

Key Site 16: Norton Sound, Alaska

Location: 63°57'22"N, 161°47'20"W

Size: 937 km²

Description: Norton Sound is one of the largest coastal water bodies along the Bering Sea coast of northwest Alaska. Lying between the Seward Peninsula to the north, the Nulato Hills to the east, and the Yukon River delta to the south, this key habitat site includes an array of coastal habitat features. Several islands, including Stuart, Egg, and Besboro Islands, lie within this key site. Many large rivers empty into Norton Sound, including the Unalakleet and Shaktoolik rivers. The adjacent coastline is comprised of variable terrain with steep cliffs, low-lying hills, and extensive river deltas. Nearshore water depths remain relatively shallow (<5 to 20 m) as far as 40 km from the shoreline.

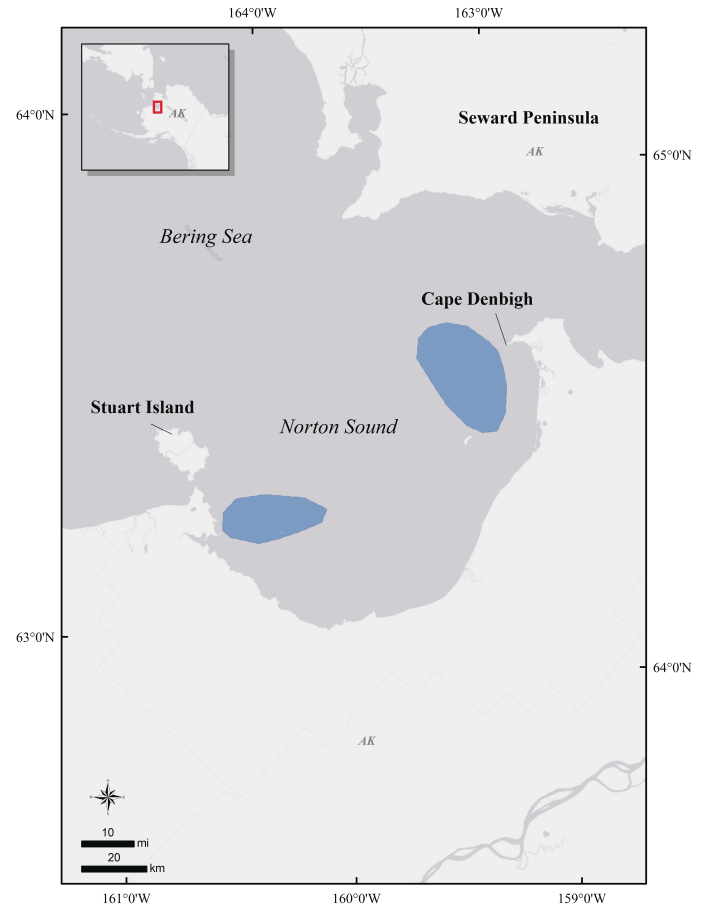
Aerial survey and telemetry data suggest that sea ducks use marine habitats near Stuart Island on the southern portion of the sound and shallow water habitat around Cape Denbigh in the northeast portion of this site (D. Rosenberg and J. Schamber, Alaska Department Fish and Game unpublished data, Bollinger and Platte 2012, Martin et al. 2015, Bartzen et al. 2016, Sexson et al. 2016).

Precision and Correction of Abundance

Estimates Presented: Summer abundance estimates have not been adjusted to account for incomplete detection or other biases and can be treated as minimum estimates (Bollinger and Platte 2012).

Biological Value: The coastal waters of Norton Sound provide critical molting habitat for threatened Spectacled Eiders (*Somateria fischeri*; USFWS 2001). Telemetry data from individuals marked on the Yukon-Kuskokwim Delta indicated that most (45 of 46) females traveled to Norton Sound to molt after the breeding period (Sexson et al. 2014). Thus, nearly all western Alaska breeding females (>7000) molt in Norton Sound before wintering with the entire world population on polynyas in the Bering Sea (Petersen et al. 1999, 2000, Sexson et al. 2016).

Aerial surveys were conducted from 2006 to 2009 to determine the presence of Common Eiders (*S. mollissima v-nigra*) and other waterbird species along the Norton Sound and Seward Peninsula



shoreline (Bollinger and Platte 2012). Within the Norton Sound key habitat area, up to 1064 Common Eiders have been observed during the breeding period (Bollinger and Platte 2012).

Telemetry data indicate this key habitat site also supports Steller's Eiders (*Polysticta stelleri*), Black Scoters (*Melanitta americana*), Surf Scoters (*M. perspicillata*), and Long-tailed Ducks (*Clangula hyemalis*) that stage in the key site during migration events (D. Rosenberg and J. Schamber, Alaska Department Fish and Game unpublished data, Martin et al. 2015, Bartzen et al. 2016).

Sensitivities: The marine ecosystem of Norton Sound may be at risk of contamination from mining and the transportation of petroleum products (National Audubon Society 2018a). Because the molting period is energetically expensive for sea ducks, distribution of Spectacled Eiders typically follows the distribution of prey (Sexson et al. 2016). Oscillating ocean conditions within Norton Sound could impact the density of prey species within this key habitat site (Lovvorn et al. 2014, Sexson et al. 2016).

Potential Conflicts: Molting Spectacled Eiders may be sensitive to disturbance and collisions from commercial fishing and vessel traffic in Norton Sound, as this is a high-traffic area for vessels operating in Norton Sound and the Bering Sea (Nuka Research and Planning Group 2016). Interest in offshore natural gas production in the Norton Sound could continue to increase, especially as remote communities in Alaska strive for energy independence (Reitmeier 2005).

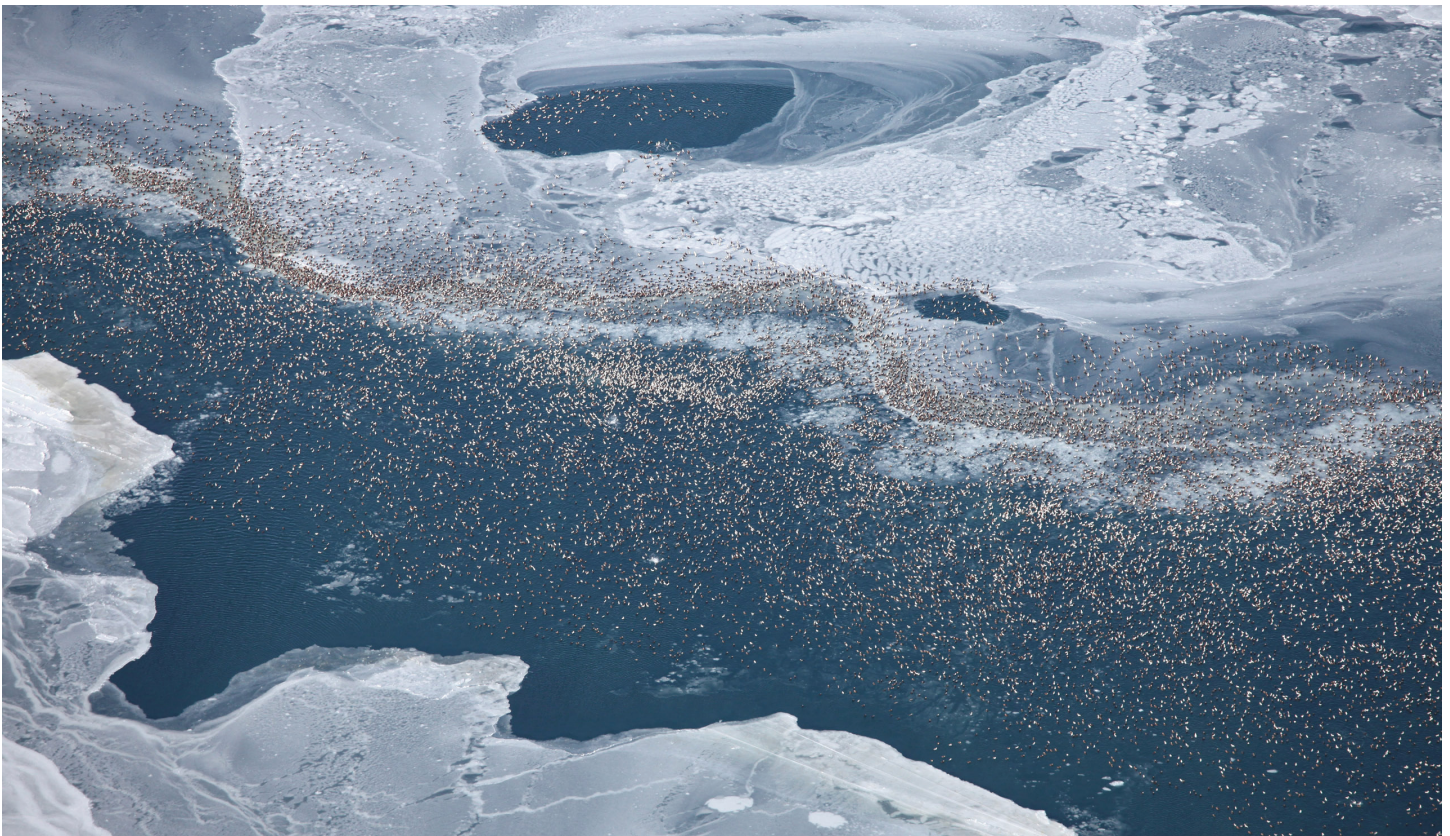
Status: Norton Sound lies within state and federally regulated waters. Nearshore islands within 5.6 km of land fall under state jurisdiction of submerged lands (NOAA 2017); the Alaska Department of Natural Resources has the authority to manage, develop, and lease resources within this boundary (Alaska Department Natural Resources 2000). However, the majority of the area designated as key habitat for sea ducks falls within both the Territorial Sea (0 to 12 nautical mile line) and Contiguous Zone (12 to 24 nautical mile line) under U.S. government jurisdiction (NOAA 2017). Norton Sound has been designated critical habitat for molting Spectacled Eiders under the Endangered Species Act (USFWS 2001). Norton Sound includes multiple Important Bird Areas, including the East Norton Sound IBA, listed as a high-priority conservation area of global significance (National Audubon Society 2018a). The Stebbins–St. Michael Important Bird Area, with state-level significance, occurs here and also falls within the Yukon Delta National Wildlife Refuge (National Audubon Society 2018b). Additional areas with habitat protection include segments of shoreline and islands that are designated as part of the Alaska Maritime National Wildlife Refuge.

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Spectacled Eiders in pack ice. Photo: Tim Bowman.