

## THE WEST COAST RAINFOREST

With 2 meters (6 feet) of precipitation in a year, the forests close to Alice Arm inlet grow in a wet, cool environment with nutrient-poor soils. Dominant trees in mature and old growth forests are conifers - evergreen trees with needle-like leaves. Thick organic layers on the forest floor are covered with rotting logs, mosses, and shade-tolerant seedlings and shrubs.



Forest ecosystems of the Kitsault area have complex relationships between organisms. Salmon bring nutrients back from the ocean and help the growth of trees next to streams. Root-dwelling fungi assist the trees to absorb these nutrients. Intricate communities of fungi, bacteria, and small invertebrates live in rotting wood and recycle important nutrients when a tree dies. Some pioneer plant species which grow in disturbed sites, such as red alder, have symbiotic bacteria in their roots and fix atmospheric nitrogen into compounds that can be absorbed by other plants. When the forest is damaged, exposed soil and nutrients wash away in the rain.

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Wildlife photos, Page 2- Copyright by Richard Brown (moose, wolf, grizzly bear, fox, and boreal chickadee) and M. Mathew (black bears). Photos from Kitsault and northwestern British Columbia.

# KITSAULT RESORT

BRITISH COLUMBIA, CANADA



## PLANTS AND ANIMALS

YOU MIGHT SEE

## WILDLIFE

In the dark shadows of the rainforest, the wildlife of the Kitsault area can be hard to see. Some live in the tall trees, such as the noisy red squirrels and their predators, the martens. Others come seasonally to banquet on returning salmon – grizzly bears, wolves, and red foxes annually gather in the fall at the Kitsault and Illiance Rivers to feed on the rich bounty from four species of spawning salmon. Other wildlife species frequent the townsite itself, including resident black bears, moose, and deer.



Over 50 species of birds live in the Kitsault area. Canada geese stop at the townsite during both spring and autumn migrations. Some birds, such as boreal chickadees (below) and ravens, are year-round residents.



Black bears in the Alice Arm inlet area come in different colours, ranging from black to rusty brown.



Moose are resident in Kitsault during winter months, eating shrubs and attracting local wolves.



Grizzly bears pass through in fall, on their way to salmon streams.



## SHRUBS

Shrubs are important in the coastal rainforest. They provide food for browsers such as deer and moose, as well as nesting sites for small birds and berries for voles, squirrels, and bears. The shrubs of the Kitsault area are thickest along waterways. They also grow in any open areas and provide delicious berries in the summer and fall. Some non-native fruit trees were planted when the town was first built in 1980 and are still thriving in the mild climate by the ocean.



Red osier dogwood is the favourite browse for Kitsault's resident moose during the fall and winter. Its long red stems can be used to make strong woven baskets and rustic furniture.



Twinberry has inedible twin black berries. It was used medicinally or as a black pigment by First Nations.



Thimbleberry – the flat red berries are enjoyed by birds and bears.



False Azalea – shade-loving shrub.



Salmonberry –tasty orange berries make a fresh treat in early summer.



Elderberry – its red berries must be cooked before making jellies or wine.

# TREES

The common forest trees at Kitsault are conifers with evergreen needles. They have shade-tolerant seedlings that grow in the low light levels under the forest canopy. Western hemlock and Sitka spruce trees can reach over 40 meters (130 feet) in height. Old growth western red cedars will live 1000 years or longer. Deciduous trees, such as red alder and black cottonwoods, lose their leaves in autumn. They are shorter lived and grow in open, disturbed environments, such as floodplains, road right-of-ways, or anywhere in Kitsault where it is not mowed or cleared.

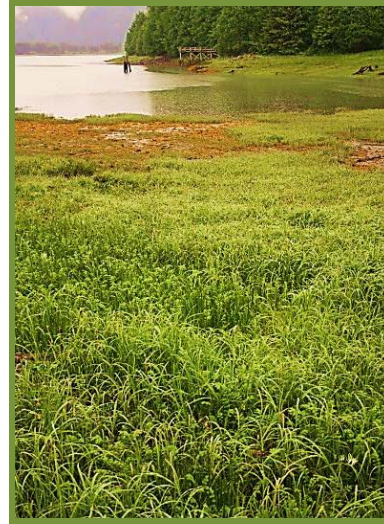


**Hemlock** (left) has flat, multiple-length green needles, thick furrowed bark and a droopy, bent top. **Sitka spruce** (right) is pitchy, with flakey bark, bluish-green, very sharp pointy needles, and a stiff, straight top.

Western Red Cedar is a long-lived tree that can grow to huge sizes. Its flat, overlapping needles are yellowish green. Cedar is essential to Nisga'a culture. It is used for everything from canoes, planks, and housing, to carvings and waterproof boxes. Cedar wood rots very slowly – the standing cedar snags in the rainforest can contain bear dens or nests for owls and woodpeckers.



The shoreline of Alice Arm inlet is influenced by the amount of freshwater that flows into the inlet from the surrounding mountains. Often a layer of freshwater, rich in glacial silt, will sit on top of the salty marine water underneath. The nutrients that flow into the inlet make it a very rich area for aquatic life. Lush estuary and tidal flat meadows are important for land animals such as bears, deer, and moose, plus migrating and resident birds, including Canada geese and Great Blue herons. Eel grass beds and stable shorelines are critical areas for rearing salmon fry, which arrive as smolts from the myriad of watercourses flowing into the inlet.



Kitsault has many types of beaches, such as rocky shingle beaches, pounded by waves in winter storms (below), or lush, soft silty beaches (right) where bears graze in spring on sedges and roots.



Boulder beaches support inter-tidal organisms which live on and under the cobbles and large smooth boulders. Crustaceans such as rock crabs and the many-legged isopods scurry about when the tide is low, joined by foraging shore birds such as plovers and sanderlings.

# SHORELINES/ESTUARIES

## WILDFLOWERS

The wet, mild climate of Kitsault allows many species of ferns, mosses, lichens, and flowers to grow in luxurious abundance. Most of the showy wildflowers grow best in open areas along shorelines, in bogs and wetlands, and in subalpine meadows.



Wild red columbine is popular with hummingbirds, butterflies and bumblebees. Its five long red spurs hide rich drops of nectar.



Dwarf dogwood or bunchberry is a common evergreen groundcover species in forest openings and bogs, and along forest edges. The red berries are sweet but pulpy.



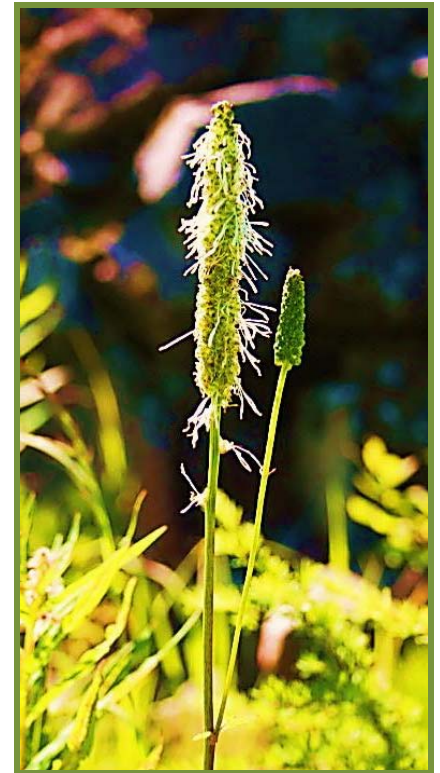
Lady fern is one of many species of ferns found at Kitsault. The fiddleheads (rolled up young leaves) of lady fern are edible when cooked. First Nations used the sweet-smelling fronds (leaves) for covering food, such as berries or left for drying.



The Leatherleaf Saxifrage is a showy perennial with tough green leaves, bright reddish stems and red seed pods. It grows very well in Kitsault Pass and on bog edges near Kitsault. Horsetail, growing with the saxifrage, is common in moist areas.



Fireweed or Rosebay Willowherb is a multi-purpose plant. Its showy flowers are popular with bugs, bumblebees and hummingbirds. The young shoots can be eaten like greens. Fireweed fluff (seeds) is used as a fibre for weaving and as stuffing for bedding and pillows. The older stems can be used as fibre for twine. The best natural honey in northern British Columbia is clear, white fireweed honey.



Right: Tall Sitka Burnet (above) and pretty Lupine (below) are two of the showy flowers that are found in estuary meadows, along stream sides, or in subalpine meadows that have deep winter snows, such as the wetlands and open areas of Kitsault Pass and adjacent mountains.

