

CALIFORNIA BAY LAUREL

Latin: *Umbellularia californica*

Pomo: Bā-hé (nut), Bā-hem
Numlaki: Bok
Concow: Sō-ē'-bā
Yuki: Pōl'-cum ōl
Rumen: Sokkoch
Mutsun: Sokkochi

TRADITIONAL EDIBLE USES:

You may add these native bay leaves to soups, stews, and braised meat, bean, and leafy green dishes. Bay Laurel nuts are edible after roasting and are a delicious treat with flavor notes of coffee and chocolate.

TRADITIONAL MEDICINAL USES:

The leaves are also used medicinally. An infusion of bay laurel leaves is taken to relieve headaches and stomachaches. The leaves are sometimes worn under a hat to relieve headaches or torn and placed in the nostril to inhale the aroma. The leaves are also added to bath water to treat rheumatism. The leaves are also burned ceremonially for protection and cleansing. The Chumash burned bay leaves to make deer more docile and to repel insects such as fleas and lice.

California Bay Laurel is found all along the California coast within redwood and other evergreen forests. It is also found in chaparral savannahs. This tree prefers shady hillsides, and higher elevations along foothill streams and along coastal slopes. It prefers moist to well-drained soils, alluvial deposits, and areas that allow deep root growth with a pH of 5.7 to 7.4.



BARK

Bay Laurel trees can reach heights of 80' and a crown width of up to 30'. The bark is light gray in color. As it matures and thickens, pieces of the bark fall off in scales to reveal a reddish-brown color.



FLOWERS & NUTS

Flowers of the bay laurel tend to be small and light yellow in color, growing in compound umbels with 6-10 flowers.



BAY NUTS

When fertilized, Bay Laurel Nuts begin forming in late summer and are similar in appearance to a green olive, with thick green flesh wrapped around a round, brown seed or "nut." They are ripe when the outer flesh turns from bright green to a deeper yellow, brown spots are okay. Bay nuts must be roasted before consuming.



BAY LEAVES

Bay Laurel Leaves are lanceolate in shape, leathery, somewhat shiny, and arranged alternately along the stem. They grow between 3-10cm in length and are narrow measuring around 1.5 cm - 3.5 cm. Leaves are dark green, smooth-edged, and have pointed ends with a waxy feel, and a pungent, peppery aroma with notes of menthol. Oil glands all over the leaf are visible to the naked eye. Within these oil glands are volatile organic compounds, one specifically is terpenes. Inside all Bay Laurel plant materials are antimicrobial terpenes.

HARVESTING

Harvest leaves in midsummer when they are dark green, blemish-free, and contain the most oils. They may be used fresh or dried for later and stored in an airtight container. Bay laurel nuts must be cooked before eating, either by boiling or roasting. The cooked nuts may be eaten as is, or ground into flour.

THINGS TO NOTE

Avoid collecting leaves with dark brown spots or irregular black borders

Cutting too many leaves at once can cause oils to irritate eyes, and smell may cause headaches

IDENTIFICATION is KEY



Bay nuts can easily be mistaken for California Buckeye nuts which are toxic when consumed. California Buckeye nuts are typically larger and rounder than Bay nuts

CALIFORNIA HUCKLEBERRY

Latin: *Vaccinium ovatum*
Rumen: Soyoso; Soys

TRADITIONAL EDIBLE USES:

California huckleberries are a highly prized treat. Unlike their relative, the American blueberry, huckleberries have bright, red flesh and a distinctive flavor. Berries are harvested in late summer and early fall and may be eaten raw, frozen, dehydrated, or cooked. They are made into jams, jellies, syrups, puddings, pies, and cakes. They are sometimes mixed with other fruits to prepare a variety of desserts.

TRADITIONAL MEDICINAL USES:

All huckleberry species are rich in immune-boosting Vitamin C. The Makah make an infusion of the leaves, which is then sweetened and fed to postpartum mothers to give them strength. An infusion of the leaves is used to stabilize blood sugar. The twigs are used to make a detoxifying decoction, which is ingested in moderation.

Huckleberries can be found throughout redwood and other coniferous forests, along coasts and bays, usually at lower elevations. California huckleberries prefer partial shade and can tolerate moist to slightly dry soils, as well as sandier soils.

HARVESTING

Harvest the leaves when they are soft and green by pinching them off at the base of the petiole. The berries may be harvested by hand, but many tribes use berry rakes, which are more efficient without sacrificing sustainability. Berry rakes gently run through the shrub, removing the berries while leaving the leaves and branches intact.

TRADITIONAL FIRE MANAGEMENT

Local tribes have been burning huckleberry patches for thousands of years. This encourages shrub regeneration. Huckleberries are adapted to fire, and their underground root structures, or rhizomes, promote speedy growth following a fire. Fire management is a ceremonial practice that demonstrates respect for the plants and the land.

STRUCTURE & BARK

This shrub, part of the blueberry family, can grow to a height of 2–8 feet and spread up to 15 feet wide. With a slow growth rate, it spreads horizontally while also growing upright. Younger twigs have smooth, reddish bark, while mature plants and branches develop darker gray bark that becomes rough and slightly peels and cracks over time.

LEAVES

The leaves grow in opposite pairs along the branch, one on each side, with a crenulate edge. Lanceolate in shape, they are dark green with a leathery or waxy feel, and have a lighter green underside. These small leaves range in size from less than half an inch to 1.5 inches in length.

FLOWERS

In the spring and winter, pinkish, bell-shaped flowers, characteristic of the Ericaceae family, grow in clusters of 5–10. These flowers then give way to small berries, about 0.5 inches in size, which ripen between early September and December.

BERRIES

Huckleberries produced later in the season tend to be more flavorful, and shrubs exposed to daily fog generally have a higher yield. Unlike blueberries, which have place flesh, huckleberries have deep red flesh. Once harvested in the summertime or early fall, the berries can be eaten raw, frozen, or dehydrated. They are often made into syrups, jellies, jams, cakes, pies, and mixed with other berries for a variety of desserts.

IDENTIFICATION



Atropa belladonna, also known as deadly nightshade, is another purplish-black berry that grows in similar habitats.

However, California huckleberry fruits do not have the distinctive bracts present on deadly nightshade fruits.



MANZANITA

Latin: *Arctostaphylos manzanita*

Yuki: Kö-öch'-ē

Numlaki: Pä-göt'

TRADITIONAL MEDICINAL USES:

While the berries are the most highly prized part of the plant, manzanita leaves are also important. A leave decoction is used as an external wash for headaches and sinus congestion. Leave infusions are consumed to treat severe colds, but caution is advised as too much of this tea may cause nausea. Concow women make a chewed poultice of the leaves to treat wounds and sores. A poultice of the mashed bark is used as a general healing medicine. A strong decoction of the leaves and bark is used to treat gastrointestinal upset. Manzanita berries are used ceremonially by many tribes, and their leaves may be dried and added to tobacco mixtures.

TRADITIONAL EDIBLE USES:

Manzanita berries may be eaten raw or dried for later. They're used in all kinds of recipes, including jams, puddings, and mush. Mixing mashed fruit with water before straining makes a delicious beverage. The fruit with its seeds is ground into a paste to make mush or formed into patties, then dried and consumed later. Dried patties are sometimes crushed or powdered and used as seasoning. The berries are high in pectin and are often cooked down into a jelly that is served with sweet or savory dishes. Manzanita berries can be used to make a tasty cider. Strained manzanita juice may also be fermented into a lightly alcoholic beverage or vinegar.

Manzanitas can be found in the northern coastal ranges, California's coast, and reaching into the Cascades and Sierra Nevada foothills. They can occupy a wide variety of soils depending on the specific species; however, the common manzanita can thrive on rocky slopes with clay and sandy soils. They have also been noted to grow in chaparral areas that often have shallow and rocky soils.



STRUCTURE & BARK

The manzanita can be both a shrub and a tree, ranging from 2 feet to 10 feet tall. Their most prominent characteristic is their red to reddish-brown bark, which has been traditionally used to make spoons, pipes, and tools. Younger trees and shrubs have bark that appears to be peeling, while as these plants mature, it smooths out.



LEAVES

Their branches grow leaves that are arranged oppositely on the branch. The leaves are dark green on top and pale green underneath, with younger leaves sometimes having a rosy tint on the edges. Depending on the species, they can range from ovate to elliptic in shape with smooth margins.



FLOWERS

Their flowers are small and bell-shaped, consisting of 5 to 20 fused petals and ranging in color from white to pink. They are arranged in dense panicles with 5 to 20 flowers and typically bloom in the spring from March to May. These clusters are usually at the ends of the branches, making it easier for pollinators to access them.



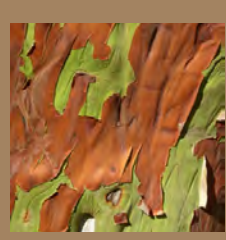
BERRIES

The name "manzanita" is derived from Spanish, meaning "small apples," referring to its berries. The berries are small and round, ranging in color from red to brownish-red. They measure from 1/4 inch to 1/2 inch in size and have a firm texture with a tart taste. As they mature, they can dry out and harden. They have been an important food source for both Indigenous peoples and the wildlife surrounding them.

SAFETY PRECAUTIONS

While Manzanita berries are generally considered safe for human consumption, overeating can lead to gastrointestinal upset. Their leaves have been found to contain at least 8% tannins, which should be considered when consuming them or making tea. However, tannins are easily broken down by boiling in water, so proper preparation is key.

IDENTIFICATION is KEY



The Pacific madrone has the same reddish-brown bark but will peel back to reveal a green layer. Although leaves may be similar in shape, the Pacific madrone has significantly longer leaves. While the Pacific madrone berries are also edible, they are notably bland and bitter.

TANOAK

Latin: *Notholithocarpus densiflorus*

Konkow: Hä'-hä

TRADITIONAL MEDICINAL USES:

Like their relatives, the true oaks (*Quercus spp*), tanoak bark, and its acorns are high in drying tannins and in quercetin, which is an active pharmaceutical flavonoid. A tanoak bark decoction treats gastrointestinal upset and even hemorrhoids, but caution must be taken to prevent constipation.

An infusion of the bark can treat fevers, mouth sores, arthritis, other types of inflammation, indigestion, asthma, colds, and flu. A decoction of the bark and leaves may also be used as a disinfectant skin wash. Rubbing the leaves directly on the skin can relieve the itch of insect bites.

TRADITIONAL EDIBLE USES:

Although tanoak is not a “true oak,” it produces nuts that look, taste, and require processing, just like various *Quercus* species. Tanoak acorns are very high in bitter tannins and require leaching in multiple changes of water before being consumed. It is a labor-intensive process, but these and other acorns have been a vitally important food source for Native people throughout Turtle Island, especially in California. Once leached and ground into meal, the acorns may be used to make bread, mush, pancakes, or soups and stews.

While *Quercus* species, the “true oaks,” are found all over the world, *Notholithocarpus densiflorus* is only found in select locations in California and Oregon. They prefer partial shade and disturbed sites. It is an ecologically important species that is immune to many fungal pests.

STRUCTURE & BARK

The tan oak, *Notholithocarpus densiflorus*, is not a true oak but is still within the family Fagaceae and produces edible acorns. It can reach 130 feet tall in the California Coast Ranges, though 49–82 feet is more usual, and can have a trunk diameter of 24–75 inches. Its bark is light gray with shallow vertical furrows revealing a browner bark color.



LEAVES

Its leaves are elliptically shaped and usually 3 to 6 inches long. They have shallow serrated edges but are not as spiny as the other oaks. The upper surface is dark green and glossy, while the underside is a lighter, duller green with a slightly fuzzy texture.



FLOWERS

It has flowers like a chestnut but forms acorns rather than having its nuts enclosed by a spiny bur. The flowers consist of male catkins that are erect, white, and then turn rust-colored. The female flowers are found at the base of the catkins. The flowers can be so dense that they hide the foliage.



ACORNS

The acorns are egg-shaped and small, measuring around 1 to 1.5 inches long, and have a narrower base compared to true oak acorns. Their scales are also hair-like and grow outward, creating a fuzzy appearance. The cap can cover half or a majority of the nut, starting as a brownish-green and maturing to a yellow-brown or tan color. An acorn that takes two years to mature.



PROCESSING

The tannic acid must be removed from the acorns in order for them to be consumed in a process called leaching. After properly processed, they can be crushed into meals, added to stews, or used to make porridge, bread, or any other dishes.

1

Acorns can be picked up off the ground, shaken from the lower branches, or beaten off with another fallen branch or stick. Carefully inspect for fungal infections or weevil infestations.

2

Dry your acorns for about a week or two before shelling using either a nut cracker or a rubber mallet and dish towel. Also remove the reddish brown paper-thin coat that surrounds the nutmeat.

3

Place nuts in a pot and cover with water. Bring to a boil, then boil for about 15 minutes. The water will turn brown as the tannic acid is extracted. Replace it with fresh water. Repeat until water runs clear.

BLACK OAK

Latin: *Quercus velutina*

TRADITIONAL MEDICINAL USES:

All oak species are covered in bark that is high in drying tannins and in quercetin, which is an active pharmaceutical flavonoid. The bark of various oak species make a decoction that is effective in treating gastrointestinal upset and even hemorrhoids, but since tannins are so drying, caution must be taken to prevent constipation. An infusion of the bark is used to treat fevers, mouth sores, arthritis and other types of inflammation, indigestion, asthma, and colds and flues. A decoction of the bark and leaves or a poultice of fresh leaves may also be used as a disinfectant skin wash and as a wash for poison ivy, insect bites and sores, and other wet, itchy rashes.

TRADITIONAL EDIBLE USES:

Black Oak produces clusters of 2-5 acorns that ripen in late summer and early fall. They are very high in bitter tannins and require leaching in multiple changes of water before being consumed. It is a labor-intensive process, but these and other acorns have been a vitally important food source for Native people throughout Turtle Island, especially in California. Once leached and ground into meal, the acorns may be used to make bread, mush, pancakes, or soups and stews.

Oaks grow all across North America. They prefer well-drained soils that can be slightly acidic. They also prefer moist soils, as they have a symbiotic relationship with fungi, which can make it harder to grow oaks in urban areas where the specific fungi aren't established.



STRUCTURE & BARK

Black oak at maturity has nearly black bark with yellow inner bark. The bark is deeply furrowed and rough, appearing gray on the outside with browner bark visible in the furrows.



LEAVES

Its leaves have five lobes that are pointed at the end with bristled tips. The leaves are a deep, glossy green and have yellowish-brown fine hairs on the lighter green underside.



FLOWERS

Male and female flowers are borne on the same branch, the male flowers on 2 to 4 inch, green, string-like clusters (called catkins) from bud clusters at the tip of the previous season's growth. 1 to 5 female flowers, with reddish styles and a short, stubby, green stalk, sit in the leaf axils of new growth.



ACORNS

The fruit occurs singly or in clusters of two to five, is about one-third enclosed in a scaly cup, and matures in two years. Black oak acorns are brown when mature and ripen from late August to late October, depending on geographic location. Their oval, egg-shaped acorns are ½ inches to an inch long, with a smooth pericarp and flattened scales.

PROCESSING

The tannic acid must be removed from the acorns in order for them to be consumed in a process called leaching. After properly processed, they can be crushed into meals, added to stews, or used to make porridge, bread, or any other dishes.

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Acorns can be picked up off the ground, shaken from the lower branches, or beaten off with another fallen branch or stick. Carefully inspect for fungal infections or weevil infestations.

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Dry your acorns for about a week or two before shelling using either a nut cracker or a rubber mallet and dish towel. Also remove the reddish brown paper-thin coat that surrounds the nutmeat.

3

Place nuts in a pot and cover with water. Bring to a boil, then boil for about 15 minutes. The water will turn brown as the tannic acid is extracted. Replace it with fresh water. Repeat until water runs clear.

COASTAL LIVE OAK

Latin: *Quercus agrifolia*

TRADITIONAL MEDICINAL USES:

All oak species are covered in bark that is high in drying tannins and quercetin, which is an active pharmaceutical flavonoid. The bark of various oak species makes a decoction that is effective in treating gastrointestinal upset and even hemorrhoids, but since tannins are so drying, caution must be taken to prevent constipation. An infusion of the bark is used to treat fevers, mouth sores, arthritis, other types of inflammation, indigestion, asthma, and colds and flues. A decoction of the bark and leaves may also be used as a disinfectant skin wash., and as a wash for poison ivy and other wet, itchy rashes.

TRADITIONAL EDIBLE USES:

Coast Live Oak is an evergreen oak that produces slender acorns that reach $\frac{3}{4}$ - 1' long. They are very high in bitter tannins and require leaching in multiple changes of water before being consumed. It is a labor-intensive process, but these and other acorns have been a vitally important food source for Native people throughout Turtle Island, especially in California. Once leached and ground into meal, the acorns may be used to make bread, mush, pancakes, or soups and stews.

Oaks grow all across North America. They prefer well-drained soils that can be slightly acidic. They also prefer moist soils, as they have a symbiotic relationship with fungi, which can make it harder to grow oaks in urban areas where the specific fungi aren't established.

STRUCTURE & BARK

The trunk, particularly for older individuals, may be highly contorted, massive, and gnarled. The crown is broadly rounded and dense, especially when aged 20 to 70 years; in later life, the trunk and branches are more well-defined and the leaf density lower

LEAVES

The coastal live oak, *Quercus agrifolia*, has wavier leaves rather than lobbed ones; each wave has a pointed bristle at the end and convex edges turning down. The upper side of the leaf is shiny and lighter green, while the underside is a duller green with small hairs in the vein axils.

FLOWERS

The flowers are produced in early-to-mid spring; the male flowers are pendulous catkins 2–4 inches long, and the female flowers are inconspicuous, less than $\frac{1}{4}$ inches long, with 1–3 clustered together.

ACORNS

Its acorns are elongated, measuring $\frac{3}{4}$ to 1 $\frac{1}{2}$ inches long, and have been compared to the shape of a bullet. The scales are smooth, and the gray-brown cap is usually $\frac{1}{4}$ of the acorn's actual size. The acorns start light green and mature over time to a rich medium brown. Its bark is light gray in color, with vertical, shallow furrows revealing a deeper gray beneath them.



PROCESSING

The tannic acid must be removed from the acorns in order for them to be consumed in a process called leaching. After properly processed, they can be crushed into meals, added to stews, or used to make porridge, bread, or any other dishes.

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Acorns can be picked up off the ground, shaken from the lower branches, or beaten off with another fallen branch or stick. Carefully inspect for fungal infections or weevil infestations.

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Dry your acorns for about a week or two before shelling using either a nut cracker or a rubber mallet and dish towel. Also remove the reddish brown paper-thin coat that surrounds the nutmeat.

3

Place nuts in a pot and cover with water. Bring to a boil, then boil for about 15 minutes. The water will turn brown as the tannic acid is extracted. Replace it with fresh water. Repeat until water runs clear.

BLACKBERRY

Latin: *Rubus ursinus*

Common name: Trailing or Pacific Blackberry

Quinault: Waʔs (native blackberry), Šwaha (other blackberries)

CULTURAL USES

“Berry picking” is a vitally important cultural activity for Indigenous people throughout the western portion of Turtle Island. Along with nurturing social skills, berry picking is an important method for passing on knowledge about sustainability, productivity, and maintenance of berry patches. Traditional stories are full of references to and information about all kinds of berries, and they figure heavily in ceremonial practices.

Not to be confused with its highly invasive relative, *Rubus armeniacus*, Pacific Blackberries are native to a wide range of habitats on the West Coast, from arid lands in the southwest to the coastal bluffs of California; it is even found in the forests of Alaska. Specifically, this species is noted to be abundant in disturbed areas, such as roadside ditches, riparian areas, cleared land, and vacant lots. Along with being an important food source for humans, the Pacific Blackberry is an important food source for many species of birds and mammals alike.



CANES

Blackberry bushes can grow up to 10 feet tall and 20 feet long with thorny, bluish-green stems that form densely intertwined brambles that spread horizontally over the landscape. Blackberry canes are armed with small thorns to deter grazing. Native blackberry canes are gathered in early spring or fall to be boiled, peeled, and eaten.



LEAVES

Blackberry leaves are palmately compound, usually with 3-7 leaflets.



FLOWERS & FRUIT

Small, whitish-pink flowers with five petals begin to develop in the spring and early summer. Dark, purplish-black aggregate fruits appear throughout the summer, especially in the later months.



TRADITIONAL MEDICINAL USES

Along with being deliciously edible, blackberries provide a wide variety of medicinal benefits. In general, native blackberries have been used in the treatment of cancer, dysentery, diarrhea, whooping cough, sore throat, ulcers, and toothache. An infusion of the roots and leaves is used to treat digestive upset, rheumatism, coughs, and colds. The berries are also an excellent source of immune-boosting Vitamin C and other nutrients.

The roots should be gathered in early spring or fall but can also be gathered as needed. The Menominee uses an infusion of the roots for sore eyes. The roots have been noted to contain antibacterial flavonoids, salicylic acid, and myricetin. The Cherokee even reference the bark's tea made from boiling the stems to help UTIs.

SALMONBERRY

Latin: *Rubus spectabilis*

CULTURAL USES

For the Quinault and other West Coast nations, fragrant pink salmonberry blooms are an indicator of the return of blueback salmon to local waterways. As the berries ripen, tribal members know that it's time to return to their homelands for the fish harvest.

Salmonberries are found along the coast of Santa Cruz County, throughout the Pacific Northwest, and as far north as north as Alaska. They're also found further inland, as far east as Idaho and the Washington Plateau. They prefer moist areas under tree canopy and temperate climates. They can be in riparian zones, coastal areas, clearings, and disturbed areas, but prefer nutrient-rich and moist soils.



CANES

Salmonberry is a shrub reaching heights of 13' and a width of 6-10'. Weak thorns are present on lower stems, while upper stems remain smooth.



LEAVES

Salmonberries are pinnately compound leaves, usually with three leaflets, and are similar to the leaves of a raspberry. The leaflets are light green in color, are pinnately veined, and are slightly rough on the underside.



BERRIES

At the end of February small dark pink flowers 1.5 inch wide bloom. Throughout June you can see both flowers and ripening berries on the bush. Salmonberries are aggregate fruits, similar to blackberries and raspberries. The word "salmonberry" comes from their distinctive color, as they bear an almost uncanny resemblance to salmon eggs. Their berries can be a range of colors from yellow, orange, and occasionally dark purple.



CULINARY USES

Salmonberry may be consumed in a variety of ways and is an important supplement to Indigenous diets that are high in fish and game meat. The ripe fruits are eaten fresh or dried for later and can be made into delicious jams, jellies, and other preserves. The young leaves and shoots are edible raw in salads, steamed and peeled to leave a sweet inner stem, or boiled, and are often dipped in fat or fermented fish eggs ("stink eggs") to be eaten as a nutritious vegetable. "Stink eggs" are a fermented mixture of steelhead or other salmon eggs. When eaten together, the light flavor of the shoots complements the flavor of the fermented eggs, and the oils help prevent constipation from eating too many Salmonberry shoots. Older shoots can still be eaten raw after they have been peeled and as a tasty trail snack.

CALIFORNIA FOOTHILL PINE

Latin: *Pinus sabiniana*

Common name: Grey Pine, Greyleaf Pine

DIVERSITY

There are 187 species of pine in the world and 34 North American species of pine. Within North America, there are only 9 Pines that have been commercially harvested or most noted for having edible pine nuts.

DISTRIBUTION:

Pines can be found growing throughout the coastal range in the foothills and within the belt of the Sierra Nevada. *Pinus sabiniana* is especially drought tolerant and can be found on dry and rocky hillsides growing along common blue oaks and manzanitas. They have also been in places as remote as the Mojave Desert sky islands and southern Oregon.



BUILD

These pines can grow from 40 to 80 ft tall, some have even reached 100 ft. Their trunk is a dark grayish brown with deep furrows and they have long upward-reaching branches that make their needles (leaves) look sparse compared to other conifers



CROWN & NEEDLES

Their crown has often been noted for having an irregular shape as shorter ones tend to look more round. Their needles are a greyish-green, giving them the name grey pine. They can be up to 12 inch long and occur in bundles of 3 towards the end of the branch.



CONES

Their cones are also the largest among any pine species and have outer scales with sharp robust pines. They can grow between 8-12 inches long and can even weigh 2-3 pounds. However, the nut, which is sweet and oily, is going to be around three-quarters of an inch in length.



CULTURAL USES

Although collecting and processing pine nuts can be labor-intensive, they serve as an important staple in some Indigenous diets. This species of pine nut, related to the well-known pinon pines of the southwestern U.S., not only yields sweet nutlets but is also highly valued for its strong wood, inner-bark cordage, and tasty roots. These foothill pine nuts are ground into flour and dried for later use. The flour can be made into mush, cakes, and breads. Additionally, these pine nuts and the resulting flour are used ceremonially by tribes such as the Numlaki.

TRADITIONAL MEDICINAL USES

Pine buds are made into an infusion that is high in immune-boosting Vitamin C. The young buds and sap are chewed to treat sore throats, and the sap is also applied to wounds to treat and prevent infection. A decoction of the roots, bark, buds, and needles is used to improve respiratory health.

HARVESTING & CULTURAL USES

Pine nuts are the edible seeds of some pine species, including California Foothill Pine. Pine nuts found in most grocery stores today come from Italian pine trees. To harvest pine nuts, wait until pine cones start to turn brown, then harvest the cones and leave them to ripen in a sunny place until the cones open fully. Once fully opened, the cones are shaken to release the nuts. Nuts can be shelled before being eaten roasted, raw, or ground, or can be ground with their shells to make flour.

COUTLER PINE

Latin: *Pinus coulteri*

Common name: Bigcone, Pitch Pine

DIVERSITY

There are 187 species of pine in the world and 34 North American species of pine. Within North America, there are only 9 Pines that have been commercially harvested or most noted for having edible pine nuts.

Pines can be found growing throughout the coastal range in the foothills and within the belt of the Sierra Nevada. *Pinus coulteri*, also known as Coulter pine, can be found populating dry areas like chaparral, transitional oak-pine woodlands, and rocky slopes, flats, and ridges. They also have been restricted to less fertile, shallow soils.



BUILD

They can grow up to 30-80 ft but can reach 100 ft in ideal conditions; they have also been noted to be 200 years old, with some exceeding 350 years old. They have a dark brown bark that becomes rougher and ridged as they age; their canopies are wide and irregular.



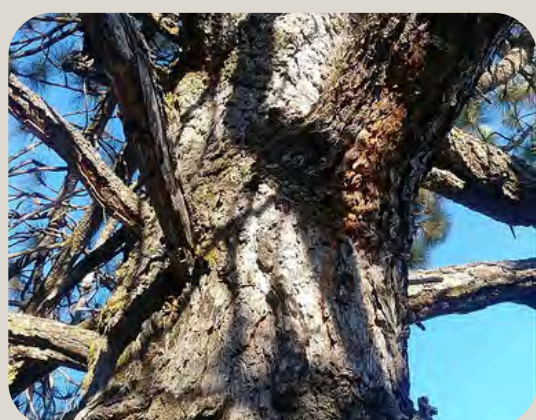
CROWN & NEEDLES

Their needles are bluish-green and are thick and long. They grow in bundles of three closer to the edge of the branches that reach upwards.



CONES

Their cones have been referred to as the heaviest cones in the *pinus* genus, ranging from 4 to 11 pounds, and their scales are sharp and thick.



CULTURAL USES

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HARVESTING & CULTURAL USES

Pine nuts are the edible seeds of some pine species, including Coulter Pine. Pine nuts found in most grocery stores today come from Italian pine trees. To harvest pine nuts, wait until pine cones start to turn brown, then harvest the cones and leave them to ripen in a sunny place until the cones open fully. Once fully opened, the cones are shaken to release the nuts. Nuts can be shelled before being eaten roasted, raw, or ground, or can be ground with their shells to make flour.

BEAKED HAZELNUTS

Latin: *Corylus cornuta*

St'thitsm: Quw'utsun
Ts'ichn: Skwxwú7mesh
Sgan-ts'ek': Gitxsan
Ts'ak'a ts'inhlik: Nisga'a
q'ap'xw: Salish
mi? diš: Pomo
holihl: Yurok

HARVESTING

Beaked hazelnuts are ripe when they begin to brown, and the nuts pull away easily from the fuzzy husk.

Beaked hazelnuts can be found throughout the northern portions of the US and along each coast. Beaked hazelnuts (*Corylus cornuta*) are deciduous shrubs or small trees native to North America, commonly found in forests, thickets, and along stream banks.

LEAVES AND STEMS

Their leaves are oval to elliptical, with a pointed tip, serrated edges, and a slightly fuzzy underside. The stems are slender, brown to reddish, and often covered in fine hairs.

FLOWERS

In early spring, the plant produces separate male and female flowers: male catkins are long, yellowish, and pendulous, while female flowers are small, red, and bud-like.

NUTS

The nuts are small, round, and edible, enclosed in a distinctive elongated, beak-like husk covered in bristly hairs. The plant provides food and habitat for wildlife, thriving in a variety of soil conditions.



TRADITIONAL CULTURAL USES

Ripe hazelnuts can be eaten in a variety of ways, from hazelnut mush to hazelnut wasna or pemmican. The nuts may be ground to make breads or boiled to make soups and stews. Hazelnuts are often roasted to enhance their flavor and to increase storage time, as they are high in oils and may go rancid. Today, hazelnuts are eaten whole as a snack, or ground and mixed with chocolate powder to make a tasty treat.

TRADITIONAL MEDICINAL USES

An infusion of beaked hazelnut leaves has been used in the treatment of heart complaints and intestinal disorders. A decoction of the bark has been given to children to alleviate teething pain. Hazelnuts are high in fiber and are great for healing the gut microbiome.