

Key Site 5: Eastern Chichagof Island, Alaska

Location: 57°46'10"N, 135°15'12"W

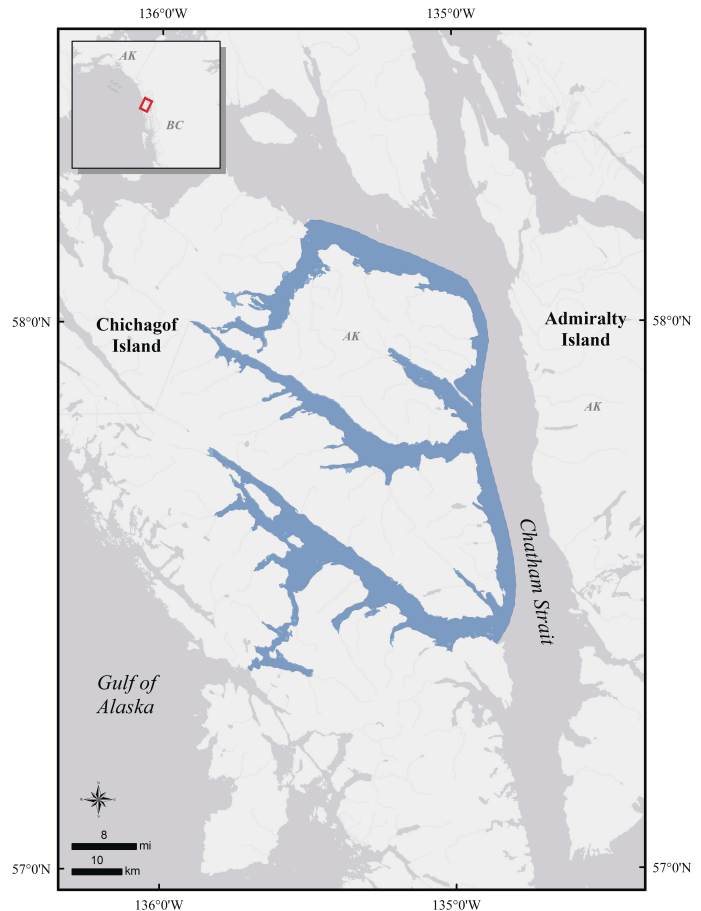
Size: 1247 km²

Description: Chichagof Island is one of the largest islands of the Alexander Archipelago in Southeast Alaska. This archipelago is comprised of more than 1000 islands and is characterized by deep channels and fjords. Surrounding terrestrial areas are mostly mountainous, reaching elevations of almost 1200 m on Chichagof Island (Carstensen et al. 2007). Steep-sided valleys and extensive estuaries punctuate the landscape, and temperate rainforests are the dominant vegetation type. Temperatures are moderated by the Pacific Ocean, producing cool summers, mild winters, and high levels of precipitation. Coastal waters are generally ice-free but areas with significant freshwater input (e.g., heads of bays and inlets) occasionally freeze.

This key habitat site is bounded on the north by southeastern Icy Strait, on the east by Chatham Strait (separating Chichagof and Admiralty islands), and on the south by Baranof Island. The convoluted coastline includes Port Frederick, Freshwater Bay, Tenakee Inlet, Sitkoh Bay, and Hoonah Sound, as well as numerous smaller bays, channels, inlets, islands, and reefs. The communities of Hoonah and Tenakee Springs are located within this key site.

Precision and Correction of Abundance Estimates Presented: Abundance estimates presented for this key habitat site have been adjusted to account for incomplete detection by applying species-specific visibility correction factors (VCF) estimated for surveys specific to this area (Hodges et al. 2008).

Biological Value: The near-shore waters of East Chichagof Island provide wintering habitat for a variety of sea duck species, most notably approximately 12,000 Barrow's Goldeneyes (*Bucephala islandica*) (Hodges et al. 2008), representing almost 5% of the western North America population. This area also supports thousands of Harlequin Ducks (*Histrionicus histrionicus*), Surf Scoters (*Melanitta perspicillata*), Bufflehead (*B. albeola*), and Red-breasted (*Mergus serrator*) and Common mergansers (*Mergus merganser*), as well as hundreds of White-winged Scoters (*Melanitta deglandi*) and Common



Goldeneyes (*B. clangula*) (Hodges et al. 2008, D. Groves, USFWS unpublished data; Appendix 1). Within this site, particularly high densities of wintering sea ducks were observed in upper Port Frederick, near Tenakee Springs, Sitkoh Bay, Catherine Island, Otstoa Island, and Vixen Islands (Gunn et al. 2008). During winter, several sea duck species tend to choose sheltered locations close to large freshwater streams (Gunn 2009).

Some species, such as Harlequin Ducks and Common Mergansers, may also breed and molt in this area, while scoters likely molt here as well. Densities of sea ducks in this region are lower during the summer, but may still reach 10 to 50 ducks per square kilometer in some areas (Gunn et al. 2008).

Sensitivities: Sea ducks wintering at the northern periphery of their range may experience lower over-winter survival; Uher-Koch et al. (2016) found that female and immature Surf Scoters had lower survival rates in Southeast Alaska than in the southern part of their range and suggested poor body

condition and/or increased predation rates as contributing factors.

Potential Conflicts: Chatham, Peril, and Icy straits are major elements of the Alaska portion of the Inside Passage waterway and consequently have frequent marine traffic, including ferries, freighters, cruise ships, tugs, fishing boats, and recreational craft, which could disturb wintering sea ducks. There is also the potential for oil spills or chronic contamination.

Status: Most of the terrestrial area surrounding this key habitat site falls within the East Chichagof Island biogeographic province. In this region, 53% of the land area is available for development, 25% is congressionally protected Roadless Wildlands (Land Use Designation II), 6% is congressionally designated wilderness, and 16% is administratively protected by the U.S. Forest Service (Carstensen et al. 2007). The State of Alaska has jurisdiction over tidelands (between mean high water and mean low water) and submerged lands (from mean low water to the three-nautical-mile line), with the authority to manage, develop, and lease resources. However, the federal government regulates commerce, navigation, power generation, national defense, and international affairs throughout state waters.

Literature Cited

- Carstensen, R., J. Schoen, and D. Albert. 2007. Overview of the biogeographic provinces of southeastern Alaska. In J. W. Schoen and E. Dovichin (eds.), *A Conservation Assessment and Resource Synthesis for the Coastal Forests and Mountains Ecoregion in Southeastern Alaska and the Tongass National Forest*. Audubon Alaska and the Nature Conservancy, Anchorage, Alaska.
- Gunn, T. 2009. Habitat correlates of wintering sea duck occurrence in southeast Alaska. MS thesis. Simon Fraser University, Burnaby, British Columbia.
- Gunn, T., J. Barrett, J. Hodges, B. Conant, D. Groves, J. Hupp, D. Esler, and K. Rothley. 2008. Distribution of sea ducks in Southeast Alaska: Geographic patterns and relationships to coastal habitats. Final report to Sea Duck Joint Venture. Anchorage, Alaska. https://seaduckjv.org/pdf/studies/sdjv_project86_se_ak_sea_duck_distribution_final_report.pdf
- Hodges, J. I., D. J. Groves, and B. P. Conant. 2008. Distribution and abundance of waterbirds near shore in Southeast Alaska. *Northwestern Naturalist* 89:85–96.
- Uher-Koch, B. D., D. Esler, S. A. Iverson, D. H. Ward, W. S. Boyd, M. Kirk, T. L. Lewis, C. S. VanStratt, K. M. Brodhead, J. W. Hupp, and J. A. Schmutz. 2016. Interacting effects of latitude, mass, age, and sex on winter survival of Surf Scoters (*Melanitta perspicillata*): Implications for differential migration. *Canadian Journal of Zoology* 94:233–41.