Key Site 56: Mingan Islands–Pointe Pashashibou, Quebec

Location: 50°11'28"N, 63°16'28"W

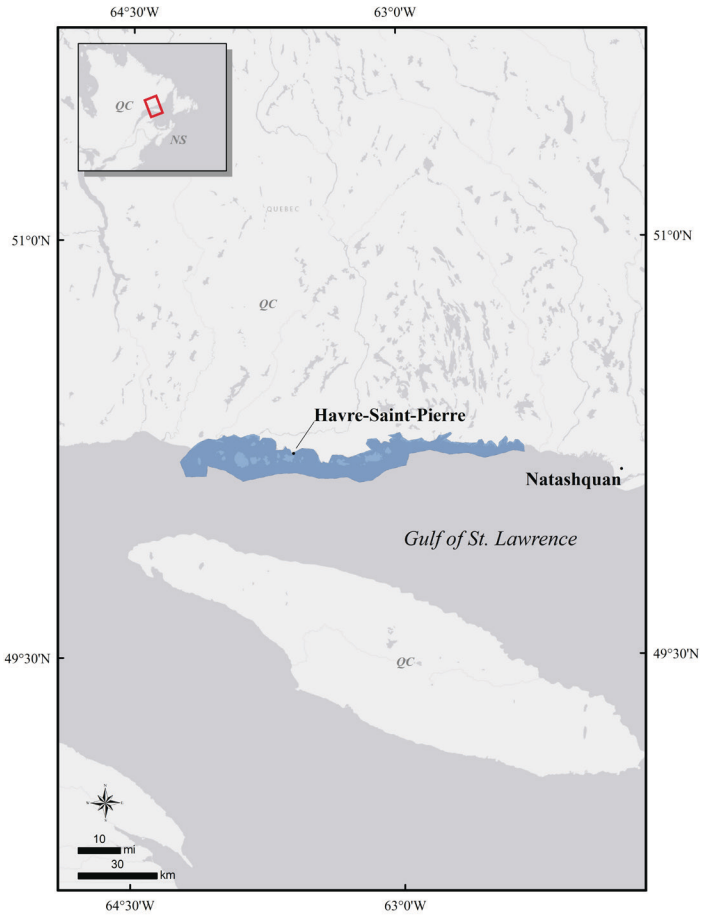
Size: 1328 km^2

Description: This key site represents a 150 km-long stretch of coastline along the north shore of the Gulf of St. Lawrence that is entirely within the Mingan Archipelago National Park Reserve. In its western half, from about Longue-Pointe-de-Mingan to 20 km west of Baie-Johan-Beetz, this key site encompasses a huge plateau of limestone bedrock consisting of 47 islands, most of which are forested, and islets, rocks, cays, and shoals. Most of the islands in the western half are located 1 to 6 km offshore. In its eastern half, from about 20 km west of Baie-Johan-Beetz to Pointe Pashashibou, the coast is mostly flat, granitic, and includes deep bays as well as numerous small islands, islets, and rocky shoals, most of which are more than 1 km from coast; terrestrial features consist mainly of rocky outcrops, mosses, and lichens.

Climate on the north shore is characterized by cold, long winters and short, cool summers. Waters around all the islands are biologically rich due to cold water upwellings, bringing great amounts of nutrients to the surface. The shoreline is generally locked up in land-fast ice during the winter, with areas of open water within the Mingan Archipelago and pack ice in surrounding waters. The largest village in the key site is Havre-Saint-Pierre (about 3000 inhabitants).

Precision and Correction of Abundance Estimates Presented: Abundance estimates for scoters and eiders from spring and molting surveys (Rail and Savard 2003, Bolduc and Savard 2011), and the winter surveys for Common Eider, have been adjusted to account for observer error in flock size estimation and incomplete detection following methods developed by Bordage et al. (1998). Otherwise, abundance estimates presented for this key habitat site have not been adjusted to account for incomplete detection or other biases. Abundance estimates should be treated as minimum estimates.

Biological Value: This key site is of high value for American Common Eiders (*Somateria mollissima dresseri*), which breed on the islands in large numbers during summer, and for Northern Common Eiders (*S. m. borealis*) that winter in the Mingan Archipelago. Both subspecies overlap for a few weeks in spring and fall. In spring, *S. m. dresseri* arrive in the key site from more southerly wintering grounds and *S. m. borealis* leave the area for more northerly breeding grounds; in fall, the opposite movement occurs, *S. m. borealis* replacing *S. m. dresseri* on site, so that there are Common Eiders present almost all year long in this key site.



In 2008, 2150 Common Eider nests were estimated on heath-covered islands and 4200 nests on forested islands of the western half of the key site (Troutet 2015, Troutet and Samson 2015). In 2010, 2135 nests were counted in the eastern half of the site (Y. Troutet, Parks Canada, pers. comm.), excluding two migratory bird sanctuaries that hosted 1650 nests and 3000 nests in 2015 (Canadian Wildlife Service unpublished data). Therefore, a rough estimate of at least 13,000 pairs breed in this key site; this corresponds to approximately 10% of the continental breeding population of *S. m. dresseri*. Two islands within the key site are of particular importance for breeding

Common Eiders, Innu and Fantôme, with 100 nests per hectare and 66 nests per hectare, respectively (Troutet and Samson 2015). A few pairs of Common Goldeneye (*Bucephala clangula*) and Common and Red-breasted mergansers (*Mergus merganser* and *M. serrator*) also nest near shallow ponds on the islands (Quebec Breeding Bird Atlas 2018).

Use of the key site during winter varies within and among years depending on the extent of sea ice cover. Winter surveys conducted in this area by the Canadian Wildlife Service produced estimates ranging from 23,131 Common Eider in 2009 to 55,226 in 2003. Over six years of winter survey data (2003, 2006, 2009, 2012, 2015, and 2018), an average of 41,105 Common Eider were estimated in this area (Canadian Wildlife Service Waterfowl Committee 2022).

Subspecies composition of wintering Common Eiders includes *borealis*, *dresseri*, and hybrid *borealis-dresseri*, but predominantly *borealis* (Canadian Wildlife Service unpublished data). Birds from the *borealis* population occupy the site for up to six months, from December until May (Mosbech et al. 2006). Long-tailed Ducks (*Clangula hyemalis*) are also seen in winter in groups of a few dozen to a few hundred. Red-breasted Mergansers, Common Goldeneyes, and King Eiders (*Somateria spectabilis*) are present in smaller numbers (Canadian Wildlife Service unpublished data).

During spring and fall migration, this key site supports large numbers of sea ducks (Lamb et al. 2020), especially Common Eiders, scoters, Long-tailed Ducks, and Red-breasted Mergansers. In spring, aerial surveys conducted between 2004 and 2010 provided minimal estimates of abundance within the key site: 11,500 eiders, 2800 scoters (*Melanitta* spp.), 800 mergansers (*Mergus* spp.), 400 Long-tailed Ducks, and more than 200 goldeneyes (*Bucephala* spp.) (Canadian Wildlife Service unpublished data). These counts do not account for turnover rates and the number of birds that use the site are much greater. Surf Scoters (*Melanitta perspicillata*) stage there in the fall (SDJV 2015, Lamb et al. 2020).

The key site is also an important molting area. More than 10,000 male Common Eiders molted there in August 2010 (Bolduc and Savard 2011). Other sea duck species using the key site in July and August include a few hundred each of Red-breasted Merganser, Surf Scoter, and White-winged Scoters (*M. fusca* and *M. perspicillata*; RQO et al. 2018). A few Harlequin Ducks (*Histrionicus histrionicus*), a species of concern, have been reported during fall around the Mingan Islands (RQO et al. 2018).

Sensitivities: Climate change could change vegetation characteristics on nesting islands (Parks Canada 2011). Abundant food resources allow for high seasonal use by sea ducks in this portion of the Gulf of St. Lawrence. Changes in these food resources (e.g., range shifts or local extinctions) could affect the entire food web; for example, blue mussels (*Mytilus edulis*) in the Gulf of Maine have already experienced a decrease of more than 60%, partly due to the increasing sea temperature (Sorte et al. 2017). Also, stretches of coast along the Gulf of St. Lawrence face erosion attributed to climate change, mostly related to reductions in ice cover (Bernatchez et al. 2008). Eiders nesting on heath-covered islands are more vulnerable than eiders breeding on forested islands because they are more exposed to wind and cold, predators, and poaching (Parks Canada 2011). Breeding and molting sea ducks are subject to disturbance from recreational boating and kayaking in the Mingan Islands; when disturbed, Common Eider crèches become more vulnerable to avian predators (Bolduc and Guillemette 2003). Aboriginal traditional eider egg collection occurs in portions of this key site.

Potential Conflicts: The port of Havre-Saint-Pierre receives large ships and barges as well as cruise liners; there is also an ilmenite ore terminal in the port. An oil spill happened in this port and the surrounding areas in April 1999: only 49 tons of bunker C were spilled from an ore carrier but local meteorological conditions aggravated the situation and many dozens of kilometers became oiled; about 1000 spring-staging Common Eiders were killed (Roberge and Chapdelaine 2000). Risks of aquatic pollution (e.g., chemical or oil spills), as well as disturbance and bird collisions, would undoubtedly increase as maritime traffic in the St. Lawrence Seaway increases, as proposed through the Quebec maritime strategy for 2020–2025 (MTQ 2021). This key site falls within a national park reserve that hosts about 35,000 visitors from June to August each year (Parks Canada 2011). Recreational boating and kayaking is an important activity within the National Park which disturbs eiders during the brood-rearing and molting periods. Poaching of seabird eggs and of ducks (mostly eiders)

has decreased due to increased surveillance by park personnel but remains a threat in this part of the Gulf of St. Lawrence.

Status: The Mingan Archipelago National Park Reserve (under Parks Canada), covers this entire key site. There are Migratory Bird Sanctuaries at Betchouane Archipelago (462 ha of islands and 500 m of surrounding marine waters) and the Watshishou Migratory Bird Sanctuary (10,673 ha; 90% water and 10% rocky outcrops). Both were established in 1925 to protect nesting areas for Common Eider and seabird colonies. Twenty-five Aquatic Birds Concentration Areas, designated by the Quebec government, cover about 75% of the coastline of this key site (*Aires de concentration d'oiseaux aquatiques*; MELCC 2021). There are eight Important Bird Areas included in this key site, mostly for their importance to seabird colonies (QC066, QC072, QC073, QC074, QC076, QC078, QC149, and QC159; IBA Canada2021).

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Common Eiders wintering in sea ice. Photo: Christine Lepage.