

Key Site 8: Lost Coast, Alaska

Location: 59°46'19"N, 141°2'34"W

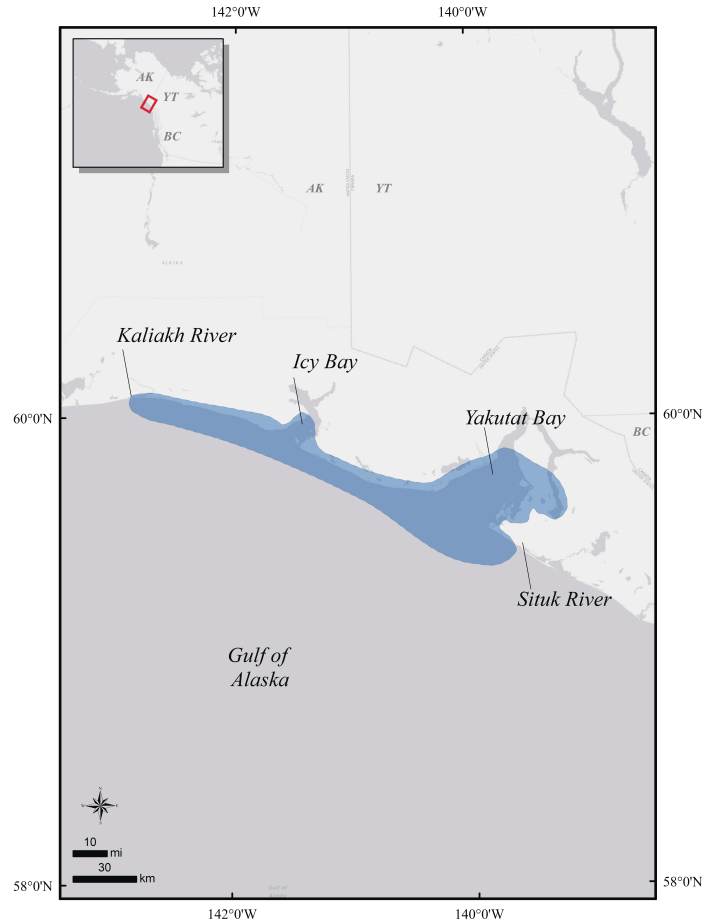
Size: 4879 km²

Description: This site extends for about 200 km along the coast of the Gulf of Alaska, from the Kaliakh River to the Situk River, and includes the outer portions of Icy Bay and Yakutat Bay and the south end of Russell Fiord. Most of this shoreline is highly exposed, with large beaches, sand dunes, grasslands, and lagoons, while Icy Bay and Yakutat Bay offer the only protected waters in the region. This remote and isolated region is separated from the rest of the continent by high coastal mountains and some of the largest nonpolar glaciers and snowfields in the world. The structure of the coastline is highly influenced by activity of dynamic coastal glaciers that dominate the landscape: Icy Bay was formed by rapid glacial retreat in the past century, and large, ever-changing shoal areas are created by glacial run-off and deposits (Hood et al. 2006). The Hubbard Glacier occasionally creates an ice dam across the mouth of Russell Fiord (most recently in 1986 and 2002); if this dam becomes permanent, the fiord would be transformed into a lake, likely negatively affecting its value as sea duck habitat. From Kaliakh River to Cape Yakataga, the land is relatively flat and forested, with rugged mountains rising to the south and east. Forests are dominated by Sitka Spruce and Western Hemlock, interspersed with willow, alder, and cottonwood stands and muskeg meadows.

The proximity of the Pacific Ocean creates a cool, wet maritime climate, with a mean annual temperature of ~4°C (Hood et al. 2006). Annual rainfall exceeds 300 cm (Patten 1981). Frequent and intense winter storms can cause dunes and river channels to shift dramatically (Patten 1981). Most of the human population of this region is concentrated in the community of Yakutat, with a population of ~800 (Hood et al. 2006).

Precision and Correction of Abundance

Estimates Presented: Abundance estimates from Hodges 2011 have been adjusted to account for incomplete detection by applying species-specific visibility correction factors based on boat-to-air ratios calculated from similar surveys in southeast Alaska



(Hodges et al. 2008) and the estimates were expanded based on transect area relative to total survey area.

Biological Value: The bays and exposed shorelines of Alaska's Lost Coast support about 150,000 to 200,000 wintering sea ducks. White-winged Scoters (*Melanitta deglandi*) were the most numerous, with an estimated 55,000 to 70,000 present (13.75 to 17.5% of the continental population), as well as 30,000 to 39,000 Long-tailed Ducks (*Clangula hyemalis*) (3 to 4% of the continental population), 17,000 to 22,000 Pacific Black Scoters (*M. americana*) (8.5 to 11% of the Pacific population), and 13,000 to 17,000 mergansers (Red-breasted and Common; *Mergus serrator* and *M. merganser*) (Hodges 2011). There were also 24,000 to 28,000 unidentified scoters and 7000 to 9200 Surf Scoters (*M. perspicillata*) as well as several thousand Harlequin Ducks (*Histrionicus histrionicus*), Barrow's Goldeneye (*Bucephala islandica*) and Bufflehead (*B. albeola*), and a few hundred Common Goldeneye (*B. clangula*) (Hodges 2011). White-winged Scoters were observed up to the extent of the

survey transects at 5.6 km offshore, and it is possible that significant numbers would be found farther offshore as well (Hodges 2011). Other species, such as Black Scoters and mergansers, were mostly observed within 300 m of the shoreline, with few present on offshore transects (Hodges 2011). In Yakutat Bay, large groups of scoters were observed at the north and south ends of Khaantak Island and from Point Latouche to Knight Island (Patten 1981).

This region may also support significant numbers of sea ducks during other seasons, but few surveys have been conducted here. The Yakutat coastal zone is considered the most important area in Southeast Alaska for migrating birds, and tens of thousands of waterfowl use the lagoons, estuaries, and fiords during spring, molting, and fall migration (Patten 1981). Thousands of scoters and other sea ducks use Yakutat Bay during herring spawn in April. Sea ducks, including Harlequin Ducks, Long-tailed Ducks, and White-winged Scoter, were present in the Yakutat Bay region during June, with a density of 12.3 per km² observed for Harlequin Ducks (Stephensen and Andres 2001). About 3000 scoters (all three species) were observed near Sitkagi Bluffs in June 1980, 5000 scoters in Russell Fiord in July (Arneson 1976 in Patten 1981), and large groups of scoters and other diving ducks in the south end of Russell Fiord in late September (Patten 1981).

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: This remote and isolated area has a very small human population, and the potential for conflict with sea duck habitat requirements is relatively low compared to other key sites. There are several offshore exploratory petroleum wells west and southwest of Icy Bay, and there is additional risk of petroleum spills from marine vessels, small aircraft, fuel storage facilities, ATVs, and historic drilling sites/storage areas (Hood et al. 2006). Some areas in Yakutat Bay were considered sensitive to oil and gas exploration and development due to large concentrations of birds (Patten 1981). The Gulf of

Alaska is a major shipping route, and accidental petroleum release and wastewater discharge from vessels are of concern (Hood et al. 2006). Studies from Glacier Bay and Gulf of Alaska indicate a possible risk of increased mercury and persistent organic pollutants in the marine environment (Hood et al. 2006). Commercial and recreational fisheries are economically important, as well as subsistence hunting, trapping, and fishing. Subsistence hunting of Harlequin Ducks, Long-tailed Ducks, goldeneye, and other waterfowl occurs in Icy Bay, Yakutat Bay, and the Malaspina Forelands (Hood et al. 2006). Although mining in the coastal region is extremely limited (Hood et al. 2006), small-scale placer mining has occurred on sandy beaches and there is potential for offshore placer mining (Alaska DNR 1995). Recreation and tourism are limited, but kayaking, camping, hiking, flightseeing, and cruise ships are becoming more common in Icy and Yakutat bays (Hood et al. 2006).

Status: Much of the surrounding terrestrial area is protected within the Tongass National Forest, the Russell Fiord Wilderness, and Wrangell-St. Elias National Park and Preserve. The Kluane/Wrangell-St. Elias/Glacier Bay/Tatshenshini-Alsek region, which partially overlaps this site, has been designated a UNESCO World Heritage Site. 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.

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Long-tailed Ducks and scoters. Photo: Tim Bowman.