

Key Site 52: Cap Marteau–Matane (Southeastern St. Lawrence Estuary), Quebec

Location: 48°32'44"N, 68°24'12"W

Size: 489 km²

Description: This key site covers the shoreline and subtidal areas for 140 km along the south shore of the Lower Estuary of the St. Lawrence River, Quebec. It extends from Cap Marteau eastward to Matane, and includes Bicquette Island (17 ha), a forested island with rocky shore about 8 km offshore. The key site has a shallow, gradually sloping shoreline with substrates that vary from mud in the western section to bedrock in the eastern section. Rimouski is the largest city in the key site and there are also many smaller touristic villages along the south shore of the St. Lawrence Estuary.

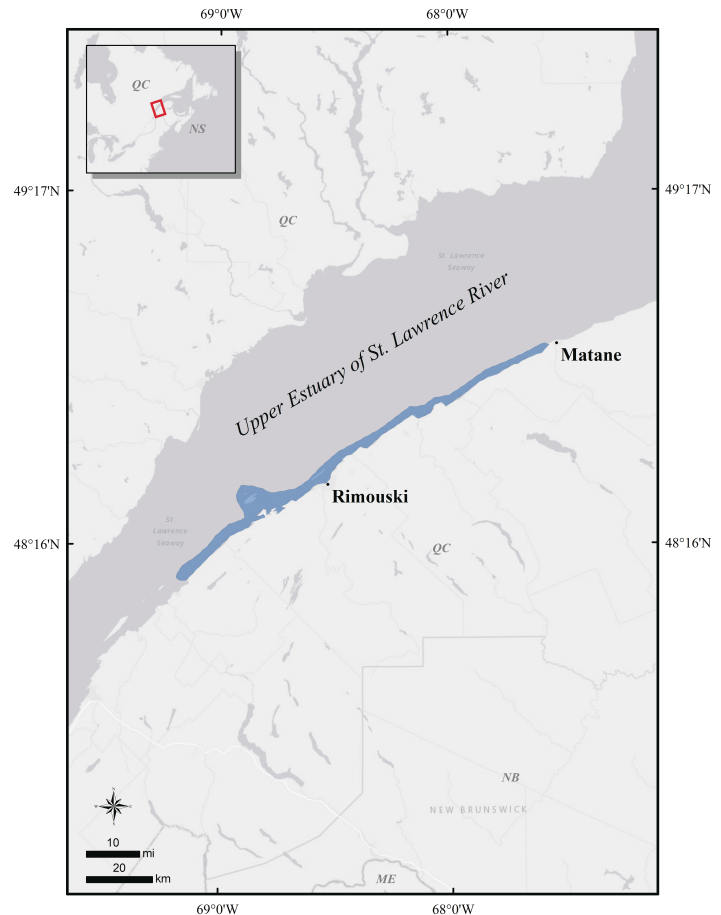
This portion of the estuary is generally frozen during the winter or covered by wind-driven pack ice in winter; however, icebreakers maintain the shipping lane between the Gulf of St. Lawrence and the St. Lawrence Seaway.

Precision and Correction of Abundance

Estimates Presented: Visual estimates of molting scoters have been photo-corrected (Rail and Savard 2003). Otherwise, abundance numbers presented for this key habitat site have not been adjusted to account for incomplete detection or other biases and should, therefore, be considered minimum estimates of population size.

Biological Value: This key site supports continentally significant numbers of breeding Common Eiders (*Somateria mollissima dresseri*), spring and fall staging Barrow's Goldeneyes (*Bucephala islandica*), as well as molting and staging scoters (*Melanitta* spp.).

The largest Common Eider colony in North America is on Bicquette Island, Quebec. From 1997 through 2001, the colony averaged 12,300 ± 900 nests (Canadian Wildlife Service unpublished data), but numbers were reduced through a severe avian cholera event in the St. Lawrence Estuary in 2002. The size of the colony has been slowly increasing between 2002 and 2019 (Giroux et al. 2021) with an average colony size of 5000 ± 480 nests between 2014 and 2018 (Canadian Wildlife Service unpublished data). There are 800 to 1000 Common Eider nests on La Razade d'en Haut and La Razade d'en



Bas (Duvetnor unpublished data), two rocky islands about 2 km offshore, and another 350 nests on smaller islets (BIOMQ 2018), resulting in about 15% of the continental population of *S. m. dresseri* breeding within the key site. The extensive intertidal areas along the mainland coast are rich in marine invertebrates and are the primary brood-rearing area for Common Eider (Diéval et al. 2011). During this critical period, the ducklings' diet consists of 30 to 97% gastropods (*Littorina* spp.; Cantin et al. 1974). The area around Matane also supports nonbreeding and failed breeding female and molting male Common Eiders. rapidly leave Bicquette Island after hatching to flee heavy gull predation and move to the south shore where foraging areas abound and avian predation diminishes (Diéval et al. 2011). During this critical period, the ducklings' diet consists of 30 to 97% gastropods (*Littorina* spp.; Cantin et al. 1974).

During spring migration, maximum counts of about 3000 Common Eiders and about 3000 scoters (*Melanitta* spp.) have been observed in the key site (Canadian Wildlife Service unpublished data).

These counts greatly underestimate the use of the key site by migrating sea ducks, because large portions of the Common Eider and Atlantic populations of scoters pass through this region in spring (Lamb et al 2020, Lamb et al. 2021). As many as 30,000 Common Eiders and 30,000 to 50,000 scoters may pass through the site (C. Lepage, Canadian Wildlife Service, pers. comm.). Smaller numbers (a few dozen) of Red-breasted and Common mergansers (*Mergus serrator* and *M. merganser*) and Common Goldeneyes (*Bucephala clangula*) also transit through the key site (Canadian Wildlife Service unpublished data). About 800 Barrow's Goldeneye, whose eastern population is listed as a species of special concern by the Committee on the Status of Endangered Wildlife in Canada, stage during spring in a few spots in the key site, including Anse à Mercier, Rocher Blanc, and Baie Mitis (Robert et al. 2003, Bourget et al. 2007); individuals may be observed on site as early as late February (or as soon as intertidal areas become ice-free, depending on yearly conditions) until late April or early May (Bourget et al. 2007, Savard and Robert 2013).

Scoters also molt in the key site: about 12,000 individuals were estimated in this part of the estuary during an aerial survey in 1998, most of which were thought to be Surf Scoters (Rail and Savard 2003). These molting birds were concentrated from Cap Marteau and the Razade islands to Cap à l'Original. White-winged Scoters (*M. fusca*) also molt in July and August in the key site, including the Razade islands, Saint-Simon-sur-Mer, and Anse à Mercier (SDJV 2015, Lepage et al. 2020).

From late summer through late fall, Common Eiders occur in the key site, with dozens to hundreds seen at Anse à Mercier, Baie Mitis, Anse du Petit Mitis, and Sainte-Flavie (Robert et al. 2003). Hundreds of Common Goldeneyes, Long-tailed Ducks (*Clangula hyemalis*), and Red-breasted Mergansers also frequent the key site during late summer and fall (Robert et al. 2003, Bourget et al. 2007).

Barrow's Goldeneyes arrive during the first two weeks of October, with 400 to 500 using the areas at Anse à Mercier, Baie du Ha! Ha!, Baie Mitis, and Anse à Capelans up to late December (Robert et al. 2003) or until they are forced out by ice conditions (Bourget et al. 2007).

Many Surf Scoters and White-winged scoters also stage in the key site during fall, most from late September to early November (SDJV 2015, Lamb et al. 2020). Some White-winged Scoters molt and stage in the key site, arriving in early July and leaving in late fall (Lepage et al. 2020). Among the preferred fall staging sites are the Razade islands, Saint-Simon-sur-Mer, Anse à Mercier, offshore Havre du Bic, offshore Île Saint-Barnabé, and Baie Mitis (Canadian Wildlife Service unpublished data). Groups of 3000 to 4000 Surf Scoters have been reported at Anse à Mercier in October 2001 (Robert et al. 2003).

Sensitivities: The south shore of the St. Lawrence Estuary is vulnerable to coastal erosion and subsidence as a consequence of recent reductions in ice cover on the St. Lawrence and the higher frequency and severity of winter storms (Conseil du Saint-Laurent 2018). This will likely affect littoral characteristics and benthic communities important to sea ducks. Common Eider colonies are vulnerable to avian cholera outbreaks in the St. Lawrence Estuary: a significant outbreak in 2002 killed nearly 20% of breeding females (Joint Working Group on the Management of the Common Eider 2004). Great Black-backed Gulls take large numbers Common Eider ducklings as they depart the colony on Bicquette Island. The impact of gull predation on annual production from the colony is unknown but may limit the colonies' potential to recover from cholera. Breeding females and foraging broods are very sensitive to disturbance from recreational boating and kayaking (Bolduc and Guillemette 2003). There is also disturbance and loss of habitat associated with harvests of sea urchins and rockweed. In warm years (expected more often due to global warming), blooms of phytoplankton in the St. Lawrence increase the risk of toxic algal blooms which has resulted in mortalities of Common Eiders (Starr et al. 2017).

Water quality in this part of the St. Lawrence is compromised due to anthropogenic bacterial contamination, consumption softshell clams and mussels is regularly closed because of human health risks (Working Group on the State of the St. Lawrence Monitoring 2015).

Potential Conflicts: The St. Lawrence River is among the world's most important commercial

waterways, linking the Atlantic Ocean to the Great Lakes. There is an ever-present risk of oil spills due to the high volume of marine traffic, and traffic will likely increase given the 2015–2030 Quebec Maritime Strategy for the St. Lawrence system (MTQ 2021). Harvesting of sea urchins and rock-weeds, and potential mussel farming, can create conflicts with locally foraging eider broods and molting eiders (Diéval et al. 2011, Savard and Lepage 2013). There are high levels of use of the coastline by recreational boaters and kayakers, and although visitation of migratory bird colony islands is prohibited during the nesting season, there are disturbances caused by some uninformed recreationists who visit colonies. Eiderdown harvest is allowed on Bicquette Island by permit only, which requires the holder to follow strict guidelines to limit disturbance of eider females and broods (Bédard et al. 2008).

Status: Large portions of the key site are under some level of protective status. Bicquette Island is part of the Estuary Islands National Wildlife and the Pointe-au-Père National Wildlife Area, coastal areas that support thousands of migratory birds during their migration and nesting periods. Île aux Basques Migratory Bird Sanctuary includes two of the Razade Islands, which are owned by the Société Provancher. The Quebec Parc National du Bic protects 33.2 km² of terrestrial and marine habitats between Saint-Fabien and Le Bic. The marine section of the park encompasses several bays that become large tidal flats at low tides. There are also 44 Aquatic Birds Concentration Areas, designated by the Quebec government, cover almost all the coastlines within this key site, including islands (*Aires de concentration d'oiseaux aquatiques*; MELCC 2021). Finally, four Important Bird Areas are found in the key site, including one for Bicquette Island and one for the Razade islands, due to their importance for colonial breeding Common Eiders and other birds (QC040, QC041, QC045 and QC046; IBA Canada 2021).

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