

Tolling by breeding Brent and small Canada Geese

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*On 7 July 1989, three pairs of small Canada Geese *Branta canadensis hutchinsii* nesting on adjacent islets in a lake on Prince Charles Island (67.47 N, 76.12 W), in Foxe Basin, NWT, approached and moved after me as I waded out to inspect their nests. On 30 June 1991, about thirty Brent Geese *Branta bernicla nigricans* nesting on Rainy Island (67.44 N, 102.30 W), at the mouth of the Perry River, NWT, formed into a tight group on the water, approached me closely and followed me for several minutes as I walked along the shore. Small Canada Geese and Lesser Snow Geese *Anser c. caerulescens* that were also nesting on the island did not.*

Keywords: Tolling, Brent Goose, *Branta bernicla*, Canada Goose, *Branta canadensis hutchinsii*.

Slattery et al. (1998) have described activities by Lesser Snow Geese and Ross's Geese *A. rossii* that resembled 'tolling', the readiness of ducks to follow mammalian predators that was taken advantage of by the operators of duck decoys in north-west Europe. I report two additional examples provided by geese nesting in Arctic Canada.

In July 1989, a Canadian Wildlife Service (CWS) team carried out a survey of Prince Charles Island with the primary purpose of estimating the numbers of breeding waders. The surveys involved line transects in a low-flying helicopter, coupled with censuses of study plots carried out on the ground. During the transect surveys we also recorded the geese seen. At a long narrow lake behind the beach on the west coast of the island, I saw a mixed flock of

moulting snow geese including both *A.c.caerulescens* and *A.c.atlanticus*. As remarkably little has been recorded about the behaviour of moulting geese, I arranged to be taken to the lake by helicopter on 7 July. The arrival of the helicopter caused the moulting geese to leave the lake and run towards the horizon. About twenty small Canada Geese remained, on and around a series of islets extending from a peninsula projecting from the western shore. I decided to see whether any of these geese were still incubating at that late date. As I walked towards them, then began wading out to the islets, most of the geese flew. They circled over me, calling loudly, before settling on the water 2-300 m away. Two remained very close to the islets. Despite my presence, the male vigorously defended

his mate, sitting on a nest, against the approach of a second pair that had flown off with the others and now returned, calling and pitching between the nesting female and three more islets that also appeared to hold nests. As I waded out the sitting female left her nest which held two eggs, and joined her mate on the water. All four geese swam towards me and followed only a few metres away as I moved to the second nest, which held one egg. As I approached the third nest another pair flew in, the male calling loudly, to join the others in following me. That third nest and a fourth one contained no eggs but both were in good condition and apparently still in use. I attempted to reach a fifth nest on an islet well out into the lake, but had to turn back. All six geese remained near the nesting islets and, as I reached the shore, resumed threatening displays against each other. The first female returned to her nest while I was within 50 metres.

In 1991 I was a member of a CWS team trying to determine the numbers of geese breeding in the Queen Maud Golf Migratory Bird Sanctuary. The sanctuary is of about the same area as the Republic of Ireland and holds far more nesting geese, of five species, than any other in the world. The only practicable method of estimating their abundance is by helicopter line transects, with ground-truthing to detect biases in the detection of each species (Alisauskas & Boyd 1994). During a coastal transect we had put up several Brent Geese from offshore islands, most from Rainy Island at the mouth of the Perry River. I arranged to be taken there by helicopter on 30 June to find out how many Brent, and of which form, were nesting there, and to record their clutch sizes.

The arrival of the helicopter on the boulder beach at the inner (south) end of the island caused many gulls and geese to fly away. When I started to walk among the boulders on the west side of the island, searching for goose nests, I noticed a tightly bunched group of Brent swimming on the sea a little way off. As I moved towards them they swam towards me in exactly the same manner as ducks following a dog up a decoy pipe, then turned and followed me as I moved slowly north. They stayed no more than 10 metres offshore and called continuously, mostly quiet "rronks", with intermittent louder "wauks". When I went down to the shore about ten minutes after the tolling began, the Brent got up and flew off to the east. They had not returned when I left the island after a stay of two hours. I found 11 Brent nests with eggs. All the Brent I saw were of the dark-bellied Pacific form *nigricans*. (The Perry River must be close to the eastern limit of their breeding range.) I also found 14 occupied nests of small Canada Geese, presumably *hutchinsii*. Unlike those on Prince Charles Island, none of these nesting Canada Geese stayed on or near the island while I was there. Nor did any of the four nesting pairs of Lesser Snow Geese.

These chance observations provide little basis for discussion of why the Brent tolled me so persistently. The following behaviour of the Canada Geese on Prince Charles Island was less remarkable than their persistence in defending nest sites from each other in my presence. It must be unusual for nests with clutches of two, one and none to be defended strenuously as late as 7 July. Lake islets especially suitable for nesting by virtue of being fox-proof after the lake ice melts (probably not until well into June), are scarce on the islands in Foxe Basin, and are competed for by Brent

as well as Canada Geese. Perhaps they are valuable enough to defend, even after the partial or total loss of a clutch (probably to gulls), in order to help establish and maintain ownership in succeeding years.

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References

- Alisauskas, R. T. & Boyd H. (1994). Previously unrecorded colonies of Ross's and Lesser Snow Geese in the Queen Maud Gulf Bird Sanctuary. *Arctic* **47**(1): 69-73.
- Slattery, S. M., Samelius, G., Alisauskas, R. I., Danielson, J.R. & Moore, F. P. (1998). For whom the geese toll: aberrant or adaptive behaviour in Ross's *Chen rossii* and Lesser Snow Geese *Chen caerulescens caerulescens*? *Wildfowl* **49**: 242-244.



Trumpeter Swan *Cygnus buccinator*
by Helen Shackleton, WWT