feeding activity tended to subside toward the middle of the day, thus reducing the number diving (Ross 1983).

Results and Discussion

This survey revealed 69,910 male Black Scoters in moulting flocks along the actual Ontario coast of James and Hudson Bays with a further 17,620 off the mouth of the Kettle River in Manitoba (Table 1). This total for Ontario is substantially lower than that recorded in 1977 (88,700) although when one includes the Kettle River birds the totals are more comparable (91,200 in 1977; 87,530 in 1991). As it is possible that these ducks may from year to year use different moulting sites, particularly those near each other, it is probably best to compare overall numbers which would suggest that population

levels have changed little over this time period.

The distribution of the scoter flocks is illustrated in Figure 1, which shows the coastline divided into 16 sectors where the scoters occurred. All four locations that held scoters in 1977 were also used in 1991, although numbers at each site were quite different. The most southerly (Longridge Point - Sector 16) and northerly (Kettle River -Sector 1) held much higher numbers than before, while counts were lower in the other two (Ekwan to Hook Point - Sectors 8-14, and particularly Shell Brook -Sector 5). As well, four new sites were discovered during the present survey (Sectors 4, 6, 7, and 15), and flocks were seen fairly continuously from east of the Pen Islands to the Kettle River (Sectors 1 to 3), all of which suggest considerable variability over time in the use of moulting sites. It may be that intense use of certain sites sufficiently reduces food resources to cause redistribution of a portion of the birds. There have been no feeding studies of these moulting scoters although it is expected that they are eating molluscs such as the blue mussel (*Mytilus edulis*) and possibly the clam, *Macoma baltica*. Also, there is likely a sequential movement between moulting sites, probably from north to south, as birds regain the powers of flight; thus annual phenological shifts in the breeding cycle would also influence numbers in an area at any given time. This pattern of numbers peaking in late July and dropping during August was observed at Longridge Point (Ross 1983).

The origin of these ducks remains unclear although the relatively high

Table 1. Comparison of Results of 1977 and 1991 Surveys of Moulting Black Scoters along the Northern Coast of Ontario and Contiguous Manitoba.

Sector	Counts of Moulting Black Scoters	
	1991	1977
1	17620	2500*
2	2210	—
3	3950	—
4	1420	—
5	6180	43700
6	940	—
7	1250	—
8	7650	N/A
9	490	N/A
10	1730	N/A
11	8110	N/A
12	8610	N/A
13	5530	N/A
14	5520	N/A
Subtotal sectors 8 - 14	37640	42600
15	7730	—
16	8590	2400
Total	87530	91200

* Estimates taken from Vaught and Arthur in Bellrose 1980

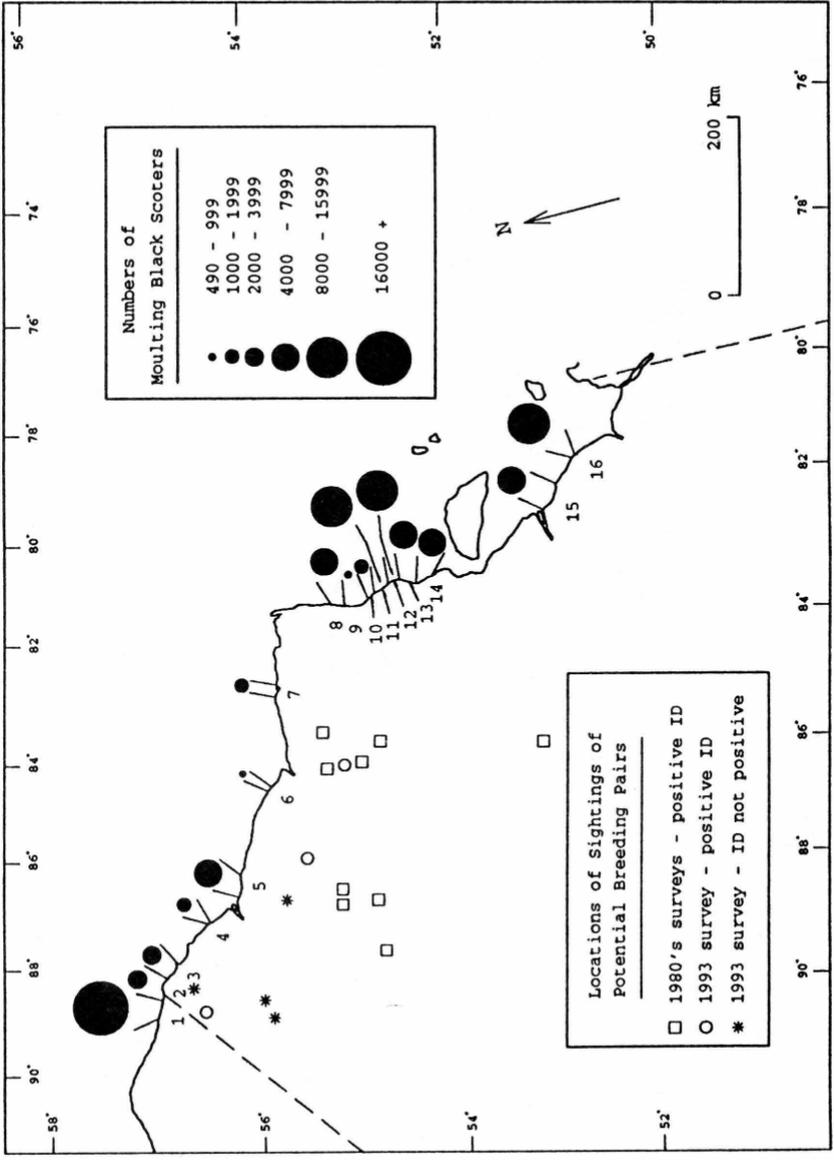


Figure 1: Distribution of moulting Black Scoters as determined during 1991 survey, and location of sightings of potential breeding pairs.

Table 2. Observations by R.K. Ross of Potential Breeding Pairs of Black Scoters in the Hudson Bay Lowlands of Ontario.

Observation	ID	Date	Coordinates	
	Confirmed (✓)		Lat.	Long.
1 pair	✓	May 21 1982	52° 42'	85° 14'
1 lone male	✓	June 01 1987	54° 18'	84° 51'
1 pair	✓	June 01 1987	54° 30'	85° 09'
1 pair	✓	June 01 1987	54° 51'	85° 07'
1 pair	✓	June 01 1987	54° 51'	84° 30'
1 pair	✓	June 02 1988	54° 30'	88° 32'
3 pairs	✓	June 02 1988	54° 31'	87° 36'
2 pairs	✓	June 02 1988	54° 52'	87° 37'
1 pair	✓	June 02 1988	54° 52'	87° 19'
2 pairs	✓	June 06 1993	54° 41'	85° 09'
3 pairs	✓	June 07 1993	55° 10'	86° 35'
4 pairs		June 07 1993	55° 25'	87° 24'
1 lone bird		June 07 1993	55° 40'	89° 32'
1 lone bird		June 07 1993	55° 45'	89° 17'
1 pair	✓	June 07 1993	56° 24'	89° 14'
2 pairs		June 07 1993	56° 28'	88° 51'

breeding densities recorded in the Lac Bienville area of northern Quebec (> 13 pairs/100 km²) by Savard and Lamothe (1991) point to that area as a possible source of moulters. To date, there has been no confirmed breeding record of Black Scoters in Ontario; however, I have made several observations of potentially breeding pairs in suitable habitat (see Table 2).

Most of my records were made during waterfowl breeding pair surveys of northern Ontario which employed a systematically located grid of survey blocks (methods and block locations described in Ross and Fillman 1990). A projection based on these samples yields a population estimate of 6500 pairs although this is very approximate given the high variance.

One should also note that these surveys took place in late May and early June while the first lone male Black Scoters did not arrive in the Lac Bienville area until 11 June (Savard and Lamothe 1991). It is, therefore, likely that many birds may not yet have arrived in northern Ontario, thus lowering the estimate of potential breeding numbers. It would still seem unlikely that an additional 80,000 breeding pairs of these scoters would return and yet go virtually unrecorded. Instead it is more probable that there are some local breeding concentrations of Black Scoters in the Hudson Bay Lowlands which are supplemented on the moulting grounds by Quebec birds, particularly along the James Bay coast.

The distribution of sightings of potential breeding pairs of Black Scoters is presented in Figure 1 and includes both my waterfowl survey observations from the 1980's and some records made by J. Leafloor and myself in 1993 during the course of a goose survey; records of probable Black Scoters from 1993 are also included for interest. Although coverage of the likely breeding area in the Ontario Hudson Bay Lowlands is not complete, the observations made so far do show some relationship to the moulter distribution in that they mostly occur near headwaters of rivers around whose estuaries the moulters congregate. Only the two southernmost sectors show no potential breeding pair records from the immediate hinterland and may indicate that these birds are mostly of Quebec origin. Clearly, specific surveys are needed throughout the Ontario lowlands both during nest

initiation (mid-June) and brood rearing (mid-July) to determine conclusively the status and abundance of this interesting species, and improve our knowledge of other late-nesting waterfowl.

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R. Kenyon Ross, Canadian Wildlife Service, Ontario Region
49 Camelot Drive, Nepean, Ontario K1A 0H3

Sharp-shinned Hawk Declines: An Inland Perspective

by
Allen Chartier

Much has been written about the declines of Sharp-shinned Hawk (*Accipiter striatus*) at coastal sites, particularly at Cape May, New Jersey (Kerlinger in *Winging It*, September 1993). Additionally, theories to explain the differences in the declines between the coastal and inland sites have been attributed to the higher proportion of adults at inland sites (Hawk Mountain data, after Heintzelman), noted as up to a 50/50 ratio. To date, there has not been any widely published data regarding the age ratio of Sharp-shinned Hawks migrating through the Great Lakes region. The purpose of this paper is to provide such information for Holiday Beach Conservation Area, Ontario to clarify the situation. In addition, reasons for these differences

and some potential causes of declines are discussed.

Season totals at Holiday Beach for Sharp-shinned Hawks have remained relatively stable over the past 20 years of organized counts. The 20 year average is about 13,000. Note the relative stability of the Holiday Beach totals compared with the extreme declines at Cape May against their 20 year average of about 32,000 (Figure 1).

Sharp-shinned Hawks have been aged on the wing by observers at Holiday Beach since 1988. Observer effort has been remarkably consistent, with between 90 and 95 days covered in each year. The ability to age birds has varied from year to year, and depends on many variables