

Key Site 14: Kuskokwim Shoals, Alaska

Location: 59°37'60"N, 163°46'46"W

Size: 1918 km²

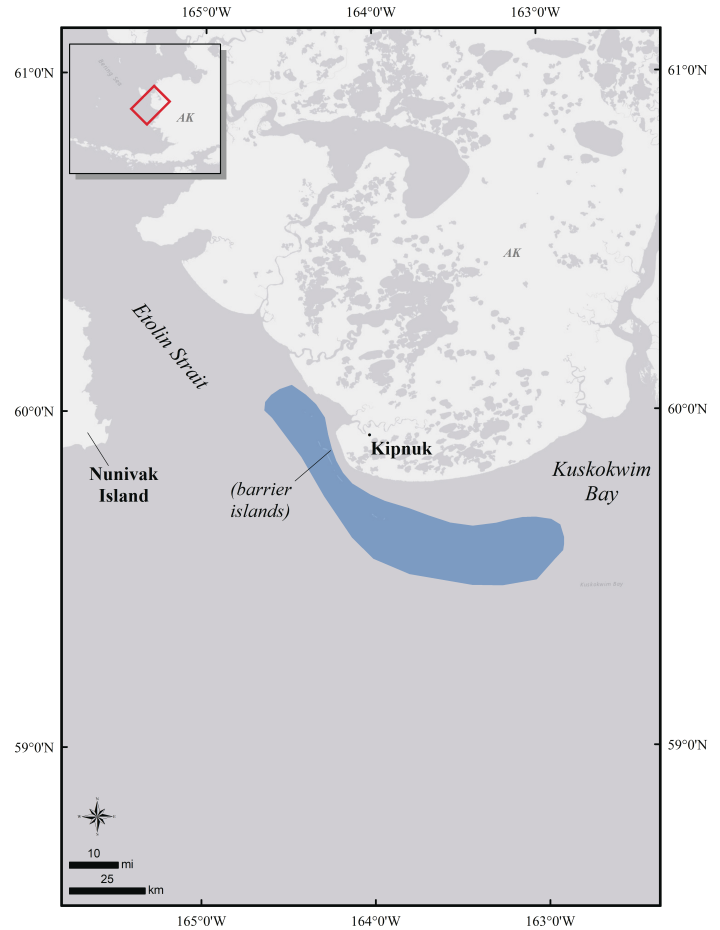
Description: The Kuskokwim Shoals key sea duck habitat site extends southeast from Etolin Strait into Kuskokwim Bay, offshore from the village of Kipnuk and Cape Avinof. This coastal marine habitat is shallow (<10 m), with extensive tidal flats supporting substantial eelgrass beds. Barrier islands, including Kikegtek, Pingurbek, and Kwigluk islands, lie within this key site. Freshwater input is mainly from the Kuskokwim River. The neighboring coastline consists of intertidal wetland ecosystems with prolific graminoid vegetation.

Precision and Correction of Abundance

Estimates Presented: Fall and spring abundance estimates have not been adjusted to account for incomplete detection or other biases and can be treated as minimum estimates (Larned and Tiplady 1996, Larned 2012).

Biological Value: The shoals of northwestern Kuskokwim Bay provide critical staging habitat for migrating Steller's Eiders (*Polysticta stelleri*) and a variety of other sea duck species. Aerial survey data suggest highest use by most sea duck species takes place in marine waters near the prominent barrier islands in the northwest portion of this site (Larned and Tiplady 1996, Larned 2012). Up to 11,000 Steller's Eiders have been observed there during the fall molt and migration period (B. McCaffery, USFWS, pers comm.).

Nearly the entire Pacific population of Steller's Eiders (>80,000 birds) passes through this area in the spring after wintering in areas of southwestern and southcentral Alaska (Larned 2012, Rosenberg et al. 2014, Martin et al. 2015); they use this key habitat site for three to five weeks before dispersing to breeding grounds in Russia and northern Alaska (Rosenberg et al. 2014, Martin et al. 2015). This key habitat site also represents an important staging location for thousands of Pacific Common Eiders (*Somateria mollissima v-nigra*) and tens of thousands of King Eiders (*Somateria spectabilis*) during spring and fall migration periods (Larned and Tiplady 1996, Larned 2012). This coastal shoal habitat also supports thousands of fall-staging Black



Scoters (*Melanitta americana*) and Long-tailed Ducks (*Clangula hyemalis*) (Larned and Tiplady 1996, Larned 2012, J. Schamber, Alaska Department Fish and Game unpublished data).

While this is not a primary migration corridor, smaller numbers of Spectacled Eiders (*Somateria fischeri*), Surf Scoters (*Melanitta perspicillata*), and White-winged Scoters (*Melanitta deglandi*) occupy this offshore habitat during migration and molt periods (Larned and Tiplady 1996, Rosenberg et al. 2006a, 2006b). Aerial survey data suggest species-specific use and distribution across this key habitat site, with eiders and Long-tailed Ducks frequenting the mainland side of the barrier islands and scoters occupying shoal habitat, as well as deep-water habitat further east in Kuskokwim Bay (Larned and Tiplady 1996).

Sensitivities: Near-shore marine ecosystems may be at risk for contamination associated with transportation of petroleum and mining products by ocean-going vessels (National Audubon Society

2017). Molting sea ducks (e.g., Steller's Eiders, scoters) in this area may be especially vulnerable to disturbance and collisions from local vessel traffic and associated cultural use activities. Sea duck species using the Kuskokwim Shoals area may be vulnerable to changing sea ice distribution and major regime shifts in the North Pacific and Bering Sea (Grebmeier et al. 2006, Flint 2013, Lovvorn et al. 2014). Because much of the Yukon-Kuskokwim River Delta is relatively low-lying, rising sea level and/or frequency of storm surges may advance erosion of the coastline and offshore barrier islands in this area (Jorgenson and Ely 2001).

Potential Conflicts: This key site lies within a high traffic area for ocean-going vessels representing a variety of different industries (Nuka Research and Planning Group 2016). It is likely that vessel traffic will increase due to several factors, including (1) loss of sea ice opening up the northwest passage to ship traffic, (2) possible development of deepwater ports in western Alaska (U.S. Army Corps of Engineers 2015), and (3) shipping associated with the Donlin Gold mine (Donlin Gold 2019). Additional boat traffic may be seasonally present as local residents hunt, fish, and commute between villages bordering Kuskokwim Bay. Because sea ducks exhibit inter-specific variation in response to disturbance from ocean-going vessel traffic (Schwemmer et al. 2011), further elucidating seasonal use patterns may help reduce disturbance effects on more vulnerable species that use the Kuskokwim Shoals key site.

Status: The Kuskokwim Shoals key habitat site lies within state and federally regulated waters. The barrier islands in the northwest portion of this site fall under state jurisdiction of submerged lands (from mean low water to the three-nautical-mile line; NOAA 2017). Under this jurisdiction, the Alaska Department of Natural Resources has the authority to manage, develop, and lease resources within this boundary (Alaska Department of Natural Resources 2000). However, the majority of the Kuskokwim Shoals key site falls within both the Territorial Sea (0 to 12 nautical mile line) and Contiguous Zone (12 to 24 nautical mile line) of U.S. government jurisdiction (NOAA 2017). Therefore, the federal government exercises authority over most domestic and foreign affairs occurring within these boundaries. Kuskokwim Shoals have been designated critical habitat for Steller's Eiders under the

Endangered Species Act (USFWS 2001). This area also falls within the Kuskokwim Bay Important Bird Area (IBA), identified as a high-priority conservation area of global significance (National Audubon Society 2017), largely because of its use by migrating Steller's Eiders and other sea duck species. Adjacent to this offshore site, the shoreline represents the border of the Yukon Delta National Wildlife Refuge (YDNWR), which includes the Kuskokwim River Delta, another globally significant IBA (National Audubon Society 2017). The YDNWR provides nesting habitat for Spectacled Eiders as well as significant numbers of the Pacific populations of Common Eiders, Black Scoters, and Long-tailed Ducks (Fischer et al. 2017).

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