TEN MILE POINT ER #66

ORIGINAL PURPOSE To provide an undisturbed, intertidal and subtidal study area accessible by road in the Greater Victoria Area

OVERVIEW

Date established:	24 October 1975	**Location:**	At Cadboro Point, 3.5 km SE of the University of Victoria
ORC #:	3066		
Map number:	92 B/6f		
Marine chart number:	3423	**Latitude:**	48º27'N
		Longitude:	123º15'W
Total Area:	15 ha	**Elevation:**	-11-5 m
Land:	1 ha		
Marine:	14 ha		
Access:	Accessible by road.		
Biogeoclimatic Zone:	Coastal Douglas-Fir (CDF)		
Biogeoclimatic Variant:	CDFmm Moist Maritime: Upland area too small to be representative		
Ecosection:	Nanaimo Lowland: Upland area too small to be representative		
Region:	Vancouver Island		
Management Area:	Juan de Fuca		

COMPOSITION

Physical: The reserve includes about 450 m of intertidal shoreline along Cadboro Point, and extends seaward for 300-400 m. About 30% of its area is above mean low water, 70% below. Coastal features include a sheltered cove (Maynard Bay), rocky headlands, tidepools, ripcurrent channels and four barren islets accessible at low tide. Intertidal substrates are about 80% bedrock, 10% mixed sand-gravel-mud and 10% sorted gravel. A large intertidal area is exposed at low tide.

Biological: Zonation on the rocky shore is typical of southern Vancouver Island. A band of yellow lichen occupies the upper splash zone, followed by a black lichen (*Verrucaria*) zone which frequently contains the green alga *Prasiola*. Below this is a sparsely populated band having a few strands of attached green algae and small barnacles, then a wide rockweed (*Fucus*) zone extending to low water. A few winkles and limpets occur above and within the rockweed zone.

Forty-two species of algae have been noted at one to eight metre depths in Maynard Bay. The only common green alga is *Ulva* sp. Significant brown algae are *Costaria costata*, *Desmarestia intermedia*, *D. ligulata* and *Laminaria* spp. Among the 32 species of red algae, many of which form a low turf, *Ceramium* sp., *Odonthalia floccosa*, *Plocamium violaceum*, *P. tenue*, *Laurencia spectabilis* and *Callophyllis flabellulata* are quite widespread.

Typical invertebrates on subtidal bedrock and boulder sites in Maynard Bay are barnacles (*Balanus cariosus*, *B. nubilus*), red sea cucumbers, ochre stars, black and gum-boot chitons, sea anemones, pinto abalone and giant red sea urchins. Inhabitants of mud, sand and shell substrates include the blood star, California

cucumber, butter clam and cockle. At least 55 species of invertebrates have been recorded in the reserve, of which molluscs, crustaceans and echinoderms are notably diverse.

Cultural: An archaeological site protecting a shell midden is located outside the reserve at the head of Maynard Cove behind Cadboro Point. An unrecorded precontact burial cairn observed on an islet within the reserve.

MANAGEMENT CONCERNS

SIGNIFICANT SPECIES	BC LIST STATUS	COSEWIC STATUS	CF PRIORITY
Northern Abalone	Red listed	Threatened (2000)	2
Alaskan sagebrush	Blue listed		3
Black Oystercatcher			5
Harbour Seal		Not At Risk (1999)	6

THREATS

Climate Change: Raised sea levels have been projected as a direct result of climate change, due to glacial melt, increased runoff and the expansion of the ocean water due to warmer temperatures. Changes to the structure of inter and subtidal communities may result in response to habitat loss or degradation from increased storm activity and higher sea level, along with the increased sea surface temperature. Certain species' life cycle patterns may also change in response to these new conditions, altering the relationship between predators and prey both within the water and above.

Also of concern with this reserve is the geographical restriction of adaptation through migration due to the proximity of urban infrastructure and coastal development.

Transportation: There is the threat of oil spill from nearby marine traffic.

Non-native species: Introduction of invasive species via adjacent roads.

RESEARCH OPPORTUNITIES Marine environments accessible by land, within minutes, for researchers and students in the Greater Victoria area. Reports are available listing marine algae and invertebrates.

SCIENTIFIC NAMES OF SPECIES MENTIONED IN THE TEN MILE POINT ER ACCOUNT

Flora

alga, brown (aka seersucker) (*Costaria costata)*
alga, brown (*Desmarestia intermedia*)
alga, brown (*Laminaria* spp.)
alga, red (*Ceramium* sp.)
alga, red (*Plocamium tenue)*
alga, red (*Plocamium violaceum)*
alga, red (aka "sea brush") (*Odonthalia floccose)*

alga, red (*Callophyllis flabellulata)*
alga, red (*Laurencia spectabilis)*
kelp, flattened sea (*Desmarestia ligulata)*
lichen, black *(Verrucaria sp.)*
sagebrush, Alaskan (*Artemisia alaskana)*

Fauna
Abalone, Northern (aka Pinto Abalone) (*Haliotis kamtschatkana)*
Barnacle, Giant (*Balanus nubilus)*
Barnacle, Thatched (*Semibalanus cariosus)*
Chiton, Black (*Katharina tunicata)*
Chiton, Gumboot (*Cryptochiton stelleri)*
Clam, Butter (*Saxidomus giganteus)*
Oystercatcher, Black (*Haematopus bachmani)*
Sea Cucumber, California (*Parastichopus californicus*)
Sea Cucumber, Red (*Cucumaria miniata*)
Sea Urchin, Giant Red (*Strongylocentrotus franciscanus*)
Seal, Harbour (*Phoca vitulina*)
Star, Blood (*Henricia leviuscula)*
Star, Ochre (*Pisaster ochraceous)*