

ORIGINAL PURPOSE To protect the most easterly isolated stand of Garry oak and associated ecosystem in British Columbia

OVERVIEW

Date established:	9 December 1998	Location:	2 km NE of Yale
ORC #:	9769	Latitude:	49°33'N
Map number:	91/B/11	Longitude:	121°23'W

Total Area:	11.65 ha	Elevation:	200 m
Land:	11.65 ha		

Access: Accessible by boat from the west side of the Fraser River.

Biogeoclimatic Zone:	Coastal Western Hemlock (CWH)
Biogeoclimatic Variant:	CWHds1 Southern Dry Submaritime
Ecosection:	Eastern Pacific Ranges
Region:	Lower Mainland
Management Area:	North Fraser

COMPOSITION

Physical: The reserve consists of a series of rocky outcrops and bluffs that have been cut through by the Canadian National Railway line which separates the upper part of the stand from the more open lower portion. The lower portion is again divided into a northwestern and a southeastern part by an indentation in the river's shoreline (a sandy beach at low water) that extends to the base of a steep talus slope below the railway.

Soils range from shallow on more open bluffs to deep and stony on sites between the outcrops and on some benched sites.

Biological: The most significant feature is the disjunctive occurrence of Garry oaks, some 160 km from their main distribution along the coast. Set within a conifer forest, this is a heterogeneous, mixed Garry oak stand with younger Douglas-fir on all but the most shallow, rocky soils. Also significant are the associated vascular plants and bryophytes that are characteristic of both coastal Garry oak and, to a lesser degree, drier interior ecosystems. Many of these species also show wide disjunctions from their closest populations. Plants with coastal affinities include, among vascular plants, Hooker's onion, long-stoloned sedge, and licorice fern, and among bryophytes (*Dendroalsia abietina*), (*Zygodon viridissimus*), (*Anacolia menziesii*), (*Homalothecium nuttallii*), (*Antitrichia californica*) and (*Orthotrichum lyellii*). In contrast, vascular plants with interior affinities include such species as water birch, choke cherry, bluebunch wheatgrass, brown-eyed Susan, rough-stemmed fleabane and western polypody.

Cultural: There is evidence of precontact First Nations' occupation within the reserve area; a cache pit, mound and unidentified cultural depression have been documented.

MANAGEMENT CONCERNS

SIGNIFICANT SPECIES	BC LIST STATUS	COSEWIC STATUS	CF PRIORITY
Garry oak – bigleaf maple – cherries association	Red listed		Not Assessed
White Sturgeon (lower Fraser River population)	Red listed	Endangered (2003)	1
heterocodon	Blue listed		2

THREATS

Climate Change: The distribution of Garry oak ecosystems may expand, if properly managed and unhindered, due to drying and warming climate and increases in disturbance such as fire. The encroachment of Douglas-fir on Garry oak communities may also continue due to natural forest succession.

Geological processes: Fraser River flooding

Loss of species-at-risk: Encroachment of Douglas-fir into the rare Garry oak stands.

Recreation: Illegal garbage dumping occurs, changing water quality, modifying physical environment and changing the soil chemistry.

Transportation corridors: Cutting of Garry oaks for fire wood occurs; access is through rail line.

Transportation corridor: Railway corridor increases access to reserve and modifies physical environment. Transportation changes air quality and disturbs species as well as introducing non-native species.

RESEARCH OPPORTUNITIES Studies on Garry oak ecology and forest succession can be conducted within the reserve.

SCIENTIFIC NAMES OF SPECIES MENTIONED IN THE YALE GARRY OAKS ER ACCOUNT

Flora

birch, water (*Betula occidentalis*)
 brown-eyed Susan (*Gaillardia aristata*)
 cherry, choke (*Prunus virginiana*)
 Douglas-fir (*Pseudotsuga menziesii*)
 fern, licorice (*Polypodium glycyrrhiza*)
 fleabane, rough-stemmed (*Erigeron strigosus* var. *strigosus*)
 heterocodon (*Heterocodon rariflorum*)
 maple, bigleaf (*Acer macrophyllum*)
 moss (*Anacolia menziesii*)
 moss (*Antitrichia californica*)
 moss (*Dendroalsia abietina*)
 moss (*Homalothecium nuttallii*)
 moss (*Orthotrichum lyellii*)
 moss (*Zygodon viridissimus*)

oak, Garry (*Quercus garryana*)
onion, Hooker's (*Allium acuminatum*)
polypody, western (*Polypodium hesperium*)
sedge, long-stoloned (*Carex inops*)
wheatgrass, bluebunch (*Pseudoroegneria spicata*)

Fauna

Sturgeon, White (Lower Fraser River population) (*Acipenser transmontanus* pop.4)