

Key Site 36: Frobisher Bay, Nunavut

Location: 61°58'38"N, 64°39'31"W

Size: 14,646 km²

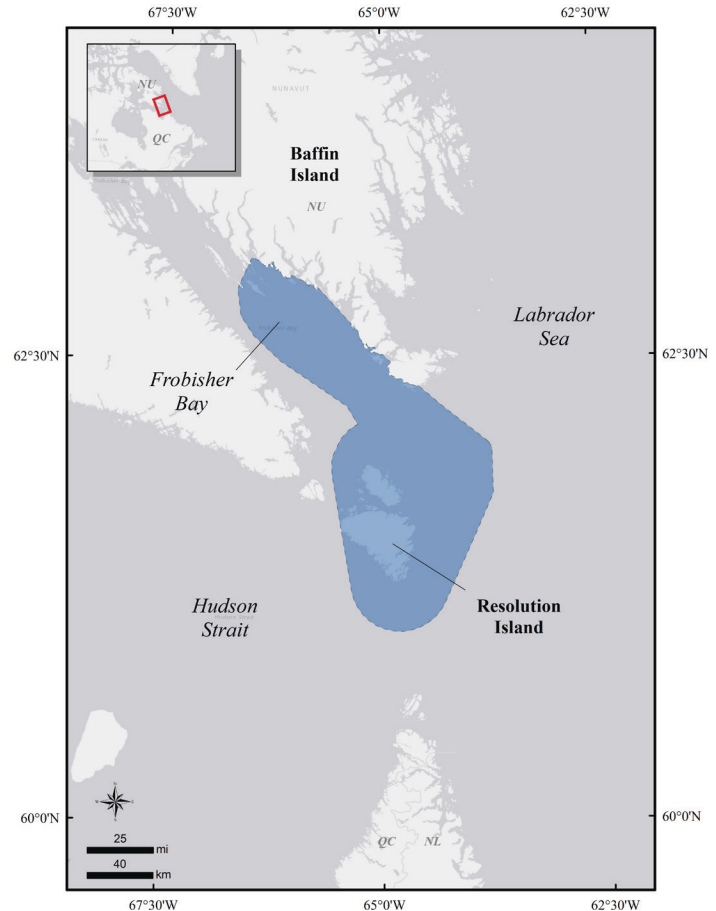
Description: Frobisher Bay is a relatively shallow bay running approximately 200 km northwest to southeast in southern Baffin Island, just north of Hudson Strait. A large polynya forms here annually (Stirling and Cleator 1981); its size and shape vary according to ice and wind conditions. Islands are numerous, particularly along the north side of the bay and extending through to Loks Land and Resolution Island. Many small polynyas are found among these islands. A key terrestrial habitat site, Hantzsch Island, occurs here. This is a small, dome-shaped island located approximately 1 km off the northeastern shore of Edgell Island, at the mouth of Frobisher Bay (Alexander et al. 1991, Latour et al. 2008).

Frobisher Bay is in the Low Arctic oceanographic zone (Nettleship and Evans 1985). It exhibits the second highest tides in Canada (regularly over 10 m). Ice freeze-up usually begins in late October or early November, but the timing varies greatly among years. The edge of the polynya may be 20 to 100 km south-east from the city of Iqaluit (M. L. Mallory, pers. obs.). Ice breakup begins in April near open water, and the entire bay is usually navigable by early July, although large pans of ice may persist into late July.

Precision and Correction of Abundance

Estimates Presented: Abundance estimates presented for this key habitat site have not been adjusted to account for incomplete detection or other biases. Abundance estimates should, therefore, be treated as minimum estimates.

Biological Value: Significant concentrations of marine birds are distributed throughout this region, depending on the annual patterns of ice breakup and the distribution of prey (McLaren Atlantic Ltd. 1978, Riewe 1992). Frobisher Bay is an important nesting, feeding, and migration stopover for Common Eiders (*Somateria mollissima borealis*) (Abraham and Finney 1986, Fontaine et al. 2001, Iverson et al. 2014). Many thousands of eiders were observed around Resolution Island, Loks Land, and the tips of the Meta Incognita and Hall peninsulas in 1977 (McLaren Atlantic Ltd. 1978). Harlequin Duck



(*Histrionicus histrionicus*), a species at risk in Canada, occurs in Frobisher Bay in unknown numbers (Mallory et al. 2001). Many other species, including Canada Goose (*Branta canadensis*) and Long-tailed Duck (*Clangula hyemalis*), are common in Frobisher Bay, but their abundance and distribution have not been assessed. Sea ducks occur in this marine area with highest concentrations from early May to October, although migrating sea ducks may be found in open water areas earlier or later in the season (Riewe 1992).

Sensitivities: Nesting sea ducks are sensitive to disturbance and the pollution of their feeding areas.

Potential Conflicts: Davis Strait has the potential to become a marine shipping route and an area of hydrocarbon exploration and development (Imperial Oil Ltd. 1978, Petro-Canada Ltd. 1979, Arctic Council 2009). In 2016 Canada designated the Arctic waters indefinitely off limits to new offshore oil and gas activities and in 2019 suspended the terms of all active oil and gas licenses in the western and eastern Arctic offshore areas. The complex nature

of currents in the region suggests that oil spills in southern Davis Strait could enter this marine area (Barry 1977). Increased ship traffic attributable to the needs of the growing community of Iqaluit could contribute to higher disturbance of birds, as well as increased chance of pollution and collisions.

Status: Frobisher Bay is part of a Key Marine Habitat Site (Site 28; Mallory and Fontaine 2004) and surrounds a Canadian Important Bird Area on Hantzsch Island (NU025; CEC 1999). Surrounding coastlines include crown and Inuit-owned lands, whereas the marine waters are under federal jurisdiction.

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