

**ORIGINAL PURPOSE** To protect the largest seabird nesting colony in the Queen Charlotte Strait

#### OVERVIEW

<b>Date established:</b>	23 June 1988	<b>Location:</b>	Off the northern end of Vancouver Island, 35 km E of Port Hardy
<b>ORC #:</b>	3120		
<b>Map number:</b>	92 L/13 and 92 M/4	<b>Latitude:</b>	51°00'N - 51°02'
<b>Marine chart number:</b>	3575	<b>Longitude:</b>	127°40'W

<b>Total Area:</b>	660 ha	<b>Elevation:</b>	-37-60 m
<b>Land:</b>	660 ha		

**Access:** Access by boat or by aircraft from Port Hardy.

<b>Biogeoclimatic Zone:</b>	Coastal Western Hemlock (CWH)
<b>Biogeoclimatic Variant:</b>	CWHvh1 Southern Very Wet Hypermaritime
<b>Ecosection:</b>	Queen Charlotte Strait
<b>Region:</b>	Vancouver Island
<b>Management Area:</b>	Cape Scott

#### COMPOSITION

**Physical:** The reserve includes some 20 small islands and their surrounding shallows down to the 20 fathom (-36.6 m) depth contour. This encloses the 80 ha Pine Island, with the exception of the lighthouse area, the Storm Islands with the exception of Indian Reserve #5, the Naiad Islets, Tree Islets and the Buckle Group. These islands and associated reefs, scattered over an area of approximately six kilometres by 14 km, are situated where the Queen Charlotte Strait opens into Queen Charlotte Sound. They are almost fully exposed to ocean swells and storms.

Much bare rock is exposed on the islands and unconsolidated surficial deposits are virtually absent. Soils are therefore mostly Folisols, i.e. soft, organic soils made up of decomposing plant materials. These are ideally suited for seabird burrows.

**Biological:** Vegetation on the islands shows distinct zonations from very exposed to more sheltered conditions. Above the bare rocky zone of wave splash and heavy spray, discontinuous plant cover of herbs and grasses occurs in rock crevices. Above this, a dense tall Pacific reedgrass community prevails, followed by either Sitka spruce with a Pacific reedgrass understory or very dense windblown shrub thickets of salmonberry, these forming a transition zone to the forest. The forest itself occurs on the higher parts of the larger islands and consists mostly of Sitka spruce. Only the interior cores of the islands have an admixture of western hemlock and sometimes western redcedar. The forest understory varies greatly, but salmonberry and salal are the two main shrubs. Some very dense interior forest stands have only moss or no understory at all. The principal species in the herb layer, from the exposed shrub thickets to well into the spruce forest, is the

false lily-of-the-valley.

*The following numbers are reprinted from the 1993 account:* Seabird nesting colonies are the most significant features of the reserve, with the islands supporting almost a million (483 000 pairs) breeding seabirds. In the reserve, Leach's storm petrels, rhinoceros auklets and fork-tailed storm petrels reach by far the largest breeding concentrations anywhere in the province. An estimated 280 000 rhinoceros auklets, more than one third of the North American breeding population, nest here.

These birds nest in burrows excavated in the soft organic surface soil in the Pacific reedgrass, shrub thicket, and forest communities, usually within 100 m of the shoreline. Their greatest concentration is on Storm and Pine Islands. An estimated total of 550 000 Leach's storm petrels and 120 000 fork-tailed storm petrels also nest in burrows in the shrubby portions of the islands in particular on the Storm Islands. Most of the nearly 16 000 Cassin's auklets breed on the Buckle Group islands. Other resident seabirds are (in decreasing numbers) glaucous-winged gulls, pigeon guillemots, black oyster-catchers and pelagic cormorants. About ten pairs of bald eagles are presumed to nest in the reserve.

The marine waters surrounding the islands are also an important area for migrating water birds due to the abundance of plankton carried by currents and fed by nutrient-rich upwellings. Harbour seal pupping occurs on the low, rocky islets. Sei whales have been observed feeding among the islands in the summer.

#### MANAGEMENT CONCERNS

SIGNIFICANT SPECIES	BC LIST STATUS	COSEWIC STATUS	CF PRIORITY
Cassin's Auklet	Blue listed		2
Gmelin's sedge	Blue listed		2
Grey Whale	Blue listed	Special Concern (2004)	4
Harbour Porpoise	Blue listed	Special Concern (2003)	4
Killer Whale	Blue listed	Threatened (2008)	1
Red-necked Phalarope	Blue listed		2
Sei Whale	Red listed	Endangered (2003)	2
Bald Eagle		Not At Risk (1984)	6
Dall's Porpoise		Not At Risk (1989)	4
Fork-tailed Storm-petrel			4
Harbour Seal		Not At Risk (1999)	6
Leach's Storm-petrel			4
Pacific White-sided Dolphin		Not At Risk (1990)	4
Pigeon Guillemot			2
Rhinoceros Auklet			4

#### THREATS

##### Climate Change:

Sea level rise and increased storm activity are projected to affect the coasts of British Columbia, and may lead to habitat loss and degradation of shoreline ecosystems. Increased sea surface temperature may alter the life cycles and/or distribution of marine species, subsequently impacting the sea bird populations that

depend on seasonal marine food sources.

<b>Harvest:</b>	Commercial fishing and harvesting pollutes sensitive marine/foreshore ecosystems.
<b>Recreation:</b>	Low-lying aircraft disturb marine mammals and seabird populations.
<b>Transportation:</b>	Noise produced by marine traffic disrupts marine mammal behaviour. The wake also disturbs the shoreline.

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<b>RESEARCH OPPORTUNITIES</b>	This reserve is the second most important seabird nesting area in British Columbia; record numbers of Rhinoceros Auklets, Leach's and Fork-tailed Petrels. There is an Environment Canada weather station in the reserve.
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### SCIENTIFIC NAMES OF SPECIES MENTIONED IN THE DUKE OF EDINBURGH (PINE/STORM/TREE ISLANDS) ER ACCOUNT

#### Flora

hemlock, western (*Tsuga heterophylla*)  
lily-of-the-valley, false (*Maianthemum dilatatum*)  
redcedar, western (*Thuja plicata*)  
reedgrass, Pacific (*Calamagrostis nutkaensis*)  
salal (*Gaultheria shallon*)  
salmonberry (*Rubus spectabilis*)  
sedge, Gmelin's (*Carex gmelinii*)  
spruce, Sitka (*Picea sitchensis*)

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#### Fauna

Auklet, Cassin's (*Ptychoramphus aleuticus*)  
Auklet, Rhinoceros (*Cerorhinca monocerata*)  
Cormorant, Pelagic (*Phalacrocorax pelagicus*)  
Dolphin, Pacific White-sided (*Lagenorhynchus obliquidens*)  
Eagle, Bald (*Haliaeetus leucocephalus*)  
Guillemot, Pigeon (*Cepphus columba*)  
Gull, Glaucous-winged (*Larus glaucescens*)  
Oystercatcher, Black (*Haematopus bachmani*)  
Phalarope, Red-necked (*Phalaropus lobatus*)  
Porpoise, Dall's (*Phocoenoides dalli*)  
Porpoise, Harbour (*Phocoena phocoena*)  
Seal, Harbour (*Phoca vitulina*)  
Storm-petrel, Fork-tailed (*Oceanodroma furcata*)  
Storm-petrel, Leach's (*Oceanodroma leucorhoa*)  
Whale, Grey (*Eschrichtius robustus*)  
Whale, Killer (*Orcinus orca*)  
Whale, Sei (*Balaenoptera borealis*)