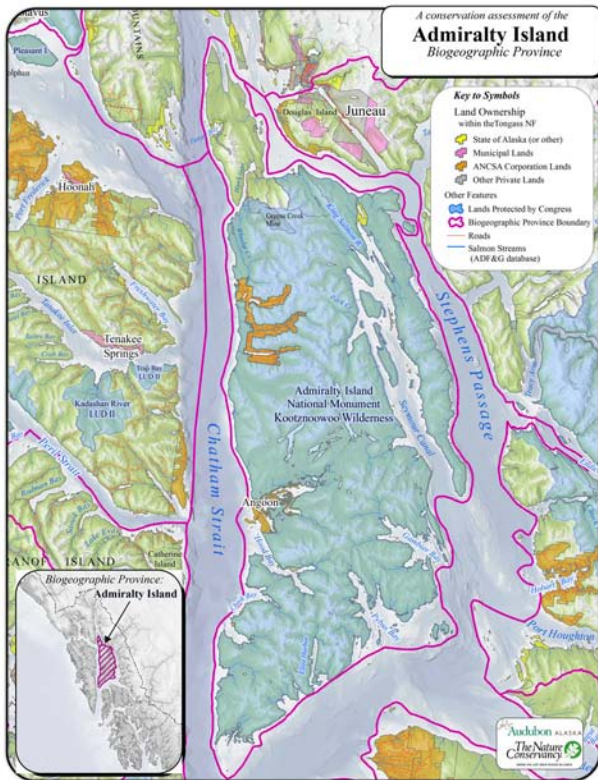


## Admiralty Province



**FIG 1.** Admiralty Province.

The Admiralty Island Province is dominated by the Admiralty Island National Monument and Kootznoowoo Wilderness (Fig 1). Admiralty is the third largest island of the Alexander Archipelago and 90% of the island is legislatively protected. Only 4% of the island is managed in development status. Those lands are owned by the ANCSA village corporation from the community of Sitka.

Admiralty Island lies predominantly within the Wrangellia/Alexander geologic terrane, with the Seymour Canal area falling in the Gravina Belt. Although lacking the high-grade carbonate rocks of Prince of Wales and Kuiu Islands, most of the bedrock

on Admiralty weathers into nutrient-rich soils with high productivity for upland large-tree hemlock forest. The southern portion of the island is underlain by geologically recent volcanic rocks that form unique, “staircase” topography with large-tree forest on the “risers” and scrubby forested wetland on the “treads.”

Relatively young Miocene mudstones, sandstones and conglomerates compose much of the Mitchell Bay lowland east of Angoon. These poorly lithified rocks formed *en situ* from weathering of the surrounding uplands. Fossilized impressions of deciduous leaves tell of an extraordinarily diverse deciduous forest that grew here prior to the Pliocene ice ages. A popular canoe route across central Admiralty Island connects Angoon to Seymour canal by way of Mitchell Bay and a series of lakes. Although relatively flat, these sedimentary rocks are better drained and consequently more forested than the belt of raised marine terraces that surrounds much of the northern island.

Eagle Peak, 4,650 ft (1,418 m), is the tallest summit on Admiralty. From here southward to Hasselborg Lake, Admiralty’s spine nearly rivals that of Baranof for ruggedness. Ice cover is much less, however; a few waning glaciers persist in high north-facing cirques. In the steepest parts of Admiralty, unstable slide zones are common, and at the base of mountains, where the slope levels off, alluvial fans are common. The largest lakes of Admiralty either lie within the Thayer Lake granitic pluton, or are at least partially controlled by adjacent granitic bodies. High lake density is typical of granitic regions throughout Southeast.

Freshwater ecosystems of Admiralty Island are characterized by relatively small, coastal watersheds with steep headwaters, floodplain and Palustrine channels in the valley bottoms and numerous small-to-medium sized estuarine channels and tide-flats. The island contains a number of large lakes in the Mitchell



**FIG 2.** Marble of probable Silurian age on 2,400-ft (732 m) summit. View is to the southeast, with Gambier Bay in the right distance. While carbonate rocks on Admiralty have lower potential for caves than those of northern Prince of Wales, they support scattered stands of large-tree forest at lower elevations. A Research Natural Area was established in the southeastern corner of Gambier Bay to study contrasting vegetation on carbonate and non-carbonate bedrock (Alaback and Juday 1989). (Richard Carstensen photo)

Bay lowlands. Pink, coho and chum salmon are widely distributed on Admiralty Island, with much narrower distributions of steelhead ( $n = 11$  watersheds), sockeye ( $n = 2$  watersheds) and king salmon ( $n = 2$  watersheds). Significantly, the wild runs of king salmon on Admiralty Island are the only island populations in Southeast. Kanalku Lake which flows into Mitchell Bay has the only significant run of sockeye salmon on the island. Using a species-weighted index of habitat value for all species combined, the top-ranked watersheds for salmon on Admiralty Island include Gambier Bay, King Salmon Bay, Kanalku Bay, Wheeler Creek, Pybus Bay, and Hood Bay (Chapter 2, Figure 17).

The largest runs of pink salmon include those at Gambier Bay and Eliza Harbor, with estimated annual escapements of 82,800 and 58,300 fish, respectively (Flanders et al. 1998). While Gambier is largely intact, all three anadromous streams at the head of Eliza Harbor were logged between 1957 and 1971, prior to creation of the National Monument. Gambier Bay also has the 11th largest estuary complex in Southeast Alaska (Chapter 2, Table 16), and the 3rd largest for any island, exceeded only by Duncan Canal and Rocky Pass on Kupreanof Island.

Admiralty has only 15 mammal species, including three endemic subspecies: a beaver (*Castor canadensis phaeus*), meadow vole (*Microtus pennsylvanicus admiraltiae*), ermine (*Mustela erminea salva*), and an

endemic lineage of the Pacific marten (*Martes caurina*).



**FIG 3.** View northeast across King Salmon River to the head of Seymour Canal. Most of the forest on this low-lying, boggy section of Admiralty is fairly scrubby and unproductive. Even the riverside forest on King Salmon is unremarkable, because the river has created few alluvial deposits. The 300-acre (121 hectare) strip of large trees upriver from this view (dark green on Fig 4.14.1) occupies a steeper colluvial toeslope just above the river channel. King Salmon River is one of two chinook salmon spawning rivers that occur on the islands of the Alexander Archipelago. The other is Wheeler Creek on northwest Admiralty. (Richard Carstensen photo)

This unique endemism has led mammalogists to designate Admiralty as one of five distinctive biogeographic superprovinces of Southeast (MacDonald and Cook 1996, Cook et al. 2006). Moreover, the brown bears of Admiralty, Baranof and Chichagof were identified as an evolutionarily distinct lineage based on differences in maternal (mitochondrial) DNA, and thereby represent populations of high conservation significance (Waits et al. 2001).

Admiralty has among the highest bald eagle (*Haliaeetus leucocephalus*) nest density in the world and one of the highest brown bear densities in Alaska. Based on this assessment, Gambier Bay is ranked as the number two watershed in Southeast in terms of summer brown habitat and Admiralty Island includes four of the top 20 brown bear watersheds in Southeast. Following Gambier in value of summer brown bear habitat are Hasselborg Lake, Hood Bay, Pybus Bay, Mole harbor, and Swan Cove.

Southern Admiralty is one of the major brown-bear hunting areas of Southeast. Between 1985 and 1994, 54 brown bears were reported killed in Pybus Bay, the highest number from any watershed in Southeast

(Flanders et al. 1998). Second in Southeast was adjacent Gambier Bay (51 bears). Third, fourth, and fifth were Hood Bay, Chaik Bay, and Eliza Harbor. One of Alaska's oldest and most popular brown bear viewing sites is located at Pack Creek in Admiralty's Seymour Canal.

Admiralty also supports an abundant and productive deer population. In the absence of wolf predation, Admiralty deer periodically reach high densities, but frequent winter mortality as a result of deep snow accumulation generally prevents the degree of overbrowsed forage species seen in provinces with low-snow climates such as West Chichagof. Based on this assessment, Gambier Bay, Hasselborg Lake, Pybus Bay and Hood Bay are the top ranked watersheds for winter deer habitat, and all rank within the top 10 watersheds in Southeast. Deer hunters from Juneau, Petersburg, and Ketchikan traditionally hunt on Admiralty Island.

The Kootznoowoo Wilderness encompasses 955,825 acres (386,830 hectares) of Admiralty Island, including 602,708 acres (243,913 hectares) of productive old growth (POG). Although Admiralty Island is largely pristine, much of the shoreline—like much of Southeast—was selectively logged by handloggers in the 19<sup>th</sup> and early 20<sup>th</sup> centuries. Prior to creation of the Admiralty National Monument, clearcut logging occurred in riparian forests of Whitewater Bay, Eliza Harbor, and Winning Cove with a combined total of 4,167 acres (1,686 hectares). More recently, Shee Atika Inc, the Native corporation of Sitka, also logged about 20,917 acres (8,465 hectares) at Pt. Hepburn, Lake Kathleen, Ward Creek, and Lake Florence as part of their Native Claims selections. In total, at least 27,000 acres (10,900 hectares) have been clearcut on Admiralty over the last 50 years (with smaller cutting in earlier years). Nevertheless, Admiralty Island represents the most significant unfragmented tracts of POG remaining in Southeast. Admiralty also contains 99,937 acres (40,444 hectares) of large-tree old growth, with watershed-scale reserves protecting 88% of these stands (Chapter 2, Table 6). Gambier Bay, Hood Bay, Upper Wheeler Creek, Chaik Bay, Fishery Creek and Thayer Lake all rank within the top 10 watersheds in Southeast for abundance of large-tree riparian forests. Gambier Bay, Hood Bay, and Pybus Bay also contain an abundance of large-tree upland forest.

Summer habitat for brown bears on Admiralty represents 89% of its original habitat value prior to

development activities (Chapter 2, Table 15). Watershed-scale reserves protect 90% of the remaining brown bear habitat in this province with only 5% of



**FIG 4.** View east over Peanut and Kathleen Lakes on Western Admiralty. Shee Atika Corporation selected and logged these watersheds in the 1990s. Along with Whitewater and Eliza Bays—logged earlier—these watersheds probably held the largest contiguous expanse of large-tree forest on the island. (Richard Carstensen photo)

brown bear habitat in lands managed for development activities. Winter deer habitat on Admiralty represents 94% of its original habitat value and 92% of that is protected in watershed-scale reserves (Chapter 2, Table 8). Admiralty Island is estimated to have the third highest amount of marbled murrelet nesting habitat in Southeast and it represents 95% of its original habitat value and 90% of that is in watershed reserves (Chapter 2, Table 10).

Admiralty Island also has 620 mi (993 km) of spawning and rearing stream habitat for salmon. Only 13% of the riparian forests associated with anadromous fish streams have been cut on Admiralty and watershed-scale reserves protect 84% of riparian forests with anadromous fish (Chapter 2, Table 12).

The Tlingit village of Angoon located on west central Admiralty, has the least precipitation of any island community in Southeast: about 38 in (100 cm) per year (63 in [160 cm] snow). This is due partially to the rainshadow effect of the high mountains of northern Baranof Island. Admiralty was historically divided between four kwans: the Auk people on the north, the Taku on the east, Kakes at Pybus Bay, and the Hutsnuwu on the western, Chatham Strait side.

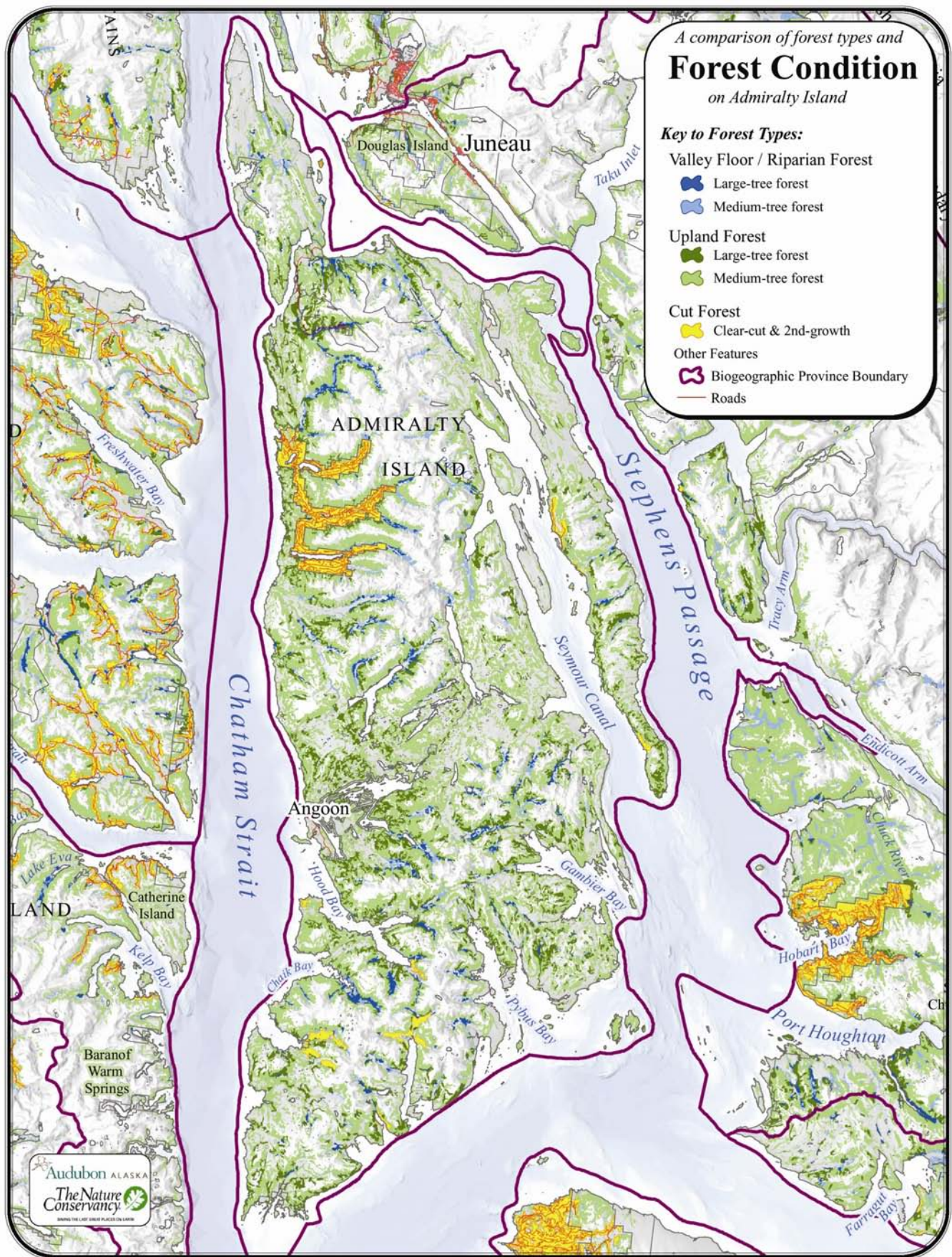
The largest silver mine operating in the United States is located at Greens Creek on northern Admiralty Island. The Greens Creek Mine has about 10

mi (16 km) of road and associated development. The below ground mine is located in upper Greens Creek drainage, while tailings ponds and other facilities are located on the southeast side of Hawk Inlet.



**FIG 5.** View of Gambier Bay and its abundant estuary system on southern Admiralty Island. This watershed provides the most productive habitat on the island for salmon, brown bears, and deer. (John Schoen photo)

Forest types, historical logging, and roads are mapped within the Admiralty Province in Figure 6. Refer to the Arc Reader GIS database in Appendix C of this report to review detailed mapped information on location of large-tree stands, past timber harvest, roads, forest reserves, protected areas, and regions of core ecological values.



**FIG 6.** A comparison of forest type and condition in the Admiralty Province of southeastern Alaska.