

Key Site 24: West Banks Island Lead, Northwest Territories

Location: 73°13'23"N, 125°6'38"W

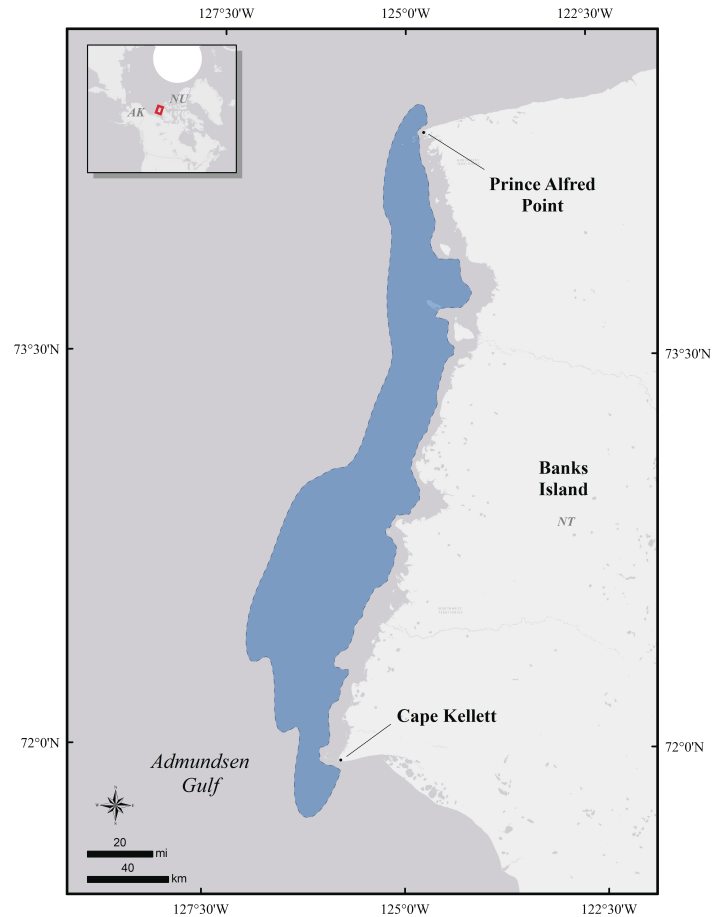
Size: 8540 km²

Description: The West Banks Island Lead is located along the western coastline of Banks Island, in the eastern Beaufort Sea. It is characterized by a flaw lead (open water between mobile pack ice and stationary landfast ice) along the island's coast that extends from Cape Prince Alfred at the northwest tip, south to Cape Kellett. Open water typically appears in late May and persists until freeze-up in December, with small patches remaining through most of the winter. The open water off Banks Island may join with the Admundsen Gulf–Cape Bathurst polynya or other leads that occur along the south coast (Stirling and Cleator 1981). Breakup, characterized by progressive widening of the lead, occurs rapidly in June, beginning at the southernmost tip and progressing northward (Smith and Rigby 1981, Alexander et al. 1997).

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: Historically, ice conditions in the Beaufort Sea have been consistent from year to year (Alexander et al. 1994). The recurrent flaw lead off the western coast of Banks Island is an important staging area for migrating sea ducks. The most critical areas within the lead are those with depths between 10 and 40 m (Dickson and Smith 2013). King Eiders (*Somateria spectabilis*) stage at this site during the first two weeks in June before arriving on the breeding grounds (Dickson 2012a). More than 16,000 King Eiders were observed in the area north of Cape Kellett (Barry and Barry 1982) and as many as 95,000 birds were observed in a single day along the coast (Barry 1986). Surveys during the early 1990s observed 39,000 birds in the same area (Alexander et al. 1997). Larger numbers of King Eiders and Common Eiders (*Somateria mollissima*) use the Banks Island lead in years when ice conditions are unfavorable in the southeastern Beaufort Sea (Barry and Barry 1982).



Locally breeding King Eiders also use the flaw lead as a primary staging area prior to molt migration (Dickson 2012a). Male birds arrive in this area in late June, and females typically arrive by mid to late July and stage for two to four weeks (Dickson 2012b).

More than 1000 Common Eiders have been observed along the western coast of Banks Island north of Cape Kellett (Alexander et al. 1988a). Although occurring in higher densities inland on Banks Island, Long-tailed Ducks (*Clangula hyemalis*) are present in low numbers along this site (Alexander et al. 1988b).

Populations of many sea duck species have been in decline in the western Arctic since the 1970s (Dickson and Gilchrist 2002), making recognition and conservation of their habitat of even greater importance.

Sensitivities: Migrating sea ducks are heavily dependent on open leads for feeding and resting.

In a warming and increasingly variable climate, unpredictability of access to leads and open water areas may be enhanced by greater effects of shifting winds on unconsolidated ice, which could result in severe negative impacts on the birds (Lovvorn et al. 2015). Sea ducks aggregate in large flocks at off-shore foraging areas, increasing their vulnerability to pollution and disturbance from increased ship traffic. The degradation of these open water areas could result in substantial negative impacts on western King Eider populations.

Potential Conflicts: The area west of Banks Island is subject to comparatively little resource exploration compared to the offshore drilling and ship traffic that occurs throughout the Mackenzie Delta and Tuktoyaktuk Peninsula areas to the south (Alexander et al. 1997). The area currently has no active exploration licenses for oil and gas development (Dickson and Smith 2013). Potential exploitation of hydrocarbon resources in the Beaufort Sea increases the possibilities of oil spills in these sensitive areas. 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 moratorium will be in place until a review process for existing licenses is completed, which is expected in 2022. Warming temperatures in the Arctic may change the size and location of leads and alter the food resources within these sites for sea ducks (Dickson and Gilchrist 2002).

Status: This key site is within the Western Banks Island Ecologically and Biologically Significant Area (EBSA) in the northern region of the Beaufort Sea Large Ocean Management Area (LOMA) (DFO 2014). The area also falls within Banks Island Westerly Gradient Eco-Unit, characterized by 29% fast ice and mixed depths throughout its area (Hodgson et al. 2015). This site overlaps with three proposed Priority Conservation Areas (PCAs): the Banks Island slope, the Banks Marine Bird Sanctuary, and the Cape Prince Alfred area (DFO 2015). Marine waters of the West Banks Island lead are under federal jurisdiction.

Literature Cited

- Alexander, S. A., T. W. Barry, D. L. Dickson, H. D. Prus, and K. E. Smyth. 1988a. Key areas for birds in the coastal regions of the Canadian Beaufort Sea. Canadian Wildlife Service Technical Report CWS-8803. 151 pp.
- Alexander, S. A., D. M. Ealey, and S. J. Barry. 1988b. Spring migration of Eiders, Oldsquaws, and Glaucous Gulls along offshore leads of the Canadian Beaufort Sea. Canadian Wildlife Service Technical Report Series No. 56. 55 pp.
- Alexander, S. A., S. E. Westover, and D. L. Dickson. 1994. Spring migration of waterbirds in the Beaufort Sea, Amundsen Gulf, and Lambert Channel Polynya, 1993. Canadian Wildlife Service Technical Report Series No. 201. 61 pp.
- Alexander, S. A., D. L. Dickson, and S. E. Westover. 1997. Spring migration of eiders and other waterbirds in offshore areas of the western Arctic. *In* D. L. Dickson (ed.), King and Common eiders of the western Canadian Arctic, pp 6–20. Canadian Wildlife Service Occasional Paper No. 94, Ottawa.
- Barry, S. J., and T. W. Barry. 1982. Seabird surveys in the Beaufort Sea, Amundsen Gulf, and Prince of Wales Strait, 1981 season. Unpublished report, Canadian Wildlife Service for Dome Ltd. and Esso Resources Canada Ltd., Edmonton. 52 pp.
- Barry, T. W. 1986. Eiders of the western Canadian Arctic. *In* R. Austin (ed.), Eider Ducks in Canada, pp 74–80. Canadian Wildlife Service Report Series No. 47. 177 pp.
- Department of Fisheries and Oceans Canada (DFO). 2014. Re-evaluation of Ecologically and Biologically Significant Areas (EBSA) in the Beaufort Sea. Canadian Science Advisory Secretariat, Science Advisory Report 2014/052.
- Department of Fisheries and Oceans Canada (DFO). 2015. Eco-units and potential priority conservation areas in the western Arctic bioregion. Canadian Science Advisory Secretariat, Science Advisory Report 2015/021.
- Dickson, D. L. 2012a. Seasonal movement of King Eiders breeding in western Arctic Canada and Northern Alaska. Canadian Wildlife Service Technical Report Series Number 520. 94 pp.

- Dickson, D. L. 2012b. Movement of King Eiders from breeding grounds on Banks Island, NWT, to moulting and wintering areas. Canadian Wildlife Service Technical Report Series No. 516. 141 pp.
- Dickson, D. L., and H. G. Gilchrist. 2002. Status of marine birds of the southeastern Beaufort Sea. *Arctic* 55:46–58.
- Dickson, D. L., and P. Smith. 2013. Habitat used by Common and King eiders in spring in the southeast Beaufort Sea and overlap with resource exploration. *Journal of Wildlife Management* 77:777–790.
- Hodgson, R., K. Martin, and H. Melling. 2015. Marine protected area network planning in the Western Arctic Bioregion: Development and use of a classification system to identify ecological units as required planning components. Fisheries and Oceans Canada Research Document 2015/020.
- Lovvorn J. R., A. R. Rocha, S. C. Jewett, D. Dasher, S. Oppel, and A. N. Powell. 2015. Limits to benthic feeding by eiders in a vital Arctic migration corridor due to localized prey and changing sea ice. *Progress in Oceanography* 136:162–174.
- Smith, M., and B. Rigby. 1981. Distribution of polynyas in the Canadian Arctic. In I. Stirling and H. Cleator (eds.), *Polynyas in the Canadian Arctic*, pp 7–28. Canadian Wildlife Service Occasional Paper No. 45, Ottawa.
- Stirling, I., and H. Cleator. 1981. Polynyas in the Canadian Arctic. Canadian Wildlife Service Occasional Paper No. 45. 70 pp.



King Eiders. Photo: Tim Bowman.