

## WOODLEY RANGE

ER #142

**ORIGINAL PURPOSE** To protect exceptional plant species richness and sensitive meadow and woodland ecosystems developed on cretaceous sandstones

### OVERVIEW

<b>Date established:</b>	30 April 1996	<b>Location:</b>	2 km N of Ladysmith
<b>ORC #:</b>	4455	<b>Latitude:</b>	49°01'N
<b>Map number:</b>	92 G/4	<b>Longitude:</b>	123°49'W

<b>Total Area:</b>	166 ha	<b>Elevation:</b>	60-180 m
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**Access:** The reserve is accessible via Aho Road which leads to the western boundary of the reserve, as well as Henry Roethel Road off Aho Road which leads to the northern boundary of the reserve.

**Biogeoclimatic Zone:** Coastal Douglas-Fir (CDF)  
**Biogeoclimatic Variant:** CDFmm Moist Maritime  
**Ecosection:** Nanaimo Lowlands  
**Region:** Vancouver Island  
**Management Area:** Qualicum

### COMPOSITION

**Physical:** Woodley Range is a prominent NW-SE-oriented ridge with a steep escarpment to the southwest, facing the head of Ladysmith Harbour, and more gentle, smooth slopes towards the northeast. The reserve is located on the moderate NE-facing slopes, except for the extreme southwestern corner which overhangs the escarpment. Soils are generally shallow and are derived from underlying sandstone bedrock and conglomerates of the De Courcy Formation.

**Biological:** The vegetative cover of the reserve is divided between forest, open and dry meadows, and wetlands. The open meadows are of particular interest as they provide most of the plant species richness. Glacier-polished, smooth sandstones with very shallow soils and localized springtime seepage support colourful spring flora and rare plant occurrences. Drought and fire have very important functions in maintaining the present vegetation pattern in both the meadows and the forested portions. Forests on Woodley Range are mostly second- growth dry Douglas-fir and arbutus forests developed after logging and/or fire. On sites where water drainage is relatively slow, soils are nutrient rich and stands are dominated in their earlier stages by deciduous trees, including bigleaf maple and red alder. In later successional stages or where residual trees were left during logging, western redcedar, grand fir, western hemlock, and Douglas- fir predominate. The understory is dominated by herbs and include sword fern and vanilla-leaf. Small-forested wetlands occur in a few areas of the reserve, with salmonberry and herb layers of ferns,

skunk cabbage, and slough sedge.

A larger, open wetland is located in the flat area in the western part of the reserve. This is the only portion of the reserve that drains to the southwest, down the steep escarpment. It supports stands of hardhack, crab apple and willows. Bog bird's-foot trefoil (*Lotus pinnatus*) occurs in the stream exiting the wetland.

Naturally tree-less upland areas are rare on Vancouver Island and this is an area where open glades and meadows on very shallow soils provide habitat for many plant species and several plant communities that are uncommon in the surrounding landscape. The reserve protects a diversity of 187 vascular plant species; 27 of these species are considered at least regionally rare. Rare plant species include: dune bentgrass, slim-leaf onion, white-top aster, green-sheathed sedge, Nuttall's quillwort, Howell's violet, and bog bird's-foot trefoil. Rare wildlife include Turkey Vulture, Big-eared Bat and Keen's Long-eared Myotis.

**Cultural:** No known cultural sites are present in the reserve. However, many of the plant species present were used by First Nations and it is likely that they gathered plant material in both the meadow and the forest.

#### MANAGEMENT CONCERNS

SIGNIFICANT SPECIES	BC LIST STATUS	COSEWIC STATUS	CF PRIORITY
dune bentgrass			2
slimleaf onion	Blue listed		2
white-top aster	Red listed	Special Concern (2009)	1
green-sheathed sedge	Red listed		2
Nuttall's quillwort	Blue listed		2
Howell's violet	Blue listed		2
bog bird's-foot trefoil	Red listed	Endangered (2004)	1
Turkey Vulture			5
Townsend's Big-eared	Blue listed		2
Bat	Red listed	Data Deficient (2003)	1
Keen's Myotis			

#### THREATS

**Climate Change:** Increased temperatures and changes to rainfall patterns have the potential to dry out wetlands and change ecosystems. In this reserve the management decisions that will positively affect the future outcome of ecosystem changes are related to managing invasive species and human impacts. The compaction from heavily used trails can potentially change natural water flows.

**Recreation:** Illegal recreational activities such as ATV and motorbike use of trails and equestrian use are negatively impacting ecosystems through degradation of vegetation, trail erosion and noise pollution.

	Intense use of unofficial trails by hikers is causing erosion.
<b>Adjacent land Use</b>	Recent developments along ER boundary could see an increase in trespass issues from adjacent property owners such as dumping or encroachment.
<b>Transportation</b>	The nearby Cassidy Airport is creating noise pollution from the take-off and landing of planes.  A right of way goes through the southern part of the reserve. Any use of this right of way will fragment the already small reserve.
<b>Non-native species:</b>	Bull frogs have invaded the wetlands and are dominating the ecosystem.  Scotch broom is located in some of the meadows that are habitat for listed species such as Bog bird's-foot trefoil and white-top aster. The ER Warden has been trying to keep it under control.  There is potential for the invasion of carpet burweed which could change the character of native ecosystems. This species is introduced by human vectors when seeds are carried in on boots. It generally colonizes disturbed areas.
<b>RESEARCH OPPORTUNITIES</b>	This reserve supplies a reference area for the CDFmm. Monitoring changes in either the terrestrial or wetland ecosystems will help with an understanding of the changes we are seeing due to climate change and can help in ecosystem management decisions throughout the zone.

#### SCIENTIFIC NAMES OF SPECIES MENTIONED IN THE WOODLEY RANGE ER ACCOUNT

##### Flora

alder, red (*Alnus rubra*)  
 arbutus (*Arbutus menziesii*)  
 aster, white-top (*Aster curtus*)  
 bentgrass, dune (*Agrostis pallens*)  
 burweed, carpet (*Soliva sessilis*)  
 cabbage, skunk (*Lysichiton americanus*)  
 cottonwood, black (*Populus balsamifera* ssp. *trichocarpa*)  
 crab apple, Pacific (*Malus fusca*)  
 Douglas-fir (*Pseudotsuga menziesii*)  
 fern, sword (*Polystichum munitum*)  
 fir, grand (*Abies grandis*)  
 hardhack (*Spiraea douglasii* ssp. *douglasii*)  
 hemlock, western (*Tsuga heterophylla*)  
 maple, bigleaf (*Acer macrophyllum*)  
 onion, slimleaf (*Allium amplexans*)  
 quillwort, Nuttall's (*Isoetes nuttallii*)  
 redcedar, western (*Thuja plicata*)  
 salmonberry (*Rubus spectabilis*)  
 sedge, green-sheathed (*Carex feta*)

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sedge, slough (*Carex obnupta*)  
skunk cabbage (*Lysichiton americanus*)  
trefoil, bog bird's-foot (*Lotus pinnatus*)  
vanilla-leaf (*Achlys triphylla*)  
violet, Howell's (*Viola howellii*)  
willow (*Salix spp.*)

**Fauna**

Bat, Townsend's Big-eared (*Corynorhinus townsendii*)  
Bullfrog (*Rana catesbeiana*)  
Frog, Northern Red-legged (*Rana aurora*)  
Myotis, Keen's (*Myotis keenii*)  
Vulture, Turkey (*Cathartes aura*)