

Key Site 35: Markham Bay, Nunavut

Location: 63°39'42"N, 72°30'4"W

Size: 4721 km²

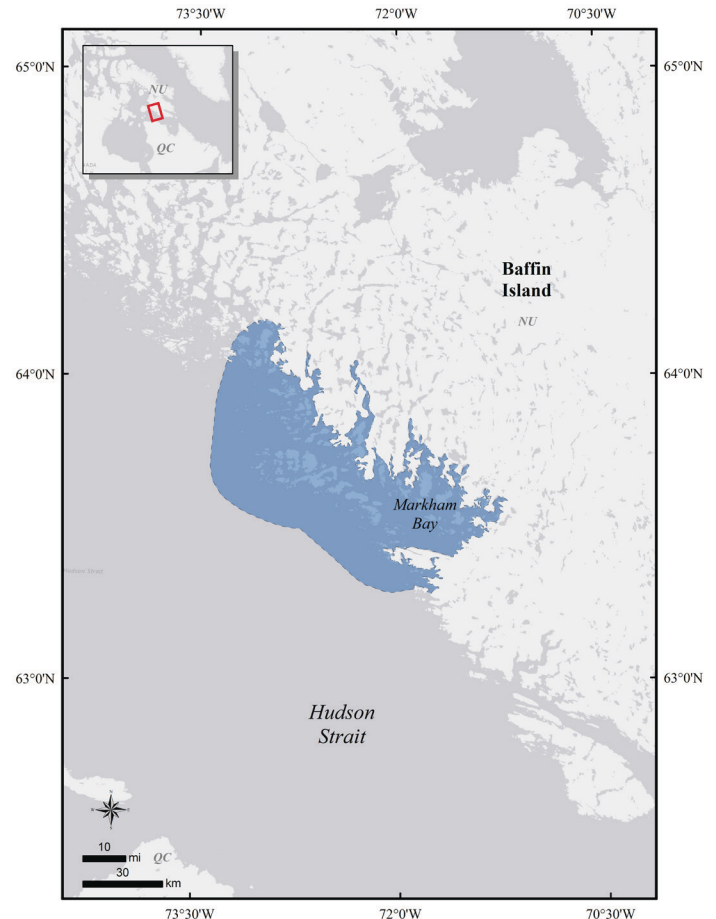
Description: Markham Bay is an island-studded area south of Baffin Island, about midway between the communities of Kimmirut (Lake Harbour) and Kinngait (Cape Dorset). It is located to the east of the former Cape Dorset Migratory Bird Sanctuary and is situated along the northern coast of Hudson Strait.

Markham Bay lies in the Low Arctic oceanographic zone (Nettleship and Evans 1985). Main currents flow east through Hudson Strait (Larnder 1968). Ice freeze-up usually occurs by mid-October, although the ice remains unconsolidated. Mobile pack ice dominates Hudson Strait from January to April, with landfast ice formed around coastlines (Larnder 1968). Ice breakup begins in April near persistent shore leads, such as the lead that opens along southern Baffin Island; by May, large patches of open water occur. Patterns of ice breakup and the location of the floe edge can change considerably in different years (McDonald et al. 1997). Little ice remains by 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: This site supports a large portion of the breeding population of Northern Common Eider (*Somateria mollissima borealis*) in Hudson Strait. Gaston and Cooch (1986) observed a minimum of 8000 eiders staging off the ice edge between Cape Dorset and Markham Bay in April 1982, and estimated that 10,000 pairs bred along this section of Baffin Island. Aerial and boat surveys conducted in 1997 and 1998 recorded 44,500 Common Eiders (3% of the continental population; NAWMP 2012) along this coast, and over 4000 nests per year in Markham Bay (Gilchrist et al. 1998, Gilchrist et al. 1999). Eider colonies are typically small and distributed across many islands. They are also susceptible to high annual fluctuations in success due to predation, and probably experienced higher use by humans when



the settlement of Amadjuak was extant. Common Eiders occur in this area from April through October (MacLaren Marex Ltd. 1979, Gaston and Cooch 1986).

Sensitivities: Sea ducks congregate in open ice leads and over key foraging sites, where they are susceptible to disturbance and to pollution of their foraging and migration areas. Offshore foraging areas are susceptible to pollution and disturbance from increased ship traffic.

Potential Conflicts: Proposed year-round shipping could impact sea ducks in the area, particularly during breeding and molting seasons, when they are most vulnerable to disturbance. Increased ship traffic increases the risk of oil spills, collisions, and habitat degradation.

Status: Markham Bay is part of a Key Marine Habitat Site (Site 25; Mallory and Fontaine 2004) and a Key Terrestrial Habitat Site (Site 48; Latour et al. 2008). Surrounding coastlines include crown

and Inuit-owned lands, while the marine waters are under federal jurisdiction.

Literature Cited

- Gaston, A. J., and F. G. Cooch. 1986. Observations of Common Eiders in Hudson Strait: Aerial surveys in 1980–1983. In A. Reed (ed.), *Eider ducks in Canada*, pp. 51–54. Canadian Wildlife Service Occasional Paper No. 47, Ottawa.
- Gilchrist, H. G., D. Kay, B. Barrow, S. Gilliland, and M. Kay. 1998. Distribution and abundance of the Northern Common Eider (*Somateria mollissima borealis*) off southern Baffin Island. Unpublished report, Canadian Wildlife Service, Yellowknife. 22 pp.
- Gilchrist, H. G., D. Kay, M. Kay, and B. Barrow. 1999. Distribution and abundance of the Northern Common Eider (*Somateria mollissima borealis*) off southern Baffin Island, 1999. Unpublished report, Canadian Wildlife Service, Yellowknife. 15 pp.
- Larnder, M. M. 1968. The ice. In C. S. Beals (ed.), *Science, history, and Hudson Bay*, vol. 2, pp. 318–341. Department of Energy, Mines, and Resources, Ottawa.
- Latour, P. B., J. Leger, J. E. Hines, M. L. Mallory, D. L. Mulders, H. G. Gilchrist, P. A. Smith, and D. L. Dickson. 2008. Key migratory bird terrestrial habitat sites in the Northwest Territories and Nunavut. Canadian Wildlife Service Occasional Paper No. 114.
- MacLaren Marex Inc. 1979. Report on aerial surveys of birds and marine mammals in the southern Davis Strait between April and December, 1978. Vol. 1, Birds. Unpublished report for Esso Resources Canada Ltd. and Arctic Petroleum Operators Association, Calgary. 148 pp.
- Mallory, M. L., and A. J. Fontaine. 2004. Key marine habitat sites for migratory birds in Nunavut and the Northwest Territories. Canadian Wildlife Service Occasional Paper No. 109, Iqaluit.
- McDonald, M., L. Arragutainaq, and Z. Novalinga. 1997. *Voices from the bay*. Canadian Arctic Resources Committee, Ottawa. 98 pp.
- Nettleship, D. N., and P. J. Evans. 1985. Distribution and status of the Atlantic Alcidae. In D. N. Nettleship and T. R. Birkhead (eds.), *The Atlantic Alcidae*, pp. 53–154. Academic Press, London, U.K.
- North American Waterfowl Management Plan (NAWMP). 2012. *North American Waterfowl Management Plan: People Conserving Waterfowl and Wetlands*, pp. 37–38.