KEROUARD ISLANDS E.R. #96

PURPOSE: To protect large colonies of nesting seabirds and breeding Steller sea lions

LOCATION: At Cape St. James, southern tip of Queen Charlotte Islands

---

SIZE: 130 ha LAT: 51°55'N LONG: 130°59'W ELEVATION: -37 to 80 m

BIOGEOCLIMATIC ZONE: Coastal Western Hemlock

PHYSICAL FEATURES:

The reserve consists of a northwest to southeast oriented chain of islands totalling about 30 ha in area, and surrounding subtidal area to the 20 fathom (37 m) bathymetric contour. The reserve has a northern unit containing One Mile Island and Sea Lion Rock and a southern unit enclosing Two Mile Island (actually a group of two islands and nearby rocks) and Southern Rock. These units are 1 km apart. These islands are the southernmost summits of the Queen Charlotte Range, which plunges into the ocean at Cape Saint James. One and Two Mile are high, dome-shaped, moderately indented islands with very steep entirely rocky shorelines. Their perimter is about 80% cliff, the rest being strongly sloping, and their summits support organic soils (Fibrisols) developed by decay of grasses and enriched with bird excrement. Sea Lion and Southern Rocks are somewhat lower, but entirely rocky and with essentially no soil. The maritime climate is characterized by the strongest and most persistent winds in the province, frequent precipitation and fog, and minimal seasonal variation in temperature.

Intertidal substrates are entirely bedrock, typified by many fractures and chasms. Subtidal substrates have not been studied, but much rock is undoubtedly present. The reserve is located at the outer edge of the Continental Shelf. To the west the Continental Slope dropes precipitously to depths of 1800 m and greater, while to the east is the much shallower and near-level seafloor of Hecate Strait. Those seafloor features, the location of the islands at the tip of a large landmass (the Queen Charlotte Islands), plus strong winds, result in frequent upwelling, very strong tidal and wind driven currents, and surf-pounded shorelines.

BIOTIC FEATURES:

The most conspicuous vegetation feature is a continuous mantle of Pacific reedgrass on the summits and upper slopes of the largest islands. These dense, luxuriant stands, up to 2 m in height, contain occasional specimens of Siberian miner's lettuce and common scurvy-grass but little else. Shrubs and trees are absent. A small patch of dune wildrye occurs on Sea Lion Rock, and villous cinquefoil on various rocky slopes. Lichens occur on rock surfaces in the surf spray zone.

Predominant seabirds are those which nest in the moist grassland turf of the largest islands. Those habitats are riddled with the burrows of Cassin's auklet (20,000 - 30,000 pairs) and tufted puffin (about 1500

pairs). This is the largest puffin colony in the Queen Charlotte Islands and third largest in the province. The much rarer horned puffin has also been seen and a few probably nest in the reserve. Seabirds nesting in mainly rocky habitats here are the common murre (only colony in Queen Charlottes, about 50 pairs), pigeon guillemot (25 or more pairs), pelagic cormorant (10 pairs) and glaucous-winged gull (75 pairs). Bald eagles are common, and peregrine falcons are thought to nest on cliffs in the reserve. The islands are located along a significant bird migration corridor, and are the first landfall for many spring migrants moving north from Vancouver Island, including songbirds, shorebirds, and marine species like scoters, shearwaters, and phalaropes.

Kerouard Islands have historically been the largest of three Steller sea-lion breeding rookeries in British Columbia (up to 4,000 animals) but control actions in the early 1960's greatly reduced the population, which now stands at about 1100 in summer, 300 to 400 of which are pups. Sea lions choose ony the most remote, oceanic sites as rookeries, and both pupping and mating occur there. Pupping occurs in June, mating in July, at which time sea lion numbers in the reserve reach their peak. Smaller numbers occur year-round, the typical winter population being 250 to 300 animals. There are two isolated records of sea otters in the reserve. Although a resident population is not believed to occur, habitat potential for this species is very high. Several kinds of whales migrate through or near the reserve, including fin, killer, pygmy sperm, and gray whales.

Surf action, strong tidal currents, and upwelling result in rich and diverse marine life. A variety of brightly colored sponges, algae, sea anemones, and molluscs occur in the intertidal zone. The subtidal part of the reserve has not been studied.

OUTSTANDING FEATURES: The remoteness and physical characteristics of these islands, plus rich marine food resources made available by oceanographic conditions like currents, turbulence and upwelling, provide an outstanding breeding site for sea lions and certain colonial seabirds. This is one of the most remote, wild, and difficult to reach ecological reserves in the entire province.

OTHER INFORMATION: Order-in-Council no. 2057, 26 July 1979. Application no. 278. Map no. 102 0/14. Marine chart no. 3825; 3853. Accessible only by boat, but the weather is seldom good, currents are treacherous, and landing is difficult.

Aside from a small research hut on Sea Lion Rock, the Kerouard Islands show no sign of human impact. In contrast, St. James Island immediately to the north, the site of a lighthouse, meteorological station and residences since 1913, is infested with rats which are known to prey on seabirds and their eggs. It is important that the Kerouards be protected from such a fate.

One graduate research study, on distribution and movements of Stellar sea lion cows at a pupping colony, has been carried out in the reserve. The marine environment needs description.

Key Map No. 96

Order-in-Council No. 2057

File No. 0345450

Name of Reserve Kerouard Islands Ecological Reserve

Date Established July 26, 1979

Map Location The Kerouard Islands are the southernmost Islands in the Queen Charlotte Islands. Four islands comprise this group: "One-mile Island," "Two-mile Island," "Sea-lion Rocks" and the "Southern Rock." The Kerouards are south of Kunghit Island and Cape St. James Weather Station.

Legal Description All that land and land covered by water, being an area including and surrounding the Kerouard Islands, Queen Charlotte District, more particularly shown outlined in red on plan attached.

Area 130 hectares (partially marine)

Object and Community Type Preserved A unique marine ecosystem. The islands support B.C.'s largest sea-lion rookery, and over 32,000 nesting pairs of seabirds. Tufted Puffins, Cassin's Auklets, Pelagic Cormorants, Pigeon Guillemots and Glaucous-winged Gulls nest here. The first Queen Charlotte Is. nesting record for Common Murre was discovered here in 1977. This very rugged area is characterized by converging currents and tidal upwellings which support rich inter- and sub-tidal marine life. The Kerouards are probably located along a critical animal migration corridor. Rare species such as the Sea Otter, Horned Puffin, Cattle Egret, Peregrine Falcon and various whales have been observed off the Kerouard Islands.

Biogeoclimatic Zone Coastal Western Hemlock (Wet)

Surveyors Trudy Carson, J. B. Foster

IBP Report No. #278

Photographs Air photo reference No. B.C. 7839, #222 - 224

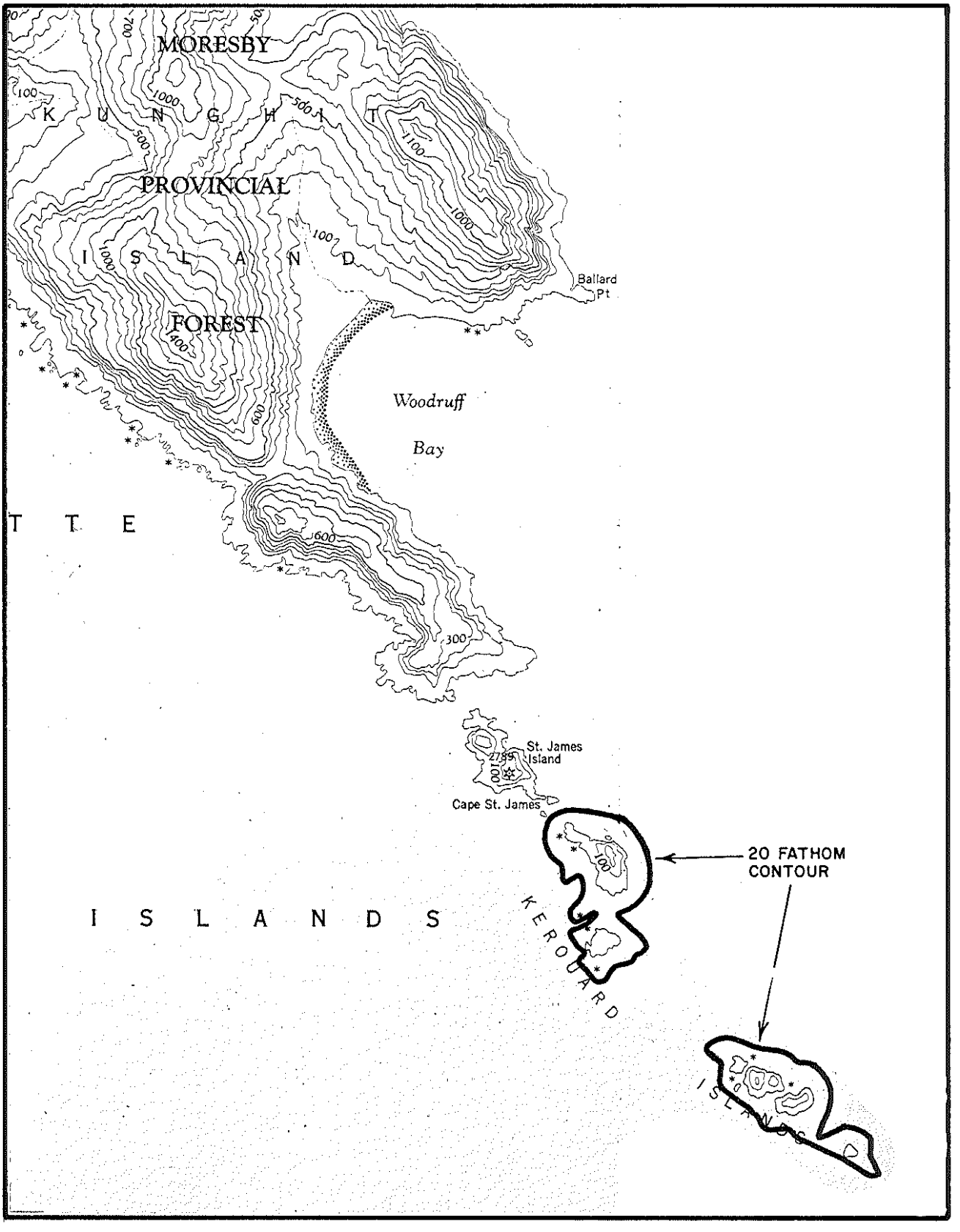
Map Location Reference

Canadian Hydrographic Chart - 3825

1:50,000 102 0/14 E - 102 0/15 W

Forest Cover Map

No trees.



N.T.S. No. 102 O/14

ECOLOGICAL RESERVE No. 96
KEROUARD ISLANDS

Ecological Reserve Proposal #278

The Kerouard Islands

The Kerouard Islands are located between Hecate Strait and the open Pacific Ocean, at the southern-most tip of the Queen Charlotte Islands, Isolated, rugged and extremely wild, these islands and their associated waters provide habitat for multitudes and diverse life-forms. Besides having major breeding colonies of sea-birds and marine mammals, the Kerouard Islands may be a critical region along the northwest marine mammal and bird migration corridor.

The Kerouard Islands and Cape St. James are known, not only for being the windiest spot in Canada, but for their violent tide channels, converging currents and cold water upwellings. These upwellings provide food for flocks of birds, marine mammals and an array of sub-tidal organisms.

Marine Mammals

Numerous species of whales including the Killer Whale Pygmy Sperm and the Grey Whale (D. Robinson) have been sighted in the waters adjacent to the Kerouards. The sea-otter (Enhydra lutra) thought to be extinct on the Queen Charlottes since has been sighted here on two occasions (D. Robinson and D. Fisher).

The western most island in the Kerouards supports one of B. C.'s largest breeding colony of Northern Sea-Lions, Eumetopias jubata. A Federal Fisheries census conducted June 30, 1977 just after pupping, counted 303 Pups and 782 Adults and Sub-Adult Sea-Lions. A study on this population and the behavior of these Sea-Lions was undertaken by Clayton Brenton who has completed a Master's of Science thesis under Dr. Dean Fisher. Although this magnificent mammal forms an integral part of the marine ecosystem, little protection is offered for the sea-lion in British Columbia.

Migrating and Nesting Birds on the Kerouards

The Kerouards were named appropriately by Bodega in 1775 "Islas de Aves" (Dalziel 1973). They host major breeding colonies of Tufted Puffins (Lunda cirrhata) and Cassin's Auklet's (Ptychoramphus aleutica). Pelagic cormorants and glaucous-winged gulls (Larus glaucesans) also nest here. (Population estimate figures in Table 1.) Cassins auklets and Tufted Puffins were found nesting throughout the vegetated portions of "Mile One" (250') and "Mile 2" (265') Islands. Burrows riddled the moist organic soils and were hidden beneath incredibly lush clumps of Calamagrostis nutkaensis. This grass attained heights of over 5' (normally grows to

about 2½') probably due to the highly nitrogenated soil. It was estimated that more than 31,000 pairs of nesting Cassins Auklets and more than 1350 pairs of Tufted Puffins nest on the Kerouard Islands.

A new breeding record for the Common Murre (Uria cealge) on the Queen Charlottes was obtained on July 3, 1977. Common Murres were found nesting on the western-most Sea Lion Rock and on "Mile 2" Island. Horned Puffins (Fratercula corniculata) were observed flying off "Mile 1" Island Tufted Puffin nesting cliffs. Nesting was suspected, although it was not positively confirmed. Further observations may yield a new nesting record for the Horned Puffin in B. C.

The Kerouards may be situated along a northwest migration corridor. Passerines, shore-birds, and marine birds such as Scoters, Phalaropes, and Shearwaters are known to migrate along the west coast of the Charlottes.

Numerous bald eagles and a pair of Peregrine Falcons were observed on the Kerouards. A peregrine falcon eyrie on the Kerouards has been reported. (Hatler pers. communication).

Marine Life

The sub and intertidal marine life on the rugged shores and benthos of the Kerouards shows exceptional diversity and richness due to the surges, tidal currents and upwellings in the area.

During a brief examination at low tide on July 4, 1977, varieties of brightly coloured sponges, algae, anthozoans and molluscs were noted.

To conserve undersea life a reserve boundary following the 20 fathom line is recommended.

The Kerouard Islands are isolated, steep and highly dissected islets. This factor, along with the predominance of poor weather has kept the Kerouard's fairly inaccessible to man. Aside from a small research shack on Sea Lion Rocks, the Kerouards show no sign of human impact. In contrast, St. James Island, inhabited since 1913 by meteorological staff, is infested with rats which presumably have caused significant declines in nesting sea-bird colonies.

There have been reports of Sea-Lion shooting incidents on the Kerouards. It is imperative that the significance of the Kerouard Islands be recognized and protection status acquired.

Ecological reserve status for this area covering approximately hectares of land and hectares undersea, is strongly recommended.

Bristol Foster
Co-ordinator
Ecological Reserves