

Key Site 4: Annette-Betton-Cleveland Islands, Alaska

Location: 55°27'24"N, 131°54'16"W

Size: 1288 km²

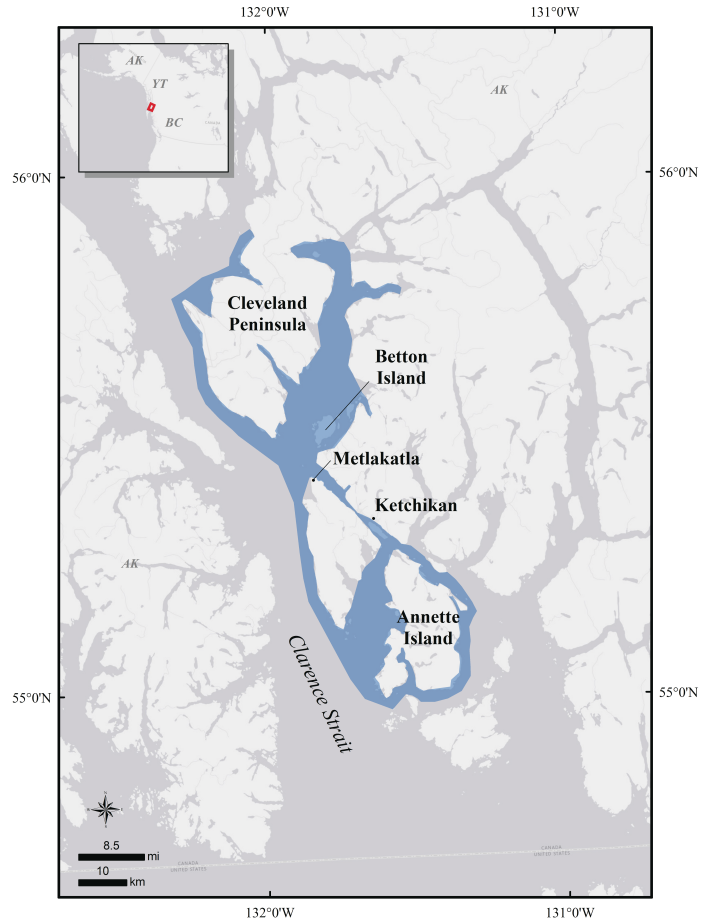
Description: This key habitat site is located just north of the border between British Columbia and Alaska, at the southern extent of the Alexander Archipelago, north of Dixon Entrance, and is within the Inside Passage, about 100 km from open Pacific Ocean. It includes most of the shoreline of Annette Island, west Behm Canal (particularly Betton Island and Helm Bay), and Vixen Inlet on the north side of Cleveland Peninsula. It is bordered on the north by Ernest Sound, to the west by Clarence Strait, and to the south and east by Felice Strait and Revillagigedo Channel. The communities of Ketchikan (population ~14,000) and Metlakatla (population ~1,400) border this key habitat site.

This area is one of the wettest regions in Southeast Alaska, with average annual precipitation of 386 cm and generally mild temperatures ranging from a mean of 1°C in January to 14°C in July (Carstenson et al. 2007). The region is characterized by convoluted shorelines, with numerous islands, bays, inlets, and channels (Heinl and Piston 2009). The surrounding land is hilly and mountainous, with a relatively high proportion of intact old-growth coastal temperate rainforest (especially on the Cleveland Peninsula) and widespread wetlands (Smith 2016).

Precision and Correction of Abundance

Estimates Presented: Estimates given from aerial survey data have had no correction factors applied.

Biological Value: This area provides important spring migration stopover habitat for Surf Scoters (*Melanitta perspicillata*) on the Pacific coast (Lok et al. 2011, 2012; Heinl and Piston 2009). During late April to early May, Pacific herring (*Clupea pallasii*) spawn in this region, providing an abundant, rich food source at which Surf Scoters and other sea duck species are known to congregate (Heinl and Piston 2009). Flocks of over 10,000 Surf Scoters have been observed, along with smaller numbers of Harlequin Ducks (*Histrionicus histrionicus*) and Barrow's Goldeneye (*Bucephala islandica*) (Heinl and Piston 2009). Aerial surveys in late April 2006 documented 77,860 Surf Scoters on a 540 km survey route in this region (Lok et al. 2012). Almost all (98%) Surf Scoters



were located within 1 km of a herring spawn site, and the density of scoters at spawn sites was 1938 scoters per linear kilometer (Lok et al. 2012). Although these aerial survey data were from a single year, locations from satellite-tagged Surf Scoters marked on wintering areas in 2002 to 2006 also identified important stopover sites at Annette Island, west Behm Canal, and Vixen Inlet (Lok et al. 2011, 2012). Of 37 individual satellite-tagged Surf Scoters that made spring migratory stopovers in southeast Alaska, eight used Annette Island, four used west Behm Canal, and three used Vixen Inlet; Annette Island was used as a stopover site in all four years of the study, and west Behm Canal and Vixen Inlet were each used in two of the four years (Lok et al. 2011). These areas were more likely to be used for short stopovers (two to seven days) rather than for longer staging (greater than seven days) during spring migration (Lok et al. 2011). Annette Island, west Behm Canal, and Vixen Inlet are well-documented herring spawn sites (Lok et al. 2011). In late April and early May, there may be nearly constant migration of Surf Scoters northwards

through Tongass Narrows, with flocks of 50 to several hundred flying through (Heinl and Piston 2009).

Several sea duck species are found in this area throughout the winter as well; Surf Scoters are the most abundant, but White-winged Scoters (*Melanitta deglandi*), Bufflehead (*Bucephala albeola*), Common (*B. clangula*) and Barrow's goldeneyes, Long-tailed Ducks (*Clangula hyemalis*), and Common Mergansers (*Mergus merganser*) are also common (Heinl and Piston 2009). Abundance of Surf Scoters begins to increase in late March and peaks in late April to early May (Heinl and Piston 2009). White-winged Scoters are common during winter, but numbers decline through April and May, and, unlike Surf Scoters, they do not congregate in large numbers at herring spawn sites in this area (Heinl and Piston 2009). Barrow's Goldeneye have been observed in flocks of up to 100 during winter and 500 at herring spawn sites (Heinl and Piston 2009). Long-tailed Ducks and Common Mergansers are abundant during winter with around 1000 of each species observed in the Ketchikan vicinity (Heinl and Piston 2009). Creeks provide important habitat for Common Mergansers and protected near-shore waters are important for Barrow's Goldeneye and Common Merganser (Heinl and Piston 2009).

Sensitivities: The value of this key habitat site as a spring migratory stopover is likely due in large part to the predictable occurrence of herring spawn events. Pacific herring abundance has declined throughout many parts of its range, and the location and size of spawn sites may change over time, impacting the value of this rich but ephemeral food source. Additionally, the very large and dense aggregations of Surf Scoters at herring spawn sites in this area could be vulnerable to disturbance and to stochastic events such as oil spills.

Potential Conflicts: This key site lies within the Alaska portion of the Inside Passage waterway and consequently experiences frequent marine traffic, including ferries, freighters, cruise ships, tugs, fishing boats, and recreational craft, which could disturb sea ducks and contribute to the potential for oil spills or chronic contamination. The communities of Ketchikan and Metlakatla are located within this site.

Status: This site falls within the Revilla/Cleveland biogeographic province, in which 23% of the land is congressionally protected in Land Use Designation II areas (Misty Fiords Wilderness, Naha River, and

Anan Creek); 35% is protected under the Tongass Land Management Plan and 42% is available for development (Carstensen et al. 2007). Annette Island is under jurisdiction of the Annette Island Indian Reservation, the only remaining Indian reservation in Alaska (Carstensen et al. 2007, Metlakatla Indian Community 2017). Metlakatla Indian Community has exclusive commercial and subsistence fishing rights to the waterways of the Annette Islands Reserve, extending to 3000 feet from mean low tide (Metlakatla Indian Community 2017). 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

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