

Snow Goose

Oie des neiges
Chen caerulescens

Jim Richards

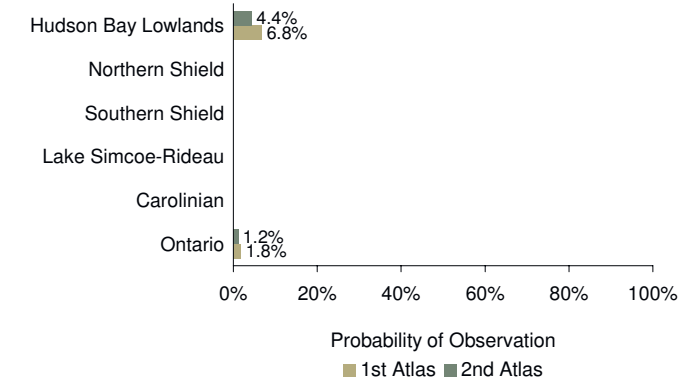
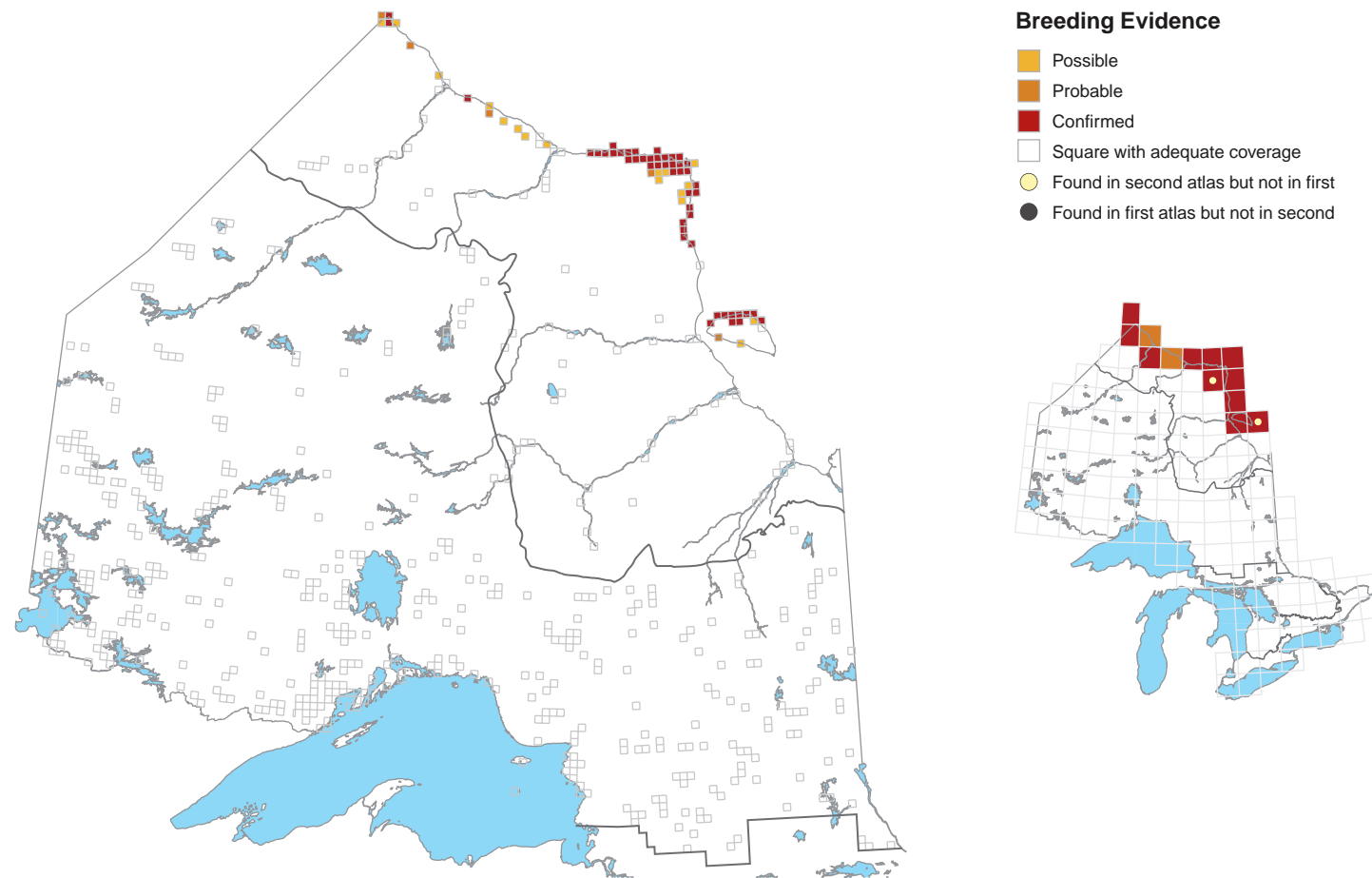


The Snow Goose is the most abundant goose in the world. It breeds from Wrangel Island in the Russian Far East to north-west Greenland, and as far south as James Bay (Mowbray et al. 2000). Although widespread, it nests in relatively few sites in persistent colonies, the largest being in the Canadian Arctic archipelago and on Wrangel Island. It winters from Washington and British Columbia south to Mexico and east to

the Mid-Atlantic States. The Lesser Snow Goose (*Chen caerulescens caerulescens*), the form that breeds in Ontario and James Bay, is the more abundant of the two subspecies overall.

Distribution and population status: The Snow Goose breeds on the Hudson Bay and James Bay coasts from the Pen Islands to Cape Henrietta Maria and south to Akimiski Island. Although the distribution of 100-km blocks with breeding evidence was nearly continuous, as in the first atlas, this masks great variation in relative abundance. The majority nest in four discrete colonies established in the late 1940s (Cape Henrietta Maria), 1960s (Akimiski Island), and 1980s (West Pen Island and Shell Brook) (Hanson et al. 1972; Abraham et al. 1999; Kerbes et al. 2006). About 1-2% of Ontario Snow Geese nest outside major colonies, frequently in estuaries with small islands and near small patches of salt marsh brood-rearing habitat along Hudson Bay and northwest James Bay.

The increase of the Snow Goose in North America, including Ontario, over the latter half of the twentieth century is well documented (Abraham and Jefferies 1997; Mowbray et al. 2000). The Cape Henrietta Maria colony grew threefold since the first atlas, and the smaller colonies doubled or increased from their initial establishment to hundreds or several thousands of pairs. However, overall Ontario numbers appear to have stabilized during the current atlas period, which is likely related to population management efforts in the mid-



continent migration and wintering areas, and possibly to habitat degradation.

Breeding biology: The Snow Goose forms lifelong pairs while on wintering areas (Mowbray et al. 2000) and can breed into its twenties (Cooke et al. 1995). On migration, the female stores much of the energy required to produce a clutch of three to seven eggs but can continue to do so on breeding areas when conditions permit. This strategy is insurance against poor conditions on the breeding grounds. Annual nest timing is highly correlated with spring weather and can vary annually by up to three weeks due to snow, ice, and melt-water cover conditions. Pairs defend small areas around the nest; spacing of about 5 to 30 m is usual, but can be as little as 1 m. High densities and conspicuous defence behaviour makes atlas breeding confirmation easy. Incubation takes about 24 days from clutch completion, and the goslings hatch synchronously within about a day. Both parents share brood-rearing duties over six weeks until fledging. Amalgamated brood flocks of tens to hundreds of pairs with young also make breeding confirmation simple. A minor complication for determining nesting distribution is the Snow Goose trait of walking tens of kilometres during brood rearing, making an observation of a family with pre-fledged young an inconclusive record of nest location. Strong family bonds are maintained until the next breeding season and sometimes beyond.

Abundance: Aerial surveys of the four Hudson Bay Lowlands colonies were made in 2005 to determine distribution and abundance (CWS and OMNR, unpubl. data). Estimates of colony size and distribution from 1997 surveys and colour morph compositions from banding during all atlas years at Cape Henrietta Maria and Akimiski Island were reported in Kerbes et al. (2006).

The Cape Henrietta Maria colony occupied parts of 24 squares in 2005 over a 100 km stretch of coast from Sutton River to the Cape, with an estimated 130,000 pairs, of which 64% were blue morph geese. In 1997, highest densities were 1,155 adults per km². The West Pen Island colony occupied portions of only two squares in 2005 but had 8,500 pairs. In 1997, it had the highest recorded densities of any colony (2,302 adults per km²). The Shell Brook colony changed substantially between 1997 and 2005. In 1997, it covered 7 km² in parts of two squares and contained 2,650 pairs at densities of up to 701



Goslings within a single clutch hatch relatively synchronously within 24-48 hours of each other. Photo: George K. Peck



On the Hudson Bay coast of Ontario, most Snow Goose nests are found within 10 km of the coast in willow-dominated tundra habitats. Photo: Ken Abraham

adults per km². However, in 2005 it had fewer than 1,000 pairs. The Akimiski Island colony stretched over five atlas squares at low density. There were 1,700 pairs in 1997 at densities up to 340 adults per km², but only approximately 1,000 pairs in 2005, with 77% blue morph. — Ken Abraham