Factsheets to Support Land, Water and Resource Management in Tŝilhqot'in Territory

Habitat Management of Forest Ecosystems

Prepared by:

Shabnam Vaghayenegar, UBC Sustainability Scholar

Prepared for:

Cynthia Fell, Resource Management Coordinator, Tŝilhqot'in National Government

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UBC sustainability

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The information in these factsheets were gathered through a literature review. The information provided are not the authors recommendations for culinary or medicinal use or site-specific management strategies.

Disclaimer

The scope of this project did not include the gathering of Tŝilhqot'in knowledge beyond the inclusion of Tŝilhqot'in names for plants. Any and all references to traditional and/or modern uses of these animals or plants was based on publicly available knowledge not specific to the Tŝilhqot'in Nation and does not necessarily reflect the patterns of use or relationship that the Tŝilhqot'in peoples have with these species.

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Green alder / Sitka alder

Alnus crispa

Photo by: Nancy J. Turner

A deciduous shrub or a small tree which grows from 1 up to 5 meters. It has stalk-less buds which are pointed and have yellowish brown colour. Sitka alders are mostly found in low elevations and in well-drained upland forests. The nodules in alder trees improve soil fertility by fixing atmospheric nitrogen.

FACTS AT A GLANCE

ECOLOGY

Subalpine

ORIGINAL STATUS

Native

WILDLIFE

Moose
Elk
Caribou
Snowshoe hare
Beaver

PROPAGATION

Seed

FIRE RESISTANCE

High

Nutrition

Nutrient Facts

Bark	Per 100 g Fresh wt
Energy	270 kcal
Water	50 g
Protein	4.3 g

Usage

Green alders are used as a reddish dye, used for smoking salmon and meat, making baskets and carvings. They are a good source for fuel as well.

The ashes have been used to clean teeth.

A decoction of the inner bark has been used to cure stomach issues.

A poultice made form the leaves can have healing properties for the infected sores and wounds.

Reference: 1. Kuhnlein.H, Turner, N (1991). Traditional Plant Foods of Canadian Indigenous Peoples: Nutrition, Botany and Use. Vol 8. 2. Parish. R, Coupe. R, Lioyd. D (1996). Plants of Southern Interior British Columbia and the Inland Northwest. 3. [E-flora] In Klinkenberg, Brian. (Editor) 2017. *E-Flora BC: Electronic Atlas of the Plants of British Columbia* [eflora.bc.ca]. 4. 4. . Moerman.D. (1998) Native American Ethnobotany. Timber Press. Oregan 5. Matthews.V. (1994). The New Plantsman. Royal Horticulturual Societ. Vol 1

Arnica

Arnica sp.

Photo by: Michael Woodruff (*inaturalist)*

FACTS AT A GLANCE

ECOLOGY

Subalpine

ORIGINAL STATUS

Native

WILDLIFE

Elk
Deer

PROPAGATION

Seed
Root cutting

FIRE RESISTANCE

Moderate

Perennial herb that grows from rhizome up to 20 to 100 cm tall. With yellow disk flowers and achenes and pappus of whitish hair as fruits.

Nutrition

Arnica contains arnicin, choline, a volatile oil (dimethyl ether of thymohydroquinone), arnidendiol, formic acid, and angelic acid which can change the activity of the heart. Therefore, taking arnica teas internally may cause symptoms of poisoning. And it needs to be diluted with water for external uses.

Usage

Arnica has been externally used to treat bruises and sprains.

Internally it has been used to heal heart issues and boosting immune system. It has anti-inflammatory properties and increases blood supply.

These plants have some toxicity and must be used with caution. They can cause skin rashes or dermatitis.

The leaves can also be smoked as tobaccos.

Reference: 1. Kuhnlein.H, Turner, N (1991). Traditional Plant Foods of Canadian Indigenous Peoples: Nutrition, Botany and Use. Vol 8. 2. Parish. R, Coupe. R, Lioyd. D (1996). Plants of Southern Interior British Columbia and the Inland Northwest. 3. [E-flora] In Klinkenberg, Brian. (Editor) 2017. *E-Flora BC: Electronic Atlas of the Plants of British Columbia* [eflora.bc.ca]. 4. McLean.A. (1968). Fire resistance of forest species as influenced by root systems. Journal of range management. 22:120-122

Ts'ats'elchen

Arrowleaf balsamroot

Balsamorhiza sagittata

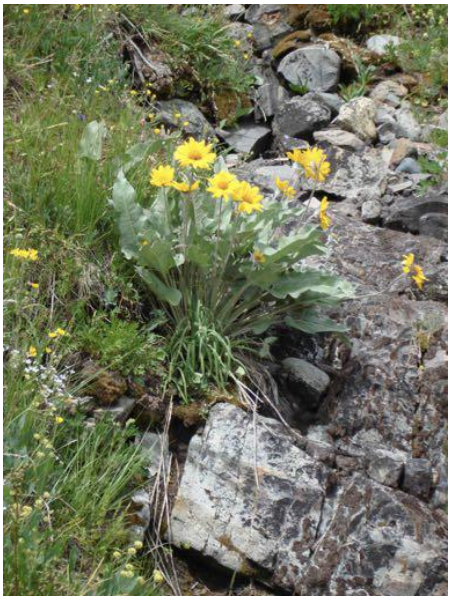


Photo by: Nancy J. Turner

A perennial that grows up to 20 to 80 cm tall. It has yellow disk flower heads.

FACTS AT A GLANCE

ECOLOGY

Dry grasslands, Open forets

ORIGINAL STATUS

Native

WILDLIFE

Moose
Elk
Deer
Bighorn sheep
Caribou
Snowshoe hare
Beaver

PROPAGATION

Seed

FIRE RESISTANCE

Moderate

Nutrition

Nutrient Facts

Roots dry	**Per 100 g Fresh wt**
Water	8 g
Protein	4.1 g
Ash	5.5 g
Stems	**Per 100 g Fresh wt**
Protein	0.3 g
Calcium	241 mg
Phosphorus	47
Greens	**Per 100 g Fresh wt**
Protein	1.6 g
Fat	0.3 g
Crude fiber	1.9 g
Ash	1.5 g
Calcium	173 mg
Phosphorus	43 mg
Vitamin C	13.8 mg

Usage

The whole plant is edible. The new leaves can be eaten fresh or steamed or can be smoked as tobacco.

Their seeds are similar to sunflower seeds, and they can be dried and used as flour. The woody taproots can also either be roasted, steamed, hung to dry and then soaked overnight.

The juice from the stems can ease thirst. The oil in its seeds can be used for cooking. Plants with 6 to 12 leaves are considered good for harvesting, the ones with 40 to 50 leaves are considered as the mother plants and not to be harvested. The mother plants ensure the plants' future growth. Traditional pit cooking increases the roots' nutritional value.

Reference: 1. Kuhnlein.H, Turner, N (1991). Traditional Plant Foods of Canadian Indigenous Peoples: Nutrition, Botany and Use. Vol 8. 2. Parish. R, Coupe. R, Lioyd. D (1996). Plants of Southern Interior British Columbia and the Inland Northwest. 3. [E-flora] In Klinkenberg, Brian. (Editor) 2017. *E-Flora BC: Electronic Atlas of the Plants of British Columbia* [eflora.bc.ca]. 4. McLean.A. (1968). Fire resistance of forest species as influenced by root systems. Journal of range management. 22:120-122

T'aŝbay

Trembling aspen

Populus tremuloides

Photo by: Nancy J. Turner

FACTS AT A GLANCE

ECOLOGY

Low to Subalpine

ORIGINAL STATUS

Native

WILDLIFE

Ungulates
Bears
Small mammals
Beaver
Grouse
Cavity nesting birds

PROPAGATION

Seed

FIRE RESISTANCE

High

Trembling aspens are found in subalpine elevations, mostly common in northern BC. They appear in different sites from moist open forests to the edges of dry grasslands. They are intolerant to saturated soils for long periods and shade. They reproduce from root suckers after cutting or fire disturbances.

Nutrition

Nutrient Facts

Bark	Per 100 g Fresh wt
Water	41 g
Protein	1.3 g
Crude Fiber	31.7 g
Ash	1.6 g
Calcium	684 mg
Phosphorus	17 mg
Sodium	1.8 mg
Potassium	130 mg
Magnesium	53.1 mg
Copper	0.5 mg
Zinc	8.3 mg
Iron	4.4 mg
Manganese	1.2 mg

Usage

Rotten aspen wood used to be used as diaper materials and lining for baby cradles.

Canoes, tent poles and drying racks are made from these trees. Aspen trees make very good products for sauna benches and playground assemblies, because they do not splinter. Other than that, products such as pulp, flake boards, lumber, studs, veneer, plywood, chopsticks, matches and other luxurious items can be made from these trees.

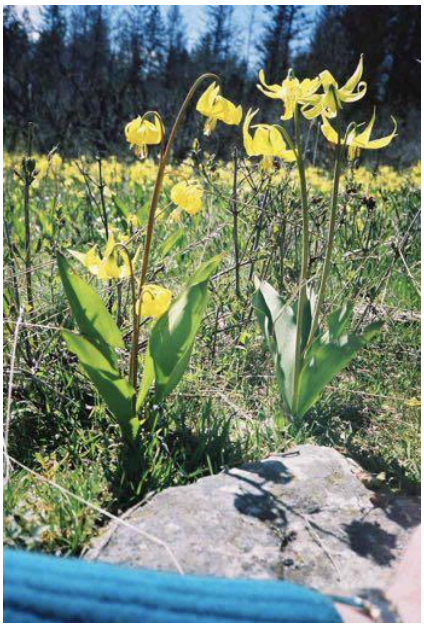
The twigs contain protein, nitrogen, phosphorus, potassium, calcium, magnesium, sodium and fat.

Reference: 1. Kuhnlein.H, Turner, N (1991). Traditional Plant Foods of Canadian Indigenous Peoples: Nutrition, Botany and Use. Vol 8. 2. Parish. R, Coupe. R, Lioyd. D (1996). Plants of Southern Interior British Columbia and the Inland Northwest. 3. [E-flora] In Klinkenberg, Brian. (Editor) 2017. *E-Flora BC: Electronic Atlas of the Plants of British Columbia* [eflora.bc.ca]. 4. DeByle.N.V. et al. (1987). Wildfire occurrence in aspen in the Interier Western United States. Western Journal of Applied Forestry. 2(3): 73-76.

ʔEsghunsh

Yellow glacier lily/Avalanche lily

Erythronium grandiflorum



Photos by: Nancy J. Turner

FACTS AT A GLANCE

ECOLOGY

Subalpine
Alpine meadows

ORIGINAL STATUS

Native

WILDLIFE

Grizzly bear
Elk
White-tailed deer
Mule deer
Hummingbirds
Bees

PROPAGATION

Seed

FIRE RESISTANCE

Moderate

Yellow glacier lilies are perennial plants and grow up to 30 cm tall. They have a long, scaly bulbs and the flowering stalks are leafless and unbranched. A dingle golden-yellow flower stands at the top of stalk with backward curved petals. Its fruits are spindle-shaped capsules.

Nutrition

Nutrient Facts

Bulbs	Per 100 g Fresh wt
Water	21 g
Protein	4.2 g
Ash	2.9 g

Usage

Glacier lily is considered as a root vegetable. The bulbs are gathered from June to August. Salish people used dried bulbs as a trading item.

The flower bulbs are not edible when raw, however prolonged steaming, drying or in-pit cooking will turn their carbohydrate and inulin into fructose which will make the plant digestible.

The bulbs can be dried and cooked in soups and stews with fish or meat. The same goes for its leaves.

May cause skin irritation after contact with the bulbs. However, its roots can be grinded as used as a wet dressing for skin sores.

Reference: 1. Kuhnlein.H, Turner, N (1991). Traditional Plant Foods of Canadian Indigenous Peoples: Nutrition, Botany and Use. Vol 8. 2. Parish. R, Coupe. R, Lioyd. D (1996). Plants of Southern Interior British Columbia and the Inland Northwest. 3. [E-flora] In Klinkenberg, Brian. (Editor) 2017. *E-Flora BC: Electronic Atlas of the Plants of British Columbia* [eflora.bc.ca]. 4. Fryer, J, L (2021) Erythronium grandiflorum, yellow avalanche-lily. In: Fire Effects Information System. U.S. Department of Agriculture, Forest Service, Rockey Mountain Research Station, Missourla Fire Sciences Laboratory.

Ts'utsen

Balsam fir/Subalpine fir

Abies lasiocarpa

Photos by: Nancy J. Turner

A large coniferous tree that grows up to 30 m tall. The bark is ash-grey covered with raised blisters. The cones are cylindrical grey and are 6-10 cm long and sit upright, mostly near the top of the tree. These trees grow in cool, moist, snowy forest. They are extremely shade tolerant and frost hardy.

FACTS AT A GLANCE

ECOLOGY

Subalpine

ORIGINAL STATUS

Native

WILDLIFE

Deer
Elk
Caribou
Moose
Bears
Cavity nesting birds

PROPAGATION

Seed

FIRE RESISTANCE

Low

Nutrition

Nutrient Facts

Greens	Per 100 g Fresh wt
Protein	8.8 g
Fat	11.8 g
Crude fiber	21.7 g
Calcium	75 mg
Phosphorus	13 mg
Potassium	46 mg
Magnesium	13 mg
Copper	0.1 mg
Zinc	0.5 mg
Iron	1.2 mg
Manganese	8.6 mg
Chloride	1.5
Vitamin C	243 mg

Usage

The pitch extracted from the blisters can be taken internally to treat tuberculosis.

The bark can be boiled and used as a cough remedy.

The boughs were used in herbal baths and as beddings.

Its wood products are plywood, boxes, crates, and pulp.

Reference: 1. Kuhnlein.H, Turner, N (1991). Traditional Plant Foods of Canadian Indigenous Peoples: Nutrition, Botany and Use. Vol 8. 2. Parish. R, Coupe. R, Lioyd. D (1996). Plants of Southern Interior British Columbia and the Inland Northwest. 3. [E-flora] In Klinkenberg, Brian. (Editor) 2017. *E-Flora BC: Electronic Atlas of the Plants of British Columbia* [eflora.bc.ca]. 4. Uchytil, R. J. (1991). Abies lasiocarpa. In: Fire Effects Information System, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory.

Nelguns, Melguns

Choke cherry

Prunus virginiana

Photo by: Nancy J. Turner

A deciduous shrub that grows up to 4 m tall. It has white saucer shaped flowers and red, purple, or black cherries. The berries give a sensation of choking after eating, hence the name choke cherry. They grow in dry and exposed aspects in open forests and grasslands.

FACTS AT A GLANCE

ECOLOGY

Low to mid elevations

ORIGINAL STATUS

Native

WILDLIFE

Bears
Coyotes
Bighorn sheep
Elk
Moose
Birds

PROPAGATION

Seed
Cuttings

FIRE RESISTANCE

Moderate

Nutrition

These plants contain amygdalin and prunasin, which will break down in water and will create hydrocyanic acid (cyanide). Therefore, caution must be taken when using or eating choke cherries.

Nutrient Facts

Fruit	Per 100 g Fresh wt
Water	79 g
Thiamine	0.05 mg
Vitamin C	30 mg

Usage

The berries are edible, but they have a very astringent taste. They are baked in pies, cakes, and jellies. They can be dried and turned into powder to be taken internally for diarrhea.

These plants have been used as medicinal plants for respiratory systems.

An infusion of the bark and roots have been used as a blood tonic, sedative, and appetite stimulator, a wash for burns, old sores, and ulcers. A decoction derived from the inner bark has been used to treat laryngitis and stomach aches.

Reference: 1. Kuhnlein.H, Turner, N (1991). Traditional Plant Foods of Canadian Indigenous Peoples: Nutrition, Botany and Use. Vol 8. 2. Parish. R, Coupe. R, Lloyd. D (1996). Plants of Southern Interior British Columbia and the Inland Northwest. 3. [E-flora] In Klinkenberg, Brian. (Editor) 2017. *E-Flora BC: Electronic Atlas of the Plants of British Columbia* [eflora.bc.ca]. 4. Johnson, K.A.(2000). Prunus virginiana. In: Fire Effects Information System, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory

Common red paintbrush

Castilleja miniata

Photo by: Nancy J. Turner

FACTS AT A GLANCE

A perennial that grows up to 80 cm tall. It has brush-like red and hairy flowers. And has capsules as fruits.

ECOLOGY

Subalpine
Alpine meadows

ORIGINAL STATUS

Native

WILDLIFE

Hummingbirds
Insects

PROPAGATION

Seed

FIRE REISTANCE

Moderate

Nutrition

Some of the non-academic resources have mentioned that these plants can absorb high levels of selenium from the soil which can be toxic to both humans and livestock.

Usage

They are known to be sacred plants.

The sweet nectar of the flower tubes used to be sucked by the children.

Reference: 1. Parish. R, Coupe. R, Lioyd. D (1996). Plants of Southern Interior British Columbia and the Inland Northwest. 2. Tirmenstein,D. (1990) Vaccinium caespitosum. In: Fire Effects Information Sytem. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. Fire Sciences Laboratory. 3. Eco-Lhee. (2022) Owlcation. "Facts, Legend, & Lore About the Indian Paintbrush. Accessed: https://owlcation.com/stem/The-Indian-Paintbrush.

Niselix

Bog cranberry

Vaccinium oxycoccos L.

Photos by: Shabnam Vaghayenegar

A dwarf, evergreen, creeping shrub that grows up to 40 cm. It has pink flowers and red juicy berries. Other common name is “grouse berry”. They usually grow on *sphagnum* moss in peat bogs.

FACTS AT A GLANCE

ECOLOGY

Low to Subalpine

ORIGINAL STATUS

Native

WILDLIFE

Hares
Squirrels
Birds

PROPAGATION

Seed
Cuttings
Layering

FIRE REISTANCE

Moderate

Nutrition

Nutrient Facts

Fruit	Per 100 g Fresh wt
Protein	0.4 g
Carbohydrate	3.6 g
Copper	0.1 mg
Zinc	0.2 mg
Iron	0.8 mg
Manganese	1.7 mg
Vitamin C	5.5 mg

Usage

The berries can be eaten fresh or boiled with meat or cooked in pies and cakes.

Bog cranberry infusion has been used to treat slight nausea, urinary infection, and cystitis.

The berries are known to be useful for urinary infections and kidney diseases.

Eating large quantities of the berries can cause diarrhea and other gastrointestinal problems.

The juice made from the berries has been used to polish the silver.

Reference: 1. Kuhnlein.H, Turner, N (1991). Traditional Plant Foods of Canadian Indigenous Peoples: Nutrition, Botany and Use. Vol 8. 2. Parish. R, Coupe. R, Lioyd. D (1996). Plants of Southern Interior British Columbia and the Inland Northwest. 3. [E-flora] In Klinkenberg, Brian. (Editor) 2017. *E-Flora BC: Electronic Atlas of the Plants of British Columbia* [eflora.bc.ca]. 4. Moerman. D. (1998) *Native American Ethnobotany* Timber Press. Oregon. 5. Matthews, R. F. (1992). Vaccinium oxycoccos. In: Fire Effects Information System,U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory.

Telhant'az

Crowberry

Empetrum nigrum

Photo by: Dmitry Kulakov

A creeping evergreen shrub, that grows to 15 cm tall. It has purple-ish inconspicuous flowers and black berry-like fruits. They grow in cold coniferous forests as well as openings and wetlands.

FACTS AT A GLANCE

ECOLOGY

Mid to alpine elevations

ORIGINAL STATUS

Native

WILDLIFE

Bears
Caribou
Waterfowl
Game birds
Songbirds

PROPAGATION

Seeds
Cuttings

FIRE RESISTANCE

Low

Nutrition

Nutrient Facts

Fruit	Per 100 g Fresh wt
Energy	35 kcal
Water	89 g
Protein	0.2 g
Fat	0.7 g
Carbohydrate	9.5 g
Crude fiber	5.9 g
Ash	0.7 g
Thiamine	<0.01 mg
Riboflavin	<0.01 mg
Niacin	0.1 mg
Calcium	9 mg
Phosphorus	11 mg
Magnesium	7.9 mg
Potassium	87 mg
Copper	1 mg
Zinc	0.1 mg
Iron	0.4 mg
Manganese	0.4 mg
Vitamin C	51 mg

Usage

Berries
They can be eaten fresh, boiled, or dried. They can be used to make jellies or pies. The juice can be turned to beer or wine.

Stems
A decoction derived from the stems or cooked berries can treat diarrhea. A mixture of leaves and stems decoction can heal colds.

Twigs
A tea can be made from them and it has been used to treat kidney issues.

Reference: 1. Kuhnlein.H, Turner, N (1991). Traditional Plant Foods of Canadian Indigenous Peoples: Nutrition, Botany and Use. Vol 8. 2. Parish. R, Coupe. R, Lloyd. D (1996). Plants of Southern Interior British Columbia and the Inland Northwest. 3. [E-flora] In Klinkenberg, Brian. (Editor) 2017. *E-Flora BC: Electronic Atlas of the Plants of British Columbia* [eflora.bc.ca].

Chentsay

Red-osier dogwood

Cornus stolonifera, Cornus sericea

Photo by: Nancy J. Turner

FACTS AT A GLANCE

A deciduous shrub that grows up to 1 to 4 meters. It has white to greenish flowers formed in dense clusters. The fruits are also in clusters of white berries with bitter taste. They grow in moist upland forests, swamps, openings, and clearings.

ECOLOGY

Low to mid elevation

ORIGINAL STATUS

Native

WILDLIFE

Moose
Elk
Grizzley bear
Bighorn sheep
Deer
Beavers
Birds

PROPAGATION

Seeds
Cutting
Layering
Suckers

FIRE RESISTANCE

Moderate

Nutrition

Nutrient Facts

Twigs	Per 100 g fresh wt
Water	48 g

Usage

They are very important for erosion control and stream bank revegetation.

Berries
They can also be used as a mouthwash.

Bark
The inner bark when boiled can be used as poultice for sores and swellings. A decoction from the bark has been used to treat diarrhoea, coughs, colds, and fevers. An external use of the decoction can stop wounds from bleeding, and poison ivy rash.

Branches
Can be used as fish traps, salmon stretchers or poles.

Reference: 1. Kuhnlein.H, Turner, N (1991). Traditional Plant Foods of Canadian Indigenous Peoples: Nutrition, Botany and Use. Vol 8. 2. Parish. R, Coupe. R, Lloyd. D (1996). Plants of Southern Interior British Columbia and the Inland Northwest. 3. [E-flora] In Klinkenberg, Brian. (Editor) 2017. *E-Flora BC: Electronic Atlas of the Plants of British Columbia* [eflora.bc.ca]. 4. Mitchell.L.R, Malecki.R.A. (2003). Use of prescribed fire for management of old fields in the Northeast. 5. Kobziar.L.N & McBride.J.R (2006). Wildfire burn patterns and riparian vegetation response along two northern Sierra Nevada streams. Forest Ecology and Management. Vol 222, Issue 1-3

Tsintsen

Douglas-fir

Pseudotsuga menziesii

Photo by: Nancy J. Turner

FACTS AT A GLANCE

ECOLOGY

Subalpine
Alpine meadows

ORIGINAL STATUS

Native

WILDLIFE

Elk
Moose
Mule deer
White-tailed deer
Red squirrels
Chipmunks
Small birds

PROPAGATION

Seed

FIRE RESISTANCE

Medium to High

A large and tall confer tree which can grow up to 25-35 meters and up to 1 meter in diameter. The cones are about 5 to 11 cm long and they hang from the branches and remain intact after falling and seed dispersal**.** They are moderately shade-tolerant, drought resistant and generally do not grow in saturated soils.

Nutrition

Nutrient Facts

Needles	Per 100 g fresh wt
Protein	2.8 g
Ash	1.4
Calcium	272 mg
Phosphorus	78 mg
Potassium	268 mg
Magnesium	612 mg
Iron	11.4 mg
Manganese	42 mg

Usage

Douglas fir's seeds are edible, and its dried sap can be chewed for treating colds. Its twigs and needles can be brewed for tea. Their boughs were used as bedding in camps and pit houses as well as in ceremonies and morning sweat baths. Their rotten wood used to be preserved and dried and used to smoke buckskin. In rare climatic situations in early summers, people could harvest for sugar, which is a crystalline sugar appearing on the branches. This sugar is called "tree-breastmilk" by the Interior Salish people.

Douglas firs make great lumber for construction materials such as door frames, windows, cabinets, plywood, railway ties, etc. They are also famous to be used as Christmas trees.

Reference: 1. Kuhnlein.H, Turner, N (1991). Traditional Plant Foods of Canadian Indigenous Peoples: Nutrition, Botany and Use. Vol 8. 2. Parish. R, Coupe. R, Lioyd. D (1996). Plants of Southern Interior British Columbia and the Inland Northwest. 3. [E-flora] In Klinkenberg, Brian. (Editor) 2017. *E-Flora BC: Electronic Atlas of the Plants of British Columbia* [eflora.bc.ca]. 4. Turner. N.J et al. (2011) Edible and tended wild plants, traditional ecological knowledge, and agroecology. Critical Reviews in Plant Sciences, 30:1-2, 198-225 5. Baysa.E. et al. (2007) Fire resistance of Douglas fir (*Pseudotsuga menzieesi*) treated with borates and natural extractives. Bioresource Technology. Vol 98, Issue 5

Tenexwes

Gooseberry / Northern black currant

Ribes hudsonianum

Photo by: Nancy J. Turner

FACTS AT A GLANCE

ECOLOGY

Low to mid elevations

ORIGINAL STATUS

Native

WILDLIFE

Grizzly bears
Mule deer
Elk
Moose
Song birds
Squirrels

PROPAGATION

Seed

FIRE RESISTANCE

Low

A deciduous shrub that grows up to 2 m tall. It has white saucer shaped flowers and black berries. It has a sweet odour. They grow in moist and wet forests and steep areas.

Nutrition

Nutrient Facts

Fruit	Per 100 g fresh wt
Energy	50 Kcal
Water	86 g
Protein	1.4 g
Fat	0.2 g
Carbohydrate	12.1 g
Crude fiber	3.4 g
Ash	0.6 g
Thiamine	0.04 mg
Riboflavin	0.05 mg
Niacin	0.1 mg
Calcium	32 mg
Phosphorus	23 mg
Sodium	2 mg
Potassium	257 mg
Magnesium	13 mg
Copper	0.1 mg
Zinc	0.2 mg
Iron	1 mg
Manganese	0.2 mg
Vitamin C	41 mg
Vitamin A	7.2 RE

Usage

The fruits can be eaten fresh or cooked.

The decoction made from the stems can have healing properties for after childbirth uneasiness.

The decoction made from the stems and leaves has been used for stomach issues, colds, and sore throats.

The decoction made from the roots has been used to treat tuberculosis.

Reference: 1. Kuhnlein.H, Turner, N (1991). Traditional Plant Foods of Canadian Indigenous Peoples: Nutrition, Botany and Use. Vol 8. 2. Parish. R, Coupe. R, Lloyd. D (1996). Plants of Southern Interior British Columbia and the Inland Northwest. 3. [E-flora] In Klinkenberg, Brian. (Editor) 2017. *E-Flora BC: Electronic Atlas of the Plants of British Columbia* [eflora.bc.ca]. 4. Noste.N.V, Bushey, C. L. (1987). Fire response of shrubs of dry forest habitat types in Montana and Idaho. U.S. Department of Agriculture, Forest Service, Intermountain Research Station. Vol 22, p.255

Nelghes

Black huckleberry

Vaccinium membranaceum

Photo by: Nancy J. Turner

FACTS AT A GLANCE

A deciduous shrub that grows up to 1.5 meters. Its flowers are yellowish-pink urn-shaped. The fruits are large purplish black berries

ECOLOGY

Mid to high elevation
Moist forests

ORIGINAL STATUS

Native

WILDLIFE

Grizzly bear
Black bear
Elk
Ruffed grouse

PROPAGATION

Seed
Cuttings

FIRE RESISTANCE

High in low severe fire

Nutrition

Nutrient Facts

Fruit	Per 100 g fresh wt
Energy	54 Kcal
Water	86 g
Protein	0.6 g
Fat	0.5 g
Carbohydrate	13.1 g
Crude fiber	2 g
Ash	0.1 g
Calcium	14 mg
Phosphorus	17 mg
Sodium	0.4 mg
Magnesium	8 mg
Copper	0.1 mg
Zinc	0.1 mg
Iron	0.2 mg
Manganese	2.5 mg
Vitamin C	6.6 mg
Vitamin A	1 RE

Usage

The berries are eaten fresh, dried, or tuned into jam and jelly.

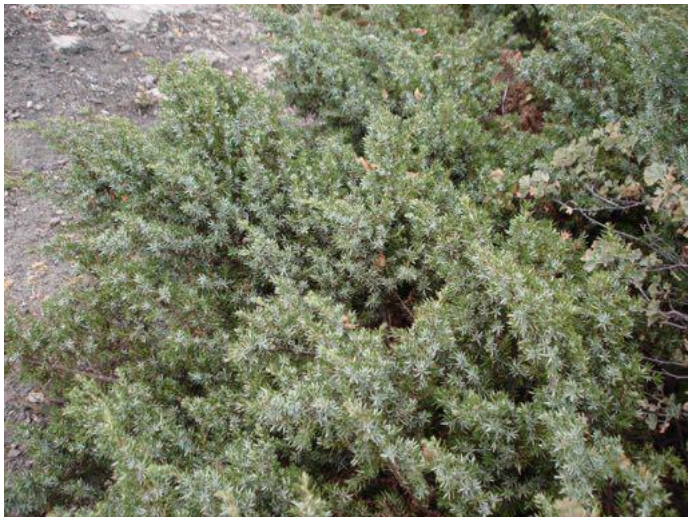
An infusion from made from the roots and stems can have healing properties for heart diseases, arthritis, and rheumatism.

Reference: 1. Kuhnlein.H, Turner, N (1991). Traditional Plant Foods of Canadian Indigenous Peoples: Nutrition, Botany and Use. Vol 8. 2. Parish. R, Coupe. R, Lloyd. D (1996). Plants of Southern Interior British Columbia and the Inland Northwest. 3. [E-flora] In Klinkenberg, Brian. (Editor) 2017. *E-Flora BC: Electronic Atlas of the Plants of British Columbia* [eflora.bc.ca]. 4. Moerman.D. (1998) Native American Ethnobotany. Timber Press. Oregan 5. Matthews.V. (1994). The New Plantsman. Royal Horticulturual Societ. Vol 1 5. Miller, Melanie. 1977. Response of blue huckleberry to prescribed fires in a western Montana larch-fir forest. Gen. Tech. Rep. INT-188. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Forest and Range Experiment Station. 33 p. [6334]

Datsan k'achilh

Common juniper

Juniperus communis



Photos by: Nancy J. Turner

FACTS AT A GLANCE

An evergreen shrub that grows up to 1 meter tall. The fruits are bluish berry like and pea-sized cones.

ECOLOGY

Low to alpine
Dry open forest

ORIGINAL STATUS

Native

WILDLIFE

Deer
Caribou
Mountain goat
Moose
Small birds

PROPAGATION

From seed

FIRE RESISTANCE

Low

Nutrition

Nutrient Facts

Leaves	Per 100 g fresh wt
Protein	12.8 g
Fat	0.5 g
Calcium	500 mg
Phosphorus	260 mg
Potassium	1150 mg
Magnesium	180 mg
Copper	2.4 mg
Iron	22 mg
Manganese	5.2 mg
Vitamin C	167 mg

Usage

Junipers can be used as cleansers, deodorizer, or fumigant when the boughs are burnt or boiled. The strong odour created was known to be protecting the household from infections.

Juniper tea made from its branches and berries can be used as a medicine for heart or kidneys diseases. They are also known to have diuretic features.

The berries are used as a culinary spice. They are used to flavour jin and beer.

Reference: 1. Kuhnlein.H, Turner, N (1991). Traditional Plant Foods of Canadian Indigenous Peoples: Nutrition, Botany and Use. Vol 8. 2. Parish. R, Coupe. R, Lioyd. D (1996). Plants of Southern Interior British Columbia and the Inland Northwest. 3. [E-flora] In Klinkenberg, Brian. (Editor) 2017. *E-Flora BC: Electronic Atlas of the Plants of British Columbia* [eflora.bc.ca]. 4. Fejer, J. et al. (2018). Influence of environmental factors on content and composition of essential oil from common juniper ripe berry cones (Juniperus communis L.). Plant Biosystems. 152:6, 1227 - 1235

Denish

Kinnikinnick

Arctostaphylos uva-ursi

Photos by: Nancy J. Turner

FACTS AT A GLANCE

An evergreen, trailing shrub that grows up to 20 cm tall. It has small pinkish flowers and bright red berries that look like small apples.

ECOLOGY

Alpine
Dry forests

ORIGINAL STATUS

Native

WILDLIFE

Bighorn sheep
Mountain goat
Deer
Elk
Moose
Song and Game birds

PROPAGATION

Seed

FIRE RESISTANCE

Moderate

Nutrition

Nutrient Facts

Greens	Per 100 g fresh wt
Water	49 g
Protein	1.7 g
Fat	3.1 g
Crude fiber	4.2 g
Ash	1 g
Phosphorus	39 mg
Calcium	221 mg
Iron	12.7 mg
Manganese	0.6 mg
Vitamin A	2.1 RE

Usage

Leaves
Can be boiled and drank as a tea. They have medicinal properties and can be smoked as tobacco to heal kidney, bladder, and urinary tract diseases. The powder form can be applied to sores. An infusion of leaves has been used to treat sore gums and used as a mouthwash. A poultice with oil has been used as a salve for rashes and skin sores, back pain, rheumatism, and burns.

Berries
Can be fried in salmon or bear fat or boiled in soups. They can also be eaten raw.

Reference: 1. Kuhnlein.H, Turner, N (1991). Traditional Plant Foods of Canadian Indigenous Peoples: Nutrition, Botany and Use. Vol 8. 2. Parish. R, Coupe. R, Lioyd. D (1996). Plants of Southern Interior British Columbia and the Inland Northwest. 3. [E-flora] In Klinkenberg, Brian. (Editor) 2017. *E-Flora BC: Electronic Atlas of the Plants of British Columbia* [eflora.bc.ca].4 Balfour.P.M. (1989). Effects of forest herbicides on some important wildlife forage species. British Columbia Ministry of Forests, Research Branch. Vol 58 5. Turner. N.J et al. (2011) Edible and tended wild plants, traditional ecological knowledge, and agroecology. Critical Reviews in Plant Sciences, 30:1-2, 198-225

Bedzɬsh yedeyan

Labrador tea

Ledum groenlandicum

Photo by: Nancy J. Turner

FACTS AT A GLANCE

ECOLOGY

Subalpine
Wetlands

ORIGINAL STATUS

Native

WILDLIFE

Caribou
Moose
Deer
Mountain goat
Game birds

PROPAGATION

Seed

FIRE RESISTANCE

Moderate

Labrador tea is an evergreen shrub. They grow from 30 to 80 cm, they have rusty-hairy twigs and have a spicy fragrance to them. They have alternate, narrow and leathery green leaves. The leaves are often in a dropping position with dense rusty hairs. They bloom white, umbrella-shaped clusters at the ends of their branches with 5 to 10 protruding stamens.

Nutrition

Nutrient Facts

Leaves	Per 100 g fresh wt
Water	42 g
Protein	4.2 g
Fat	0.7 g
Thiamine	0.01 mg
Riboflavin	0.4 mg
Niacin	92 mg
Calcium	215 mg
Phosphorus	93 mg
Sodium	3.7 mg
Magnesium	73 mg
Copper	2.4 mg
Zinc	2.4 mg
Iron	184 mg
Manganese	45.4 mg
Vitamin C	98.2 mg
Molybdenum	0.2 mg
Chloride	31 mg

Usage

Labrador tea is made from the plant's fresh or dried leaves. It can be boiled to make an aromatic tea. The leaves should be boiled for some time to get rid of its alkaloids. It should be used in moderation. Excessive doses of Labrador tea can cause drowsiness, intestinal disturbances, can act as a strong diuretic and cathartic.

The tea has healing properties for headaches, asthma, colds, and stomach aches. It is also used externally to treat burns, itches, stings, and dandruff.

An ointment derived from the leaves and roots are beneficial for ulcers.

Reference: 1. Kuhnlein.H, Turner, N (1991). Traditional Plant Foods of Canadian Indigenous Peoples: Nutrition, Botany and Use. Vol 8. 2. Parish. R, Coupe. R, Lioyd. D (1996). Plants of Southern Interior British Columbia and the Inland Northwest. 3. [E-flora] In Klinkenberg, Brian. (Editor) 2017. *E-Flora BC: Electronic Atlas of the Plants of British Columbia* [eflora.bc.ca]. 4. Gucker.C.L (2006) Ledum groenlandicum. In: Fire Effects U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory

Súnt'iny, Súnt'i

Mountain potato / Western spring beauty

Claytonia lanceolata

Photo by: Nancy J. Turner

FACTS AT A GLANCE

A fleshy perennial that grows up to 5 to 20 cm tall. The flowers are white to pinkish colour and its fruits are egg-shaped capsules with 3 to 6 black seeds inside

ECOLOGY

Low to high elevation
Snow beds, moist meadows

ORIGINAL STATUS

Native

WILDLIFE

Grizzly brars

PROPAGATION

Seed

FIRE RESISTANCE

Low

Nutrition

Nutrient Facts

Bulbs	Per 100 g fresh wt
Water	75 g
Protein	2 g
Fat	0.2 g
Carbohydrate	22.2 g
Ash	1 g

Usage

The corms are good source of carbohydrates when dug out of the ground and cooked. The best time to dig them out is in June after they flower.

The leaves are also edible and can be eaten fresh or cooked.

Reference: 1. Kuhnlein.H, Turner, N (1991). Traditional Plant Foods of Canadian Indigenous Peoples: Nutrition, Botany and Use. Vol 8. 2. Parish. R, Coupe. R, Lioyd. D (1996). Plants of Southern Interior British Columbia and the Inland Northwest. 3. [E-flora] In Klinkenberg, Brian. (Editor) 2017. *E-Flora BC: Electronic Atlas of the Plants of British Columbia* [eflora.bc.ca].

Tl’etsen

Nodding wild onion

Allium cernuum

Photo by: Nancy J. Turner

A perennial flower that grows up to 50 cm tall with pink to purple flowers

FACTS AT A GLANCE

ECOLOGY

Low to mid elevation
Dry open forest

ORIGINAL STATUS

Native

WILDLIFE

Bears
Elk
Deer
Ground squirrel

PROPAGATION

Seed

FIRE RESISTANCE

Moderate

Nutrition

Nutrient Facts

Tops	Per 100 g fresh wt
Energy	37 kcal
Water	89 g
Protein	1.5 g
Fat	0.8 g
Carbohydrate	6 g
Crude fiber	1.3 g
Ash	1.2 g
Niacin	0.2 mg
Calcium	92 mg
Phosphorus	10 mg
Iron	6 mg
Vitamin C	27 mg

Usage

The wild onion bulbs are harvested prior to flowering and eaten raw, roasted, dried, cooked, boiled, or steamed. They are also added to salmon or meat for extra flavour. The flowers can also be eaten raw or cooked.

A paste made from crushed bulbs can be used as a disinfectant and to reduce pain or swelling from insect bite.

A poultice made from the plant and placed on the chest has respiratory healing properties. They can be used to heal sores, swellings, and chest pains.

A juice made from the plant is used to treat colds, and sore throat.

Reference: 1. Kuhnlein.H, Turner, N (1991). Traditional Plant Foods of Canadian Indigenous Peoples: Nutrition, Botany and Use. Vol 8. 2. Parish. R, Coupe. R, Lioyd. D (1996). Plants of Southern Interior British Columbia and the Inland Northwest. 3. [E-flora] In Klinkenberg, Brian. (Editor) 2017. *E-Flora BC: Electronic Atlas of the Plants of British Columbia* [eflora.bc.ca]. 4. Moerman.D. (1998) Native American Ethnobotany. Timber Press. Oregan 5. Matthews.V. (1994). The New Plantsman. Royal Horticulturual Societ. Vol 1

Texaltsel

Red raspberry

Rubus idaeu

Photo by: Nancy J. Turner

A deciduous shrub that grows up to 1.5 meters tall. The stems are prickly and similar to cultivated raspberry

FACTS AT A GLANCE

ECOLOGY

Subalpine elevation
Disturbed areas

ORIGINAL STATUS

Native

WILDLIFE

Deer
Elk
Moose
Beavers
Grouse
Coyote
Black bear

PROPAGATION

Seed
Shoot cuttings
Root cuttings

FIRE RESISTANCE

Moderate

Nutrition

Nutrient Facts

Leaves	Per 100 g fresh wt
Energy	49 Kcal
Water	86 g
Protein	0.9 g
Fat	0.6 g
Carbohydrate	11.6 g
Crude fiber	3 g
Ash	0.4 g
Thiamine	0.03 mg
Riboflavin	0.09 mg
Niacin	0.9 mg
Calcium	22 mg
Phosphorus	12 mg
Potassium	152 mg
Magnesium	18 mg
Copper	0.1 mg
Zinc	0.5 mg
Iron	0.6 mg
Manganese	1 mg
Vitamin C	25 mg
Vitamin A	13 RE

Usage

Berries
Are eaten fresh, dried, cooked, or frozen.

Stems
Boiled raspberry stems and leaves are good for menstrual cramps.

Petals
Can be made into a cough medicine.

Roots
A decoction can be made and is good for stomach issues.

Leaves
Tea made from leaves are good for amenorrhea. This tea is a great coffee substitute.

Reference: 1. Kuhnlein.H, Turner, N (1991). Traditional Plant Foods of Canadian Indigenous Peoples: Nutrition, Botany and Use. Vol 8. 2. Parish. R, Coupe. R, Lioyd. D (1996). Plants of Southern Interior British Columbia and the Inland Northwest. 3. [E-flora] In Klinkenberg, Brian. (Editor) 2017. *E-Flora BC: Electronic Atlas of the Plants of British Columbia* [eflora.bc.ca]. 4. Gordon.W. (1982) The productivity and carbohydrate economy of a developing stand of Rubus idaeus. Canadian Journal of Botany. Vol 60. Pp 2697-2703.

?Unchuynsh

Prickly Rose

Rosa acicularis

Photo by: Nancy J. Turner

FACTS AT A GLANCE

A deciduous shrub that grows up to 1.5 meters. The stems have a dense number of prickles. The flowers are large and pink with 5 broad petals.

ECOLOGY

Low to mid elevation
Open forests

ORIGINAL STATUS

Native

WILDLIFE

Deer
Mountain sheep
Grouse
Snowshoe hare
Coyotes
Bears

PROPAGATION

Seed

FIRE RESISTANCE

Moderate

Nutrition

Nutrient Facts

Fruit	Per 100 g fresh wt
Energy	55 Kcal
Water	65 g
Protein	2.4 g
Fat	0.7 g
Carbohydrate	21.3 g
Ash	2 g
Thiamine	0.12 mg
Riboflavin	0.1 mg
Niacin	1.1 mg
Vitamin C	1448 mg
Vitamin A	263 RE

Usage

They are used as infused tea, jelly, jams, or eaten raw, but only the flesh and not the seeds. It has high tannins and can be used as an astringent. Prickly rose's fruits are high in fatty acids and are known to have cancer preventative properties.

Root
A derived decoction can be a cough remedy as well as an eye wash.

Stems
A derived decoction is used for stomach aches, colds, and fevers.

Prickly roses are the only species amongst its genus that has high quantities of vitamins and minerals, particularly Vitamin A, C and E. They are also rich in flavonoids, essential fatty acids and other bio-active compounds

Reference: 1. Kuhnlein.H, Turner, N (1991). Traditional Plant Foods of Canadian Indigenous Peoples: Nutrition, Botany and Use. Vol 8. 2. Parish. R, Coupe. R, Lioyd. D (1996). Plants of Southern Interior British Columbia and the Inland Northwest. 3. [E-flora] In Klinkenberg, Brian. (Editor) 2017. *E-Flora BC: Electronic Atlas of the Plants of British Columbia* [eflora.bc.ca]. 4. Moerman.D. (1998) Native American Ethnobotany. Timber Press. Oregan 5. Matthews.V. (1994). The New Plantsman. Royal Horticulturual Societ. Vol 1

Dig

Saskatoon / Serviceberry

Amelanchier alnifolia

Photo by: Nancy J. Turner

A deciduous shrub or a small tree which grows up to 1 to 5 meters tall. Saskatoon have white flowers and purple to black, berry shaped fruits. There are 8 different variety of this plant based on its flowering time acknowledged by the native people, texture and sweetness of their fruits.

FACTS AT A GLANCE

ECOLOGY

Low to mid elevation
Dry to moist forests

ORIGINAL STATUS

Native

WILDLIFE

Ungulates
Hares
Beavers
Birds

PROPAGATION

Seed

FIRE RESISTANCE

Moderate

Nutrition

Nutrient Facts

Berries	Per 100 g fresh wt
Kcal	90
Water	76 g
Protein	0.7 g
Fat	1.2 g
Carbohydrate	21.4 g
Crude fiber	6.4 g
Ash	0.7g
Riboflavin	0.01 mg
Thiamine	0.01 mg
Phosphorus	30 mg
Niacin	0.3 mg
Calcium	16 mg
Sodium	0.6 mg
Potassium	244 mg
Zinc	0.4 mg
Magnesium	26 mg
Iron	0.5 mg
Manganese	2.2 mg
Copper	0.4 mg
Vitamin C	15.7 mg
Vitamin A	86 RE

Usage

Saskatoon berries are called “real” or “ordinary” berries in Secwepemc language. They are widely used in BC, fresh or dried in cakes. They can also be used in cooking soups or stews, with salmon, salmon heads, salmon eggs, tiger lily bulbs, deer blood and meat, and other berries such as blueberries and huckleberries.

A medicinal drink is made from boiling saskatoon and maple sticks for women after giving birth. The berries can be harvested in early July through August. The berries can be dried and eaten like raisins or turned into jellies. A tea can also be made from the twigs and the leaves. The juice made from the berries can be used as a purple dye.

Saskatoon berries are also rich in iron and copper.

Reference: 1. Kuhnlein.H, Turner, N (1991). Traditional Plant Foods of Canadian Indigenous Peoples: Nutrition, Botany and Use. Vol 8. 2. Parish. R, Coupe. R, Lloyd. D (1996). Plants of Southern Interior British Columbia and the Inland Northwest. 3. [E-flora] In Klinkenberg, Brian. (Editor) 2017. *E-Flora BC: Electronic Atlas of the Plants of British Columbia* [eflora.bc.ca].4. Fryer, Janet L. 1997. Amelanchier alnifolia. In: Fire Effects U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory

Nuŵɬish

Soapberry / Soopalallie

Shepherdia canadensis

Photos by: Nancy J. Turner

FACTS AT A GLANCE

A deciduous shrub that grows from 1 to 2 meters. It has yellowish brown inconspicuous flowers. The fruits are red and berry-like that have bitter taste and soapy feeling when touched. Other common names are: buffalo berry, hooshum berry, and bear berry

ECOLOGY

Low to subalpine

ORIGINAL STATUS

Native

WILDLIFE

Mule deer
White-tailed deer
Elk
Bighorn sheep
Bears
Grouse
Small birds

PROPAGATION

From seed

FIRE RESISTANCE

Moderate

Nutrition

Nutrient Facts

Berries	Per 100 g fresh wt
Energy	80 kcal
Fat	0.7 g
Protein	1.8 g
Crude fibre	5.3 g
Carbohydrate	16.6 g
Vitamin C	165 mg
Thiamine	0.01 mg
Riboflavin	0.1 mg
Niacin	0.2 mg
Phosphorus	21 mg
Magnesium	8 mg
Calcium	16 mg
Sodium	0.5 mg
Iron	0.5 mg
Zinc	1.4 mg

Usage

These are important plants for habitat improvement and watershed protection.

The berries are high in iron. The berries contain low amounts of saponins; however, they are poorly absorbed by the body and therefore they don't cause any harm. However, it is advisable not eat large quantities of the fruit. They can be eaten raw, dried, as a juice or boiled as a syrup. Their berries, twigs, and leaves are taken as medicine for variety of reasons from indigestions to heart attacks. The juicy foam made from soapberries are good for stomach aches. The roots were boiled and strained through a cloth, which created a tea that could cure diarrhoea.

The berries are high in iron.

Reference: 1. Kuhnlein.H, Turner, N (1991). Traditional Plant Foods of Canadian Indigenous Peoples: Nutrition, Botany and Use. Vol 8. 2. Parish. R, Coupe. R, Lioyd. D (1996). Plants of Southern Interior British Columbia and the Inland Northwest. 3. [E-flora] In Klinkenberg, Brian. (Editor) 2017. *E-Flora BC: Electronic Atlas of the Plants of British Columbia* [eflora.bc.ca]. 4. Hamer.D (1996) Buffaloberry (Sheperdia Canadensis) from fire-successional bear feeding sites. Journal of range management. Vol 49, Issue 6

?Undziny

Wild strawberry

Fragaria virginiana

Photos by: Nancy J. Turner

FACTS AT A GLANCE

A low-growing perennial with white flowers and juicy strawberries as fruits. Other common name is "Blue-leaved strawberry. They grow in disturbed areas as well as openings of dry to moist forests. They are common in low to subalpine elevations.

ECOLOGY

Low to subalpine
Dry to moist forests

ORIGINAL STATUS

Native

WILDLIFE

Mule deer
Elk
Grizzly bear
Black bear

PROPAGATION

Seed

FIRE RESISTANCE

Low

Nutrition

Strawberries are a great source of vitamin C. They also provide magnesium, potassium, beta carotene, iron, and malic and citric acid.

Nutrient Facts

Fruit	Per 100 g Fresh wt
Water	89 g
Protein	0.7 g
Fat	0.6 g
Crude Fiber	2.1 g
Ash	0.7
Thiamine	0.03 mg
Riboflavin	0.07 mg
Niacin	0.6 mg
Vitamin C	5.9 mg
Vitamin A	8 RE

Usage

The fruits and the leaves of the strawberry plant have ellagitannins which have cancer preventative properties.

Fruits:
The berries can be frozen or dried for future uses. Strawberry fruits can be smashed and smeared on the skin which can have cosmetic purposes, as they have the same pH as the skin does. They can also have beneficial cleaning effects on teeth. They can be rubbed on teeth and brushed after five minutes with baking soda and water. Rubbing mashed fruits on skin can heal sunburns. They can also be effective for people who have problems such as arthritis and gout.

Leaves:
Strawberry leaves can be infused as a remedy for diarrhea, dysentery, urinary tract problems, stomach aches, hepatitis, jaundice, and gargled for soar throat.

Reference: 1. Kuhnlein.H, Turner, N (1991). Traditional Plant Foods of Canadian Indigenous Peoples: Nutrition, Botany and Use. Vol 8. 2. Parish. R, Coupe. R, Lioyd. D (1996). Plants of Southern Interior British Columbia and the Inland Northwest. 3. [E-flora] In Klinkenberg, Brian. (Editor) 2017. *E-Flora BC: Electronic Atlas of the Plants of British Columbia* [eflora.bc.ca].4. Munger, Gregory T. 2006. Fragaria vesca. In: Fire Effects Information System, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory

Dlunichi / Sachi

Yarrow

Achillea millefolium

Photo by: Nancy J. Turner

FACTS AT A GLANCE

A perennial sunflower which is aromatic and grows up to 10 to 75 cm tall. The flowers vary from yellow, white, or pink. They generate fast in disturbed areas.

ECOLOGY

Low elevation to Subalpine

ORIGINAL STATUS

Exotic

WILDLIFE

Bighorn sheep
White-tailed deer
Mule deer
Elk
Small mammals
Small nongame birds

PROPAGATION

Seed
Cuttings

FIRE RESISTANCE

Moderate

Nutrition

Nutrient Facts

Leaves	Per 100 g fresh wt
Water	79 g
Protein	3.8 g
Calcium	225 mg
Iron	13.1 mg
Potassium	645 mg
Copper	0.2 mg
Water	79 g
Zinc	0.7 mg
Sodium	59 mg
Magnesium	53 mg
Phosphorus	76 mg
Manganese	4 mg

Usage

They are used internally and externally for treating wounds, stop bleeding, colds, fevers, kidney and liver diseases, menstrual pain, digestive issues, respiratory infections, and skin conditions.

Flowers:
A Yellow and green dye.
A tea with a mixture of yarrow flowers, elder flowers, and mint is good for cold and flu.

Roots:
Can be crushed and used as a toothache remedy.

Leaves:
Brewed for teas as a tonic.
Chewed for toothache.
Dried for seasoning.
Used as cosmetic cleanser for oily skin.

Reference: 1. Kuhnlein.H, Turner, N (1991). Traditional Plant Foods of Canadian Indigenous Peoples: Nutrition, Botany and Use. Vol 8. 2. Parish. R, Coupe. R, Lioyd. D (1996). Plants of Southern Interior British Columbia and the Inland Northwest. 3. [E-flora] In Klinkenberg, Brian. (Editor) 2017. *E-Flora BC: Electronic Atlas of the Plants of British Columbia* [eflora.bc.ca]. 3. [E-flora] In Klinkenberg, Brian. (Editor) 2017. *E-Flora BC: Electronic Atlas of the Plants of British Columbia* [eflora.bc.ca].

ʔEsts'i-chen

White-bark pine

Pinus albicaulis

Photos by: Nancy J. Turner

Coniferous trees that grows more than 15 m tall. They grow on dry, edges. They are shade tolerant, frost hardy and drought resistant. Its cones open only when they are disintegrated at maturity. Whitebark pine are known as keystone species. Whitebark pine blister rust is a major threat to these trees as well as mountain pine beetle. These trees are categorized as S2S3 (Provincial status) and Blue (BC list).

FACTS AT A GLANCE

ECOLOGY

Alpine
Subalpine

ORIGINAL STATUS

Native

WILDLIFE

Clark's Nutcracker
Grizzly bear
Black bear
Red squirrel
Birds

PROPAGATION

Seed

FIRE RESISTANCE

Low

Nutrition

Whitebark pine seeds are high in lipids and are very nutritious. They contain fat, carbohydrates, protein, ash, water, copper, zinc, iron, manganese, magnesium, and calcium.

Usage

They protect watershed and create wildlife habitat and stabilize the soil in steep terrain.

Seeds:
The seeds can be crushed and turned into flour or eaten with saskatoon berries. The young cones can be eaten when roasted.

Stems:
A chewing gum from its exudations.

Barks:
A decoction can be used for cuts and sores. The turpentine in the resin is antiseptic, diuretic and can treat kidney and bladder issues. It is beneficial for skin wounds, burns, blisters, coughs, cold, influenza, TB and the respiratory system.

Needles:
A green dye.

Young shoots:
A decoction can be made to treat rheumatism.

Reference: 1. Kuhnlein.H, Turner, N (1991). Traditional Plant Foods of Canadian Indigenous Peoples: Nutrition, Botany and Use. Vol 8. 2. Parish. R, Coupe. R, Lloyd. D (1996). Plants of Southern Interior British Columbia and the Inland Northwest. 3. [E-flora] In Klinkenberg, Brian. (Editor) 2017. *E-Flora BC: Electronic Atlas of the Plants of British Columbia* [eflora.bc.ca]. 4. Logan et al. (2010). Whitebark pine vulnerability to climate driven mountain pine beetle disturbance in the Greater Yellow Stone ecosystem. Vol2. Issue 4

K'i

Willow

Salix sp.

Photo by: Nancy J. Turner

FACTS AT A GLANCE

ECOLOGY

Mid to high elevation

ORIGINAL STATUS

Native

WILDLIFE

Moose
White-tailed deer
Elk
Beaver
Hares
Porcupines
Ruffed grouse

PROPAGATION

Cuttings

FIRE RESISTANCE

Moderate

Willows are one of the most widespread species. There are 75 species of them in North America and 24 species in British Columbia. They vary from dwarf shrubs to small trees. They have tiny flowers that bloom from catkins which are situated on separate male and female plants.

Nutrition

Nutrient Facts

Leaves	Per 100 g fresh wt
Water	66 g
Protein	5.1 g
Carbohydrate	28 g
Crude fiber	3.3
Ash	2.8 g
Thiamine	0.09 mg
Riboflavin	0.19 mg
Calcium	268 mg
Potassium	472 mg
Copper	0.2 mg
Zinc	2.9 mg
Phosphorus	127 mg
Manganese	<0.1 mg
Vitamin C	41 mg
Vitamin A	1830 RE

Usage

Willows are used for drying meat, fish, barbecue sticks, smoking, berry-drying racks, snowshoes, and fishing weirs. The leaves can be used as a tea or eaten raw. The young shoots can be cooked in some species.

The leaves of some of the willow species have acetylsalicylic acid which is mainly used in Aspirin.

A decoction made from Sitka willow (*Salix sitchensis*) is used for stomach aches. The bark of Scoulier's willow (*Salix scouleriana*) was used as a poultice for wounds and cuts.

An infusion of the roots can be used as hair wash.

The catkins may cause allergy reaction.

Reference: 1. Kuhnlein.H, Turner, N (1991). Traditional Plant Foods of Canadian Indigenous Peoples: Nutrition, Botany and Use. Vol 8. 2. Parish. R, Coupe. R, Lioyd. D (1996). Plants of Southern Interior British Columbia and the Inland Northwest. 3. [E-flora] In Klinkenberg, Brian. (Editor) 2017. *E-Flora BC: Electronic Atlas of the Plants of British Columbia* [eflora.bc.ca]. 4. Griggs.F.T (1988). 4. Argus. G. (1986) Studies of Salix lucinda and Salix reticulata in North America. Vol64, Issue 3

Nelghes

Dwarf mountain blueberry

Vaccinium caespitosum

Photo by: Nancy J. Turner

FACTS AT A GLANCE

ECOLOGY

Alpine

ORIGINAL STATUS

Native

WILDLIFE

Black bear
Grizzly bear
Raccoons
Ruffed grouse
Squirrels
Song birds

PROPAGATION

Seed
Layering
Cuttings

FIRE RESISTANCE

Low to moderate

Dwarf deciduous shrub that grows up to 30 cm tall. It has white to pink flowers and blue berries. They grow in wet meadows, moist rocky ridges, and alpine tundra.

Nutrition

Nutrient Facts

Leaves	Per 100 g fresh wt
Vitamin C	15 mg

Usage

The berries are edible and can be eaten fresh or made into jelly and jams or made into juice.

Dwarf blueberries have a fibrous spreading root system that can prevent soil erosion. Blueberries are known for their sweetness taste. They are very popular to be eaten fresh or dried, and cooked in cakes or pies.

Reference: 1. Kuhnlein.H, Turner, N (1991). Traditional Plant Foods of Canadian Indigenous Peoples: Nutrition, Botany and Use. Vol 8. 2. Parish. R, Coupe. R, Lioyd. D (1996). Plants of Southern Interior British Columbia and the Inland Northwest. 3. [E-flora] In Klinkenberg, Brian. (Editor) 2017. *E-Flora BC: Electronic Atlas of the Plants of British Columbia* [eflora.bc.ca]. 4. Tirmenstein,D. (1990) Vaccinium caespitosum. In: Fire Effects Information Sytem. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. Fire Sciences Laboratory.