



Native Vascular Plants of Protection Island *Part I. Trees and Shrubs*

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this with friends.



Acknowledgements

- Thank you to the Snuneymuxw First Nation, in whose traditional territory we are located and whose ancestors have cared for this place for many generations
- Thanks to Bob Turner (who took many of the photos), to all our friends on Protection Island, and to all the hard working people who contribute to the richness and beauty of Protection Island in so many ways.





Protection Island is situated within the Coastal Douglas-fir Biogeoclimatic zone – a very limited ecosystem in Canada, with many species restricted to this zone and found nowhere else in the country

Map from: Peter Arcece Lab;
<http://arcese.forestry.ubc.ca/research/>

Protection Island Habitats

- Intertidal
- Sandy and gravelly shoreline
- coastal bluffs and prairies
- Douglas-fir woodlands
- Forest edges & roadsides
- Ponds and wetland areas
- Disturbed sites



https://maps.gosur.com/map/canada/?gclid=EAlaIQobChMI2reKx5iv6QIVoZSnCh0p4wdTEAEYASAAEgJDx_D_BwE&ll=49.17742571717682,-123.92915621079283&z=13.773485981127259&t=satellite

These habits are all home to many different birds, mammals & other vertebrates, insects & other invertebrates; All these are part of the web of life on our island



Douglas-fir and white-crowned sparrow; comma butterfly, green tree frog, Northwestern garter snake

Mosses, lichens, fungi...



Oregon feather moss, fork moss and cat's-tail moss; field mushroom; and lung lichen



There are also many mosses, liverworts, lichens and fungi that are part of the Protection Island ecosystems, but they are not covered here.



Marine algae... Another group of plant-like organisms

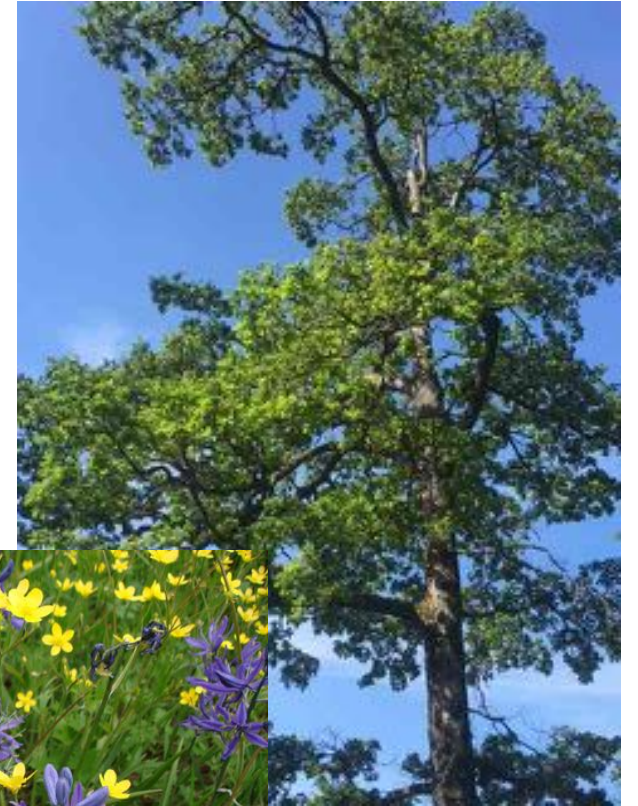


There are many attractive marine algae growing in the intertidal and subtidal zones around Protection Island, but these are not covered here (left: *Fucus* spp.; sea wrack; right: *Pyropia* sp., red laver)



Garry Oak Ecosystems

The Coastal Douglas-fir Zone is only area in Canada that supports *Garry oak* ecosystems, one of the most biodiverse and endangered ecosystems in Canada (less than 5% remaining)



Camas and western buttercup; oceanspray; seablush; garry oaks

Douglas-fir (*Pseudotsuga menziesii*); Pine family (Pinaceae)



Douglas-fir rough bark



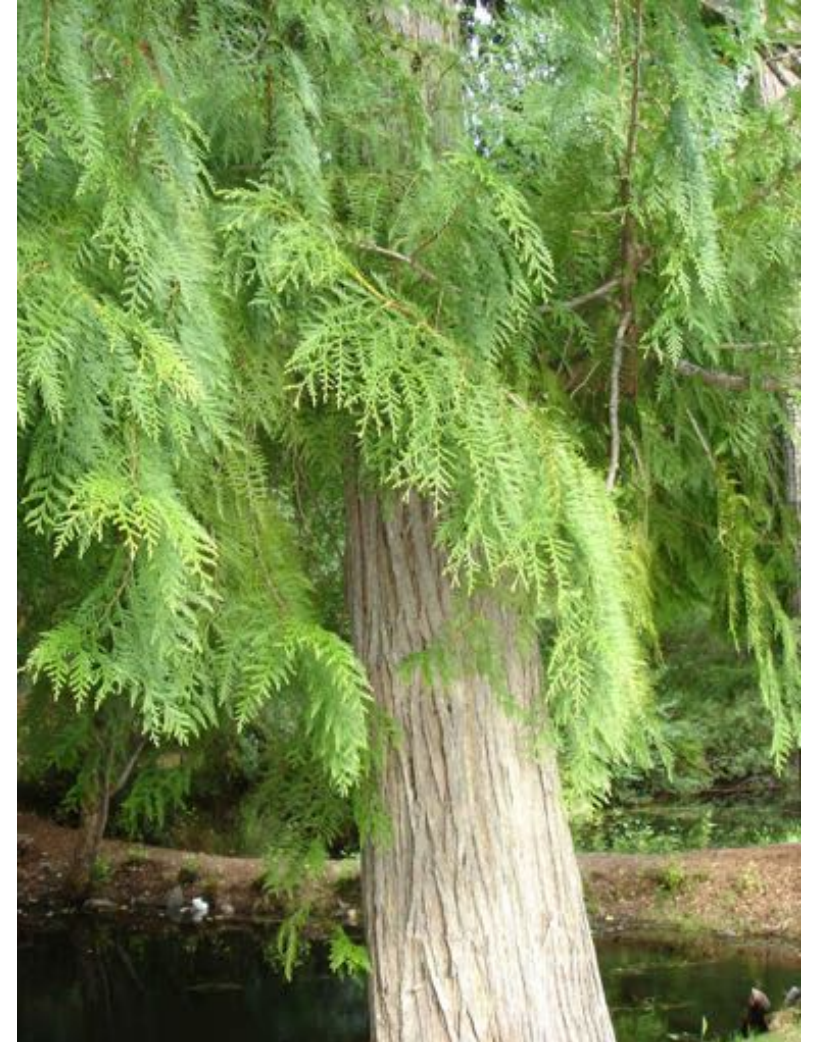
Western redcedar (*Thuja plicata*); Cypress family (Cupressaceae)



Cedarbark
basket
made by
Willie
White



very important tree
for First Nations;
wood for houses,
canoes; bark for
weaving



Grand fir (*Abies grandis*); Pine family (Pinaceae)

- Sometimes called “balsam fir”; has flattened boughs and upright cones at the top of mature trees; cones break apart to release seeds



Western hemlock (*Tsuga heterophylla*);
Pine family (Pinaceae)



Small cones,
short needles,
whitish
undersides of
boughs

Shore pine or lodgepole pine (*Pinus contorta*); Pine family (Pinaceae)

- Needles in clusters of two;
small hard woody cones; grows
in dry rocky places



Pacific yew, or western yew (*Taxus brevifolia*); Yew family (Taxaceae)



Yew wood
wedge



Broad-leaved trees of Protection I

Bigleaf Maple (*Acer macrophyllum*); Maple family (Aceraceae)

- Very large leaves; Wood used for paddles and spindle whorls by local First Nations



Red Alder (*Alnus rubra*); Birch family (Betulaceae)



Has “cones” and catkins; bark used for red dye; also an important medicine with antibiotic properties

Arbutus or Pacific Madrone (*Arbutus menziesii*); Heather family (Ericaceae)



- Canada's only native broad-leaved evergreen tree; in the Heather Family



Flowering dogwood (*Cornus nuttallii*); Dogwood family (Cornaceae)



- Our provincial flower; has become rare due to a blight; but several beautiful trees on PI

Pacific crabapple (*Malus fusca*); Rose family (Rosaceae)

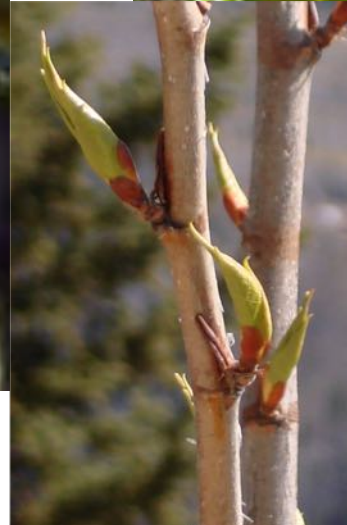
- Small apples in clusters; edible but tart; wood hard; used for implement handles



Black cottonwood (*Populus balsamifera* ssp. *trichocarpa*); Willow family (Salicaceae)



- Cottony fruits, fragrant resinous buds in springtime; grow in wet areas



Trembling aspen (*Populus tremuloides*); Willow family (Salicaceae)

- Likes moist soil; light coloured trunks; rounded leaves that flutter in the breeze



Bitter cherry (*Prunus emarginata*); Rose family (Rosaceae)



- Cherries tiny and bitter; bark used in First Nations' basketry and for wrapping implements



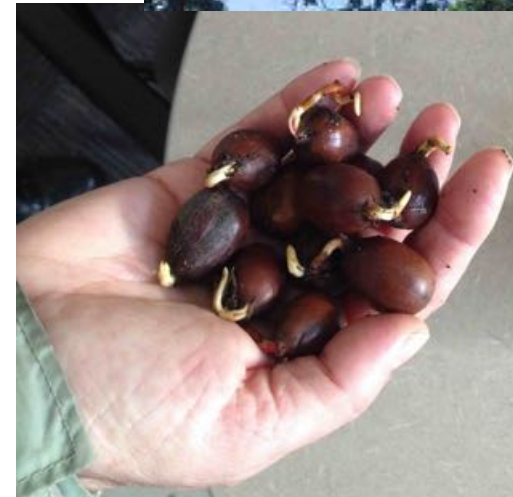
Bark used dyed black and natural red, for decoration in coiled cedarroot baskets



Garry oak (*Quercus garryana*); Beech Family (Fagaceae)



- Occurs mostly around the coastline; needs clearings to thrive



Cascara (*Rhamnus purshiana*); Buckthorn family (Rhamnaceae)



- Bark a well-known laxative medicine; black berries eaten by birds and bears



Willows (*Salix* spp.); Willow family (Salicaceae)

Mostly like to grow in moist soil; willow is the original source of salicylic acid, precursor to Aspirin.



- Scouler's willow (*Salix scouleriana*), Sitka willow (*S. sitchensis*), Pacific willow (*S. lucida* ssp. *lasiandra*) and Hooker's willow (*S. hookeriana*)

Native Shrubs of Protection Island



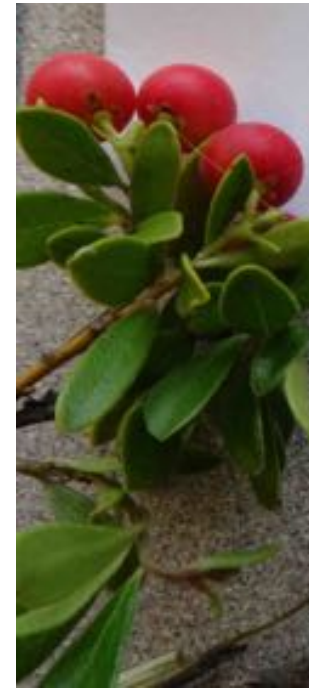
Saskatoonberry (*Amelanchier alnifolia*); Rose family (Rosaceae) – white flowers in May; berries edible; various commercial strains available as well



Kinnikinnick or bearberry (*Arctostaphylos uva-ursi*); Heather family (Ericaceae)



- Evergreen groundcover; urn-shaped pink flowers, red berries that are edible but dry; excellent in landscaping



Red-osier Dogwood (*Cornus stolonifera*); Dogwood family (Cornaceae)



Likes wet places; white flowers in clusters; white berries edible but bitter; reddish twigs; leaves turn red in the fall

Black hawthorn (*Crataegus douglasii*); Rose family (Rosaceae)



Large deciduous shrub; May occur on PI; sharp thorns; edible but seedy berries; grows commonly in BC



Salal (*Gaultheria shallon*); Heather family (Ericaceae)



Delicious edible berries;
important for coastal
First Peoples



Oceanspray (*Holodiscus discolor*); Rose family (Rosaceae)



- Hard, straight branches used for arrows, digging sticks, spear shafts by First Nations; beautiful sprays of cream-coloured flowers bloom in May-June; common shrub of open woods and forest edges

Orange honeysuckle (*Lonicera ciliosa*) and purple, or hairy honeysuckle (*L. hispidula*); Honeysuckle family (Caprifoliaceae)



- Both native to our woods; important nectar sources for insects and hummingbirds; purple honeysuckle is endemic to our area.



Black twinberry, or twinflower honeysuckle (*Lonicera involucrata*); Honeysuckle family (Caprifoliaceae)



Yellow flowers and black berries in pairs;
berries not edible; grows in wetlands; an
important First Nations' medicine

Tall Oregon-grape (*Mahonia aquifolium*); Barberry family (Berberidaceae)



Inner bark yellow; used for dye and medicine;
plants often used in landscaping

Evergreen prickly shrub,
bright yellow springtime
flowers, purple berries
(edible but sour)



Low Oregon-grape (*Mahonia nervosa*); Barberry family (Berberidaceae)



Tends to like shadier woods; more leaflets per leaf than tall Oregon-grape; berries edible but tart; inner bark is yellow; used for dye and medicine

Bird cherry (*Oemleria cerasiformis*); Rose family (Rosaceae)



First shrub to leaf out and bloom in the spring; small “plums” are edible but have large seeds; male and female flowers on different bushes

False Box (*Paxistima myrsinites*); bitterweet family (Celastraceae)

Small shrub of shaded woods; tiny flowers; evergreen leaves



Mock-orange (*Philadelphus lewisii*); Hydrangea family (Hydrangeaceae)

Fragrant flowered shrub; often grown in gardens; likes open woods; not common





Ninebark (*Physocarpus capitatus*); Rose family (Rosaceae)

- Likes to grow in wet areas; white flowers in clusters; shredded bark; can grow quite tall



Red-flowering currant (*Ribes sanguineum*); Gooseberry family (Grossulariaceae)



- Pink to reddish flower clusters; spring-flowering; important hummingbird flowers; blue berries edible but a bit seedy



[rufous hummingbird
photo – Cornell Labs

Other *Ribes* spp. that may occur on PI, or may have in the past;); Gooseberry family (Grossulariaceae)

Coastal black
gooseberry (*R.*
divaricatum)
below



Stink currant (*R.*
bracteosum) left;
gummy gooseberry (*R.*
lobbii) below; all have
edible berries



Dwarf wild rose (*Rosa gymnocarpa*); Rose family (Rosaceae)



Small, very prickly shrub of woodlands;
small flowers; sometimes called
“baldhip rose”; twigs can be used to
make tea

Nootka wild rose (*Rosa nutkana*); Rose family (Rosaceae)



Not to be confused with European dog rose (*Rosa canina*) which also grows as a garden escape on PI

Attractive large fragrant flowers blooming around May-June; bright red hips; potentially tall shrub; deciduous



Blackcap (*Rubus leucodermis*); Rose family (Rosaceae)

Raspberry-like shrub, very prickly with bluish coloured stems and raspberry-like leaves and berries; berries dark purplish when ripe; grows in open places



Thimbleberry (*Rubus parviflorus*); Rose family (Rosaceae)



No prickles; soft maple like leaves; white flowers, soft red berries that are edible and sweet; young sprouts can be peeled and eaten

Salmonberry (*Rubus spectabilis*); Rose family (Rosaceae)



- Prickly shrub of wet areas with three-parted leaves like raspberries; berries come in golden, ruby and dark colours; edible and important wildlife food

Trailing blackberry (*Rubus ursinus*); Rose family (Rosaceae) – our native blackberry

Earlier blooming and
fruiting than the
introduced
Himalayan
blackberry, and with
slenderer vines



Blue elderberry (*Sambucus cerulea*); Honeysuckle family (Caprifoliaceae)



Large shrub with flat-topped flower- and berry clusters; small blue berries edible, but don't eat too many raw; good for jelly; may occur on PI, or possibly did in the past



Red Elderberry (*Sambucus racemosa*); Honeysuckle family (Caprifoliaceae)



Large shrub of wet areas; Compound leaves; Bright-red berries; edible when cooked but do not eat raw; leaves, bark roots all poisonous; cyanide-producing compounds

Hardhack (*Spiraea douglasii*); Rose family (Rosaceae)

Sometimes called wild lilac; beautiful flowering shrub of wetlands; hard wood shoots used for skewers and salmon-spreaders



Snowberry or waxberry (*Symphoricarpos albus*); Honeysuckle family (Caprifoliaceae)



Small pink flowers in clusters; white berries poisonous but plant used for medicine; grows in thick patches in open woods; in the honeysuckle family

Evergreen huckleberry (*Vaccinium ovatum*); Heather family (Ericaceae)



Evergreen leaves; dark or sky-blue berries – small but delicious; excellent in muffins or jam; a few bushes found in PI woods



Red huckleberry (*Vaccinium parvifolium*); Heather family (Ericaceae)



- A favourite wild edible berry; grows in open woods and along roadsides; berries make excellent pies, jam, etc.

Some Introduced, often invasive trees and shrubs of Protection Island: English hawthorn (*Crataegus monogyna*)



Red berries in clusters; robins and other birds like them; common on Protection I



English hawthorn leaves (left);
and native black hawthorn leaves
(right)

Invasive shrub/tree: English holly (*Ilex aquifolium*)



Spread into woods by birds; male and female flowers on separate plants; some quite old holly plants on Pl.

Potentially invasive tree: Mountain-ash (*Sorbus aucuparia*)



Compound leaves; white flowers; orange fruits in clusters; birds like the berries; we have native species in BC but this one is from UK and Europe

Invasive shrub: Daphne laurel or spurge laurel (*Daphne laureola*)



- Very invasive evergreen; poisonous but spread by birds; common in PI wood

Invasive shrub: Scottish broom (*Cytisus scoparius*)



Originally from Mediterranean; introduced to Scotland in Julius Caesar's time; very prolific; grows best along roadsides and in clearings

Invasive woody vine: English ivy (*Hedera helix*)



This vine loves Protection Island; it covers the ground, smothers ground plants, and climbs up trees of all kinds



Dog rose (*Rosa canina*)



European wild rose,
similar to Nootka
rose but pricklier,
and with mossy galls
on the branches
often

Invasive shrub: Himalayan blackberry (*Rubus armeniacus*)

Larger and later fruiting than our native trailing blackberry; very robust; can easily take over forest and wetland edges; excellent berries and provide some habitat but can be overwhelming for native species

