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# TREES of IDAHO

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## Trees of Idaho

**T**REES are our friends. They provide us with lumber, paper, and many other wood products. They help protect the soil, thus enabling it to store water for a more even stream flow. Trees also provide shelter and food for the many wild creatures living on forest lands. Trees help to provide recreational opportunities for all to enjoy.

There are two general classes of trees: conifers and broadleaf. Conifers for the most part have needle-like or scale-like leaves and have cones for fruit. They are also called softwoods even though some have relatively hard wood, such as Pacific yew. Many people call the conifers "evergreens", but larch shed their needles in the fall. Broadleaf trees commonly have wide, thin leaves and various types of fruits other than cones. Since they usually shed their leaves in the fall they are often called deciduous trees; however, some, such as mountain-mahogany, retain their leaves all winter. As a group they are also referred to as hardwoods, although some broadleaf trees, such as quaking aspen, have relatively soft wood.

Idaho does not have a large group of native trees. There are 23 native conifers and 20 native broadleaf species included in this booklet. Nine coniferous species and two species of broadleaf trees are used commercially. Of these, western white pine and ponderosa pine are the most valuable.

This booklet will help you to know the native trees of Idaho. Recognizing the main characteristics of the various types of trees is not difficult. Almost every day you work and play with people who are your friends. When you meet a friend you recognize him by characteristics of size, color of hair, color of eyes, shape of nose and many other features. In a like manner, trees have distinctive characteristics that aid in identifying them. The main identifying characteristics are illustrated for each of the major species. For the less important trees, the characteristics are mentioned that set them apart from their closest relatives.

We hope you will enjoy becoming acquainted with the trees of Idaho. They provide many materials and benefits for us. Let's be considerate of them. Always be extremely careful with fire in the woods. Never deface or injure trees by carving, blazing or other means unless there is real need to do so. Treat them as friends.

## Tree Identification Aids

These notes will help to identify Idaho's coniferous trees

**Pines** (*Pinus*)—Needles in bundles of two to five, bound together at the base by a sheath. (There is only one needle in single leaf pinyon.)

**Larches** (*Larix*)—On older twigs, needles are borne in clusters on short, spur shoots. All larch needles drop off in the fall of the year. All of our other conifers have some green needles all winter long.

**Firs** (*Abies*)—The single, flat needles have rounded or blunt tips and are very fragrant. The buds are rounded and the leaf bases are flat and circular.

**Douglas-fir** (*Pseudotsuga*)—Needles are similar to the true firs except that they are pointed and have smaller bases. The buds are red-brown and pointed.

**Hemlocks** (*Tsuga*)—Needles flattened or semi-circular in cross-section, borne on a small, raised leaf base; leaves are "soft" to the touch, more-or-less blunt tipped.

**Spruces** (*Picea*)—Leaves angular, square in cross-section, borne on a prominent, raised leaf base; leaves are stiff to the touch, usually sharp tipped.

**Yew** (*Taxus*)—Leaves are flattened and sharp-pointed, with a scale-like base on the twig; buds are small and rounded.

**Western redcedar** (*Thuja*)—Leaves are all small, scale-like and overlapping, they are flat in cross-section; the branches have a "fern-like" appearance.

**Junipers** (*Juniperus*)—Leaves are mostly scale-like, and are rounded or angular in cross-section; the branches are open and are not "fern-like" in appearance. Some needles on Junipers may be flat and pointed, especially on the tips of young and vigorous branches. (Needles are entirely flat in common juniper).

The cover picture—Virgin western white pine forest,  
Clearwater County, Idaho.

## Western White Pine

(*Pinus monticola*)



**Needles:** In bundles of five, 2"-4" long, blue-green in color.

**Cones:** 6"-10" long, curved thin scales.

**Bark:** Dark gray and broken into small squares on older trees. On younger trees the bark is smooth and is gray-green in color.

**General:** Straight trunk with little taper, and a narrow crown.

**W**ESTERN white pine, or Idaho white pine, was officially designated as the State Tree by the Legislature in 1935. The tree is more abundant north of the Clearwater River in Idaho where it may be found in extensive pure stands following forest fires. The largest known living western white pine in the world is near Elk River, Idaho. It is 219 feet in height, and has a diameter of 6 feet 8 inches.

White pine is now grown under difficult conditions. Millions of trees have been killed by the white pine blister rust. The rust is a fungus that grows on five-needle pines and alternately on *Ribes* (wild currant and gooseberry) bushes. The fungus enters the tree through the needles. Cankers develop which girdle the twigs, branches, and stems and may eventually kill the tree.

Western white pine will grow successfully only where the old cedar-hemlock forest has been removed. Before white men came to Idaho, nature removed these forests with fire. Today, logging helps to provide open areas which will support western white pine. Foresters may also use controlled fires to aid in the growing of our State tree.

Western white pine has the highest commercial value of any tree in the state. It is a valuable wood because of its straight grain, uniform texture and workability. It is used principally for lumber and matches.



# Ponderosa Pine

(*Pinus ponderosa*)

**Needles:** In bundles of three, 3"-10" long, dark green.

**Cones:** 2"-4" long; scales thickened at tip and bearing a sharp spine until maturity.

**Bark:** On old trees, broad, thick, yellowish to orange-colored plates. On young trees, dark-colored with narrow furrows and ridges.



**P**ONDEROSA pine is second in importance as a commercial species in Idaho. It grows generally throughout the forested areas of southwestern Idaho and on many of the south and west slopes in northern Idaho. Yellow pine is another common name for the tree. Second growth or fast-growing young trees that have not developed the orange or yellow-colored bark are commonly called bull pine. Bull pine and yellow pine are the same tree as ponderosa pine.

Ponderosa pine lumber is light, easy to work, does not split readily, and holds its shape well. It is used in sash and door manufacturing, for knotty pine interior finishes in homes, for veneer, and for packing boxes and crates.

Ponderosa pine is useful in farm windbreaks for Idaho farms. When open-grown this pine retains its bushy appearance with branches almost to the ground, providing an effective barrier to the wind.



## Lodgepole Pine

(*Pinus contorta*)

**Needles:** In bundles of two, 1"-3" long, twisted, yellow-green to light green.

**Cones:** 1"-2" long, asymmetrical at base, very hard, scale thickened at tip and bearing a sharp deciduous spine.

**Bark:** 3/4"-1" thick, deeply furrowed, almost black on northern Idaho trees; 1/4" thick, scaly, orange-brown to gray on southern Idaho trees.

**General:** Often grows in dense thickets where it has a rather narrow crown. It develops a wide crown and holds low branches when growing in open.



**L**ODGEPOLE pine is one of the more widely distributed trees in Idaho. At one place or another within the state it may be found associated with most of our forest trees. Following forest fires it may form extensive pure stands; these are more frequent south of the Clearwater drainage. It is used for making pulp, and also for knotty pine lumber. It makes good fence posts, ties and poles when treated with a preservative. Jack pine and black pine are other names used for lodgepole in this region.

## Singleleaf Pinyon

(*Pinus monophylla*)

**S**INGLELEAF pinyon, with one or sometimes two needles per cluster, occurs in the mountains of Cassia County and probably in limited areas in other southeastern counties. The wood has no commercial value. Seeds are large and edible, hence the name nut pine.

## Scotch Pine

(*Pinus sylvestris*)

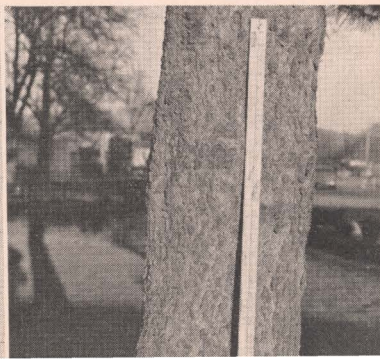
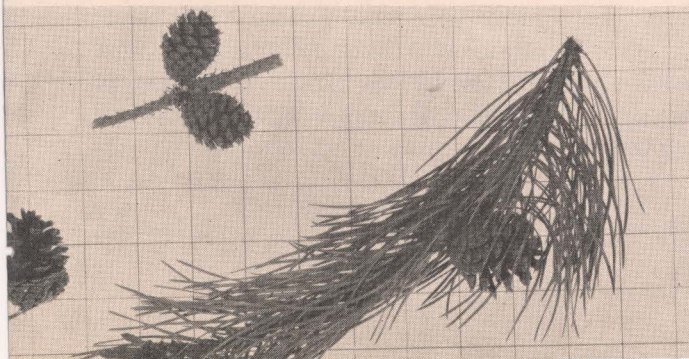
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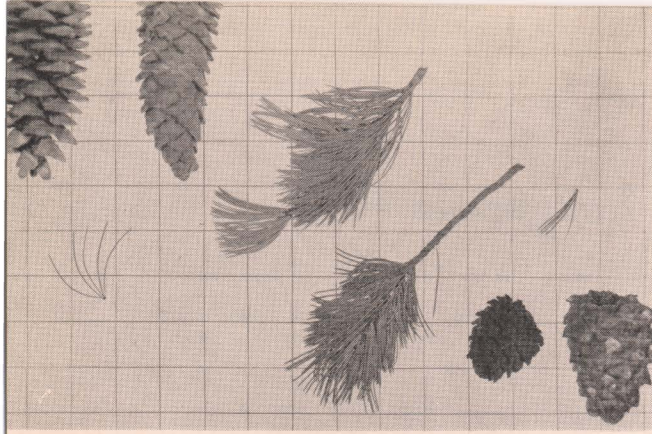
## Austrian Pine

(*Pinus nigra*)

**S**COTCH pine and Austrian pine are both native to Europe; they are widely used in Idaho for windbreaks and as ornamentals. Both have two needles per bundle about 2" to 3" long. In Scotch pine they are thin and gray-green; in Austrian pine they are stout and dark green. The cones of both trees are under 3" long and usually have no spine. Scotch pine cones are greenish-brown, those of Austrian pine are brown. Except in young trees, the upper bark of Scotch pine is thin, scaly and bright orange; in Austrian pine it is scaly and purplish-gray.

## Lodgepole pine





Limber pine  
cones and foli-  
age upper  
left; whitebark  
pine lower  
right.

## Limber Pine

(*Pinus flexilis*)

**L**IMBER pine, like western white pine, has five needles in a bundle. This tree is found on most of the higher mountain ranges in Idaho from the Lochsa headwaters south. It is sometimes seen growing on very severe sites, such as the lava flows around the Craters of the Moon. It is most common on dry uplands or ridges in southern Idaho. Limber pine gets its name from its long limbs which may be so flexible that they may be tied in knots. Needles are  $1\frac{1}{2}$ " to 3" long, stout, rigid, and dark green. Cones are 3" to 10" long, somewhat similar to those of western white pine but more woody, with thickened scales opening at maturity. Bark on young trees is smooth and light gray; old bark is dark brown and plated. Usually this tree is a stunted, shrub-like tree.

## Whitebark Pine

(*Pinus albicaulis*)

**W**HITEBARK pine is a 5-needle pine closely resembling limber pine; however, whitebark pine is always found in the high mountains. The needles are not flexible as they are on western white pine. The branches and trunk are silvery gray to white in appearance. The cones are 2" to 3" long and about as broad. They remain closed while on the tree and even after falling, they never open. Seeds are released only after the cone decays. The cones are the only reliable way to separate whitebark from limber pine. Whitebark pine is found usually at elevations above 5,000 feet in mountain ranges of northern Idaho and above 6,000 feet in central Idaho. Neither limber nor whitebark pine is of commercial importance in Idaho.



## Douglas Fir

(*Pseudotsuga menziesii*)



**Needles:**  $\frac{3}{4}$ "-1 $\frac{3}{8}$ ", flat, growing from all sides of the twig; mostly blue-green, but may be yellowish green to dark green.

**Buds:** Long ( $\frac{3}{8}$ "- $\frac{1}{2}$ " ), sharp-pointed, orange-red buds at ends of twigs are a distinctive feature of Douglas-fir.

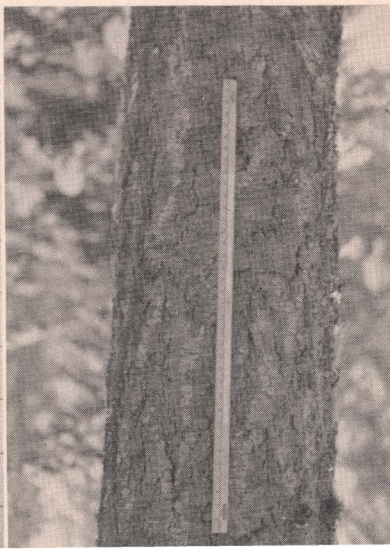
**Cones:** 2 $\frac{1}{2}$ "-3" long; the 3-pointed bracts sticking out between scales of cones is a distinguishing feature of the Douglas-fir. Cones hang down from the branches and fall to the ground intact.

**Bark:** Gray to gray-brown, deeply furrowed, corklike.

**T**HE Douglas-fir was named for David Douglas, an early explorer-botanist, who first discovered this tree. Its former name, *Pseudotsuga taxifolia*, means "false hemlock with yew-like leaves." The young Douglas-fir has resin blisters on the trunk like the true firs. The needles are short and pointed, but are not stiff and prickly like spruce.

There are two types of Douglas-fir: the Pacific Coast form and the Rocky Mountain form. The most easily recognized difference between the two types is the blue-green color of the Rocky Mountain form. All of Idaho's Douglas-fir is of the Rocky Mountain form (*Pseudotsuga menziesii* var. *glauca*).

A major use of Douglas-fir is for dimension lumber, but it also makes good 1-inch lumber. Two-thirds of all the lumber cut in the Northwest is Douglas-fir, most of it coming from along the Oregon and Washington coasts. Douglas-fir is also used for poles and piling. In Idaho, Douglas-fir is the principal Christmas tree. Many bales of these trees are shipped out of the state every year.



## Grand Fir

(*Abies grandis*)

**Needles:** 1"-2" long, deeply grooved, shiny dark green on top, silvery underneath. They appear to be in two rows along the sides of the twig in the lower crown. Crushed needles have a pleasant "piney" aroma.

**Cones:** 2"-4" long, dark olive green, brown when mature, borne upright on branches in top of crown; cone scales drop away in the fall, leaving the central spike. (See picture of subalpine fir.)

**Bark:** Smooth and grayish with numerous resin blisters on young trees, dull gray and rough on old trees.

**G**RAND fir lumber is used especially in interior work. Grand fir would have much greater commercial value in Idaho if it were not for the large volume of wood lost to decay caused by the "Indian paint" fungus. The wood is extensively used in pulp production. Grand fir also has some local use for Christmas trees, but its stiff, stout branches prevent it from being bundled and shipped readily. In Idaho, grand fir has approximately the same range as western larch. (See map on p. 12).

Grand fir is commonly called white fir in Idaho. It can be distinguished from the true white fir by differences in the needles. Grand fir needles are dark, glossy green above, borne in two rows along sides of twigs, while white fir needles are silvery or whitish on both sides, curving towards the upper side of the twig, and not arranged in two rows.

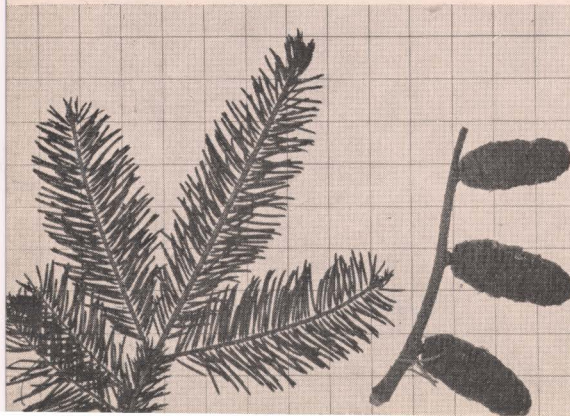
## White Fir

(*Abies concolor*)

**W**HITE fir is another true fir. It is quite likely a native of Idaho, possibly occurring in scattered localities in the mountains of central and extreme southeastern Idaho. The lower crown needles of white fir are 2" to 3" long, usually curving upwards and are evenly white on both sides. White fir cones are very similar to those of grand fir but are slightly larger. White fir has been introduced into many areas in Idaho. It is widely used as an ornamental and to some extent in farm plantings.

Grand fir

White fir



## Subalpine Fir

(*Abies lasiocarpa*)

**Needles:**  $\frac{1}{2}$ "- $1\frac{1}{2}$ " long, blue-green, with a thin white band in the center of the upper surface; those on the under side twisted and turned upward so that the needles appear to be massed on the upper side of the twig.

**Cones:**  $2\frac{1}{2}$ "-4" long, oblong, purplish, borne near the top of the tree; scales drop away from the central axis in the fall.

**Bark:** Generally smooth, closely resembling grand fir, rarely plated even in old trees.

**General:** Long, dense, narrow conical crown with spire-like top. Often open-grown, with branches persisting to the ground.



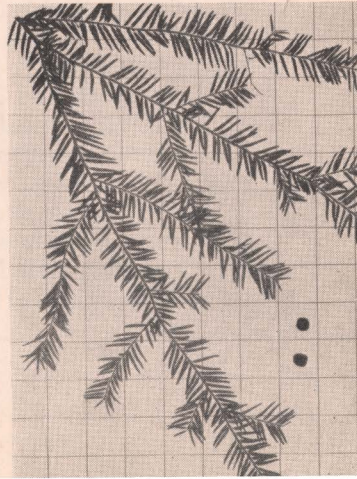
**S**UBALPINE fir is easily recognized by the narrow, spire-like top. It seems to come to a perfect point. This tree is found principally at the higher elevations, rarely under 3,000 feet, on mountainsides and in high valleys throughout the State. It is of growing commercial importance as logging moves farther back and higher into the mountains, where subalpine fir sometimes forms commercial stands with Englemann spruce.

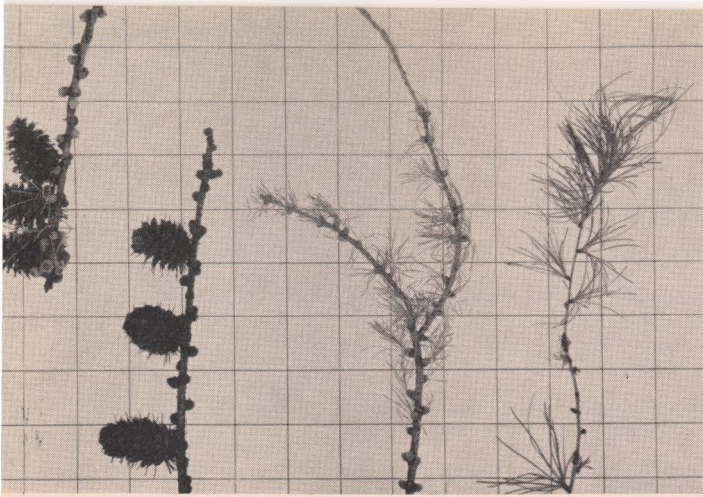
## Pacific Yew

(*Taxus brevifolia*)

**T**HE Pacific yew is found in scattered localities in northern Idaho. It generally grows on deep, well-drained, moist soil. The needles are short, flat, and lance shaped and appear to be in two rows. Pacific yew is generally a sprawling, shrubby tree in the forest understory, associated commonly with western white pine, western redcedar or western hemlock. The trunk is usually twisted and has a reddish-purple, thin, scaly bark. Instead of a cone, it has a scarlet berry.

Pacific yew wood makes good bows, and is used in some cabinet making and for fence posts. Because of its twisted trunk, only small amounts of straight material are available for commercial use.





Western larch—left cones and left twig.  
Subalpine larch—right cones and right twig.



## Western Larch

(*Larix occidentalis*)

**Needles:** 1"-1¾" long in brush-like clusters on older twigs, from 14 to 30 in a cluster; needles are a pale green in spring and summer, but turn a bright yellow in the fall, and then drop off for the winter.

**Cones:** 1"-1½" long with many stiff, thin, scales; a single, pointed bract sticks out from beneath each scale.

**Bark:** Grayish and scaly on young stems; thick, red-brown and deeply furrowed on old trees.

**General:** A very narrow, open crown showing much of the trunk.

**T**HE larches are the only conifers in the West that shed their leaves in the fall like the broadleaf trees. In the fall their needles turn a golden yellow and then drop off. To the unknowing person the trees appear dead during the winter.

Larch is one of the heaviest woods of the conifers. It is relatively durable in contact with the soil. It is used for lumber, fence posts, piling and railroad ties. It is also used extensively for power and telephone poles because of its straight trunk and uniform taper. In Idaho, western larch is often found associated with Douglas-fir or western white pine from the vicinity of Cascade northward.

## Subalpine Larch

(*Larix lyalli*)

**T**HIS member of the larch group is so named because it grows only at high elevations, generally at the upper limits of the timberline. It generally resembles western larch except for its being smaller. It does not have the tall, straight trunk of the western larch and its willowy branches are often pendulous. Subalpine larch is most easily distinguished from western larch by its four-angled needles and the current year's twigs, which are covered with a dense, yellow wool. This larch has an extremely limited range in Idaho and it takes a good climber with sharp eyes to find one. It is usually intermingled with whitebark pine, mountain hemlock, subalpine fir and Englemann spruce, in the mountains from central Idaho northward.

## Western Redcedar

(*Thuja plicata*)



**Needles:** Scale-like on short, flat, branchlets forming a flat, fernlike spray, dark green above and light green below.

**Cones:** About ½" long; scales in pairs, thin, somewhat leathery and weakly spinetipped. Cones often in dense groups, turning up and pointed backwards on the twigs.

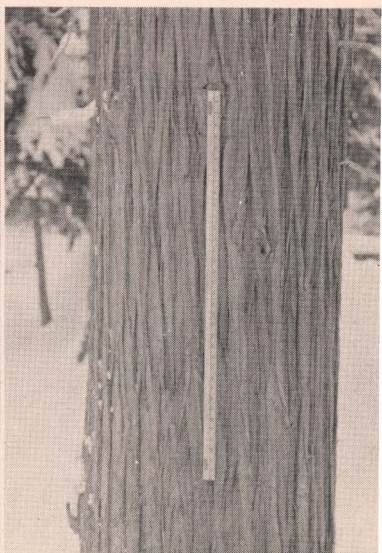
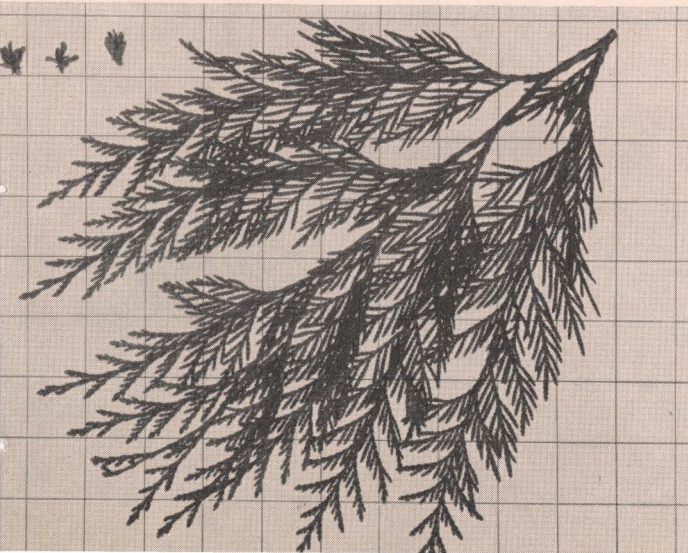
**Bark:** Thin, light-brown and stringy; readily separating into long thin strips.

**WESTERN** redcedar is one of Idaho's most useful woods. Shingles, utility poles and fence posts are the most common products made of western redcedar. Its lumber is used for exterior house siding and interior trim. Because the heartwood of this tree resists decay and insects, it is used for almost every purpose that requires a wood to withstand exposure.

Western redcedar wood has a distinctive odor. In fact, its scientific name, *Thuja plicata*, means "A tree with sweet-smelling wood whose leaves are folded and interwoven." Western redcedar is sometimes called giant arborvitae. The sapwood is light creamy yellow and the heartwood is red-brown. It attains the largest diameter of any of our Idaho trees.

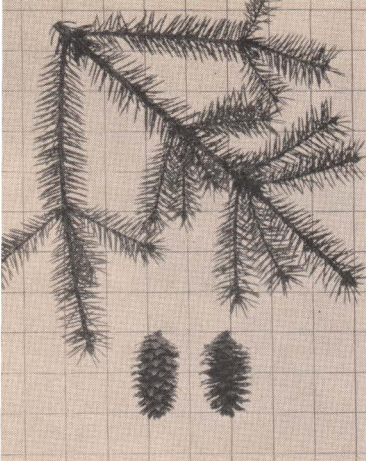
The Governor Jordan Tree is the largest known in Idaho; it is 16½ feet in diameter and 133 feet tall. It grows in the Land Board State Park, which is located on the road between Boehls Cabin and Goat Mountain in Clearwater County.

Western redcedar is a shade tolerant tree generally found on cool, moist sites. Although you may find dense thickets of young redcedar, it usually grows in mixture with other species, such as western hemlock, western white pine, grand fir or Englemann spruce. Deer and elk often browse on the needles of this tree in the wintertime.



## Engelmann Spruce

(*Picea engelmannii*)



Engelmann spruce

**E**NGELMANN spruce is a shade tolerant tree that grows in all the forested parts of Idaho at higher elevations in cool, moist places. The largest known living Englemann spruce is on the Cache National Forest near Paris, Idaho. It is 104 feet tall, and its diameter is 6 feet 4 inches. Englemann spruce is usually found mixed with other trees. The lumber from Engelmann spruce is white and light-weight; it is sometimes confused with pine lumber. Spruce lumber is used for many construction purposes because of its lightness and workability. It is also used for sounding boards for pianos and it makes excellent pulpwood.

## Blue Spruce

(*Picea pungens*)

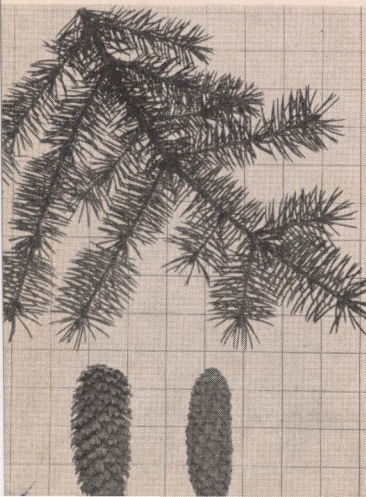
**Needles:** 1"-1¼" long, rigid, sharp tipped, blue green to silvery, lacking the pungent Engelmann spruce odor when crushed, but having a sour-bitter taste.

**Cones:** Very similar to Engelmann, except in size—blue spruce cones are usually about 3½" long.

**Bark:** Ashy brown and in broken vertical ridges.

**B**LUE spruce probably has a limited natural range in eastern Idaho counties, but confirmed collections have been made from only one location in Bonneville County. It is widely used throughout the state as an ornamental. The wood is soft, light-weight and brittle and has little commercial value.

Blue spruce



## Norway Spruce

(*Picea abies*)

**N**ORWAY spruce is a native of Europe. It is widely planted in Idaho for farm wind-breaks and ornamental purposes. The needles are ¾" to 1½" long, medium green, usually bending toward the upper side of the twig, not as sharp pointed as are the needles of our native spruce. Cones are 5" to 6" long with stiff scales that look polished.

## Western Hemlock

(*Tsuga heterophylla*)

**Needles:**  $\frac{1}{4}$ "-1" long, of uneven lengths; the single, flat leaves appear to grow from two opposite sides of the branches.

**Cones:**  $\frac{1}{2}$ "-1" long, light brown, thin scales; hanging down from the branch.

**Bark:** Firm, thick, deeply furrowed on older trees and shows a purplish color where freshly cut or broken.

**Y**OUNG western hemlock is easily recognized by its leader, which droops over like the end of a buggy whip instead of standing erect and pointing skyward. Hemlock is used for lumber and pulpwood. It is the best source of alpha-cellulose, used in the manufacture of rayon, cellophane and many plastic products. In Idaho, much of the hemlock in mature stands is defective, due to the work of wood-rotting organisms that attack the tree.

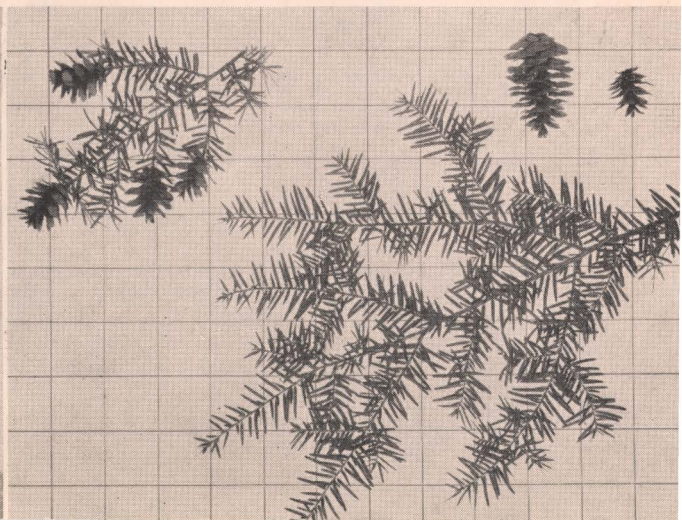
Hemlock is a tolerant tree. It will grow in the deep shade of other trees and in mixed stands with other species. It is generally found in cool, damp areas at middle elevations, associated with western white pine and western redcedar from the Clearwater region northward.

## Mountain Hemlock

(*Tsuga mertensiana*)

**M**OUNTAIN hemlock is the only other hemlock found in Idaho. It grows at higher elevations than western hemlock, usually above 4,000 feet. It is Idaho's largest subalpine tree, sometimes attaining a diameter of 5 feet and a height of over 100 feet. Like western hemlock it has a drooping leader, but differs in that its needles are not borne along the side of the twig but come from all around the twig. The needles are not flat, but are semicircular in cross section, and are somewhat longer and darker than those of western hemlock. The dark foliage is quite dense, which explains its other common name—black hemlock. The dark, purplish cones are usually  $1\frac{1}{2}$ " to 2" long. It has little commercial value in Idaho.

Western hemlock except large cone which is mountain hemlock.





Awl-shaped needles on young growth of Rocky Mountain juniper upper left. Foliage of same on older branchlets at center. Foliage and fruit of Utah juniper at lower right.

## Junipers

(*Juniperus* species)

**Needles:** Small, gray-green to yellow-green, opposite or in arrangements of three, usually scale-like, overlapping, and closely appressed to the branchlets (which may be round or rectangular in cross section); however, needles may be awl-shaped and somewhat diverging, especially on young growth.

**Cones:** With modified structure; small, round, berrylike in appearance; 3/16"-1/3" in diameter, deep blue or brown, often with a whitish bloom.

**Bark:** Thin, light gray to reddish-brown, fibrous and stringy, usually with narrow, interlacing ridges.

**F**IVE junipers are native to Idaho. Four of them attain small or medium tree size on good sites, but they may be no more than sprawling shrubs on poor sites. Juniper wood is quite durable; thus it makes good fence posts. Souvenirs and other small items are also made from the fragrant wood. Rocky Mountain juniper is an important farm windbreak tree, and various juniper varieties are used widely in the state for ornamentals.

Here are the main characteristics that will help separate the native junipers of Idaho:

	Foliage	Fruit	Heartwood	Range in Idaho
Rocky Mountain juniper ( <i>J. scopulorum</i> )	Needles in 2's, gray-green, branchlets lacy	3/16" diameter	red	Statewide, but more common in southeastern counties.
Utah juniper ( <i>J. osteosperma</i> )	needles in 3's, yellowish-green, branchlets stout	1/3" diameter, red-brown	light-yellow-brown	Mainly south of Snake River and east of Owyhee County.
western juniper ( <i>J. occidentalis</i> )	needles in 3's, gray-green, with resinous spots; branchlets stout	1/4" diameter bluish-black	reddish-brown	Most common in Juniper Hills, Owyhee Co.; also in Washington Co. and one spot at Craters-of-the-Moon.
oneseed juniper ( <i>J. monosperma</i> )	gray-green mostly in 2's	1/3" diameter, copper colored	brown	Southeastern Ida. from Cassia Co. eastward.
common juniper ( <i>J. communis</i> )	Entirely awl-shaped, dark green. Buds visible	Up to 3/8" diameter, dark blue	Unimportant; always a small shrub in Idaho	Statewide. Most common on high mountains.



## Black Cottonwood (*Populus trichocarpa*)

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**Leaves:** Up to 6" long, 4"-5" wide, somewhat heart-shaped, the margins very finely toothed; upper leaf surfaces smooth and dark green; the under sides lighter green or rusty brown.

**Buds:** Orange-brown to nut brown, the lateral buds standing out from the twigs. They are resinous, and have a fragrant odor when crushed. Most cottonwoods have this characteristic. This accounts for the wide use of Balm-of-Gilead as a common name for various cottonwood species.

**Bark:** On young trees is smooth, yellow-green to gray; old bark is dark gray to pale gray and has deep furrows and narrow ridges.

**B**LACK cottonwood grows to heights of 120 feet or more and 4 feet in diameter along streams in central, western, and northern Idaho, and is the largest hardwood tree in the northwest. Black cottonwood is used locally for fuel, rough lumber, and treated fence posts. In northern counties it is cut for pulp.

There are two other cottonwoods native to Idaho. Narrowleaf cottonwood (*P. angustifolia*) is a common tree along many streams, occurring most frequently in the south-central and southeastern parts of the state. It may be separated from the other cottonwoods by its narrow leaves, which are 2"-4" long by 1/2" to 1 1/2" wide, with finely toothed margins; and by the yellow-green to orange color of its new twigs. Balsam poplar (*P. balsamifera*), with a botanical range including most of Idaho, is difficult to separate from black cottonwood. Balsam poplar leaves have a thinner appearance and the wide point occurs about one-third of the way from the base to tip. The widest point on black cottonwood leaves is usually no more than one-fourth of the way from the base to tip. The terminal buds of balsam poplar and narrowleaf cottonwood have five scales, while those of black cottonwood have 6 or 7 scales.

## Quaking Aspen (*Populus tremuloides*)

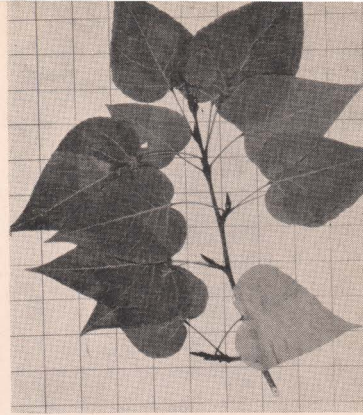
**Leaves:** 1 1/2"-3" in diameter; almost circular in outline with sharp-pointed tip; shiny green above, paler below. Leaf stems 1 1/2"-3" long, flattened.

**Twigs:** Slender, reddish brown.

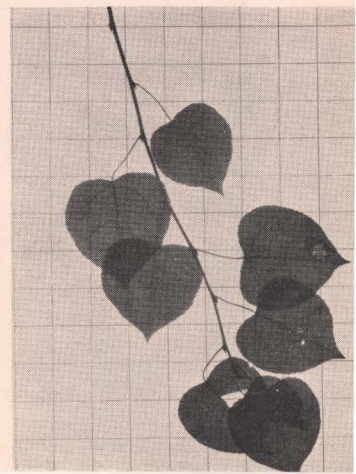
**Buds:** Sharp-pointed, usually non-resinous; lateral buds lying close against the twig.

**Bark:** Smooth, greenish-white to cream colored, becoming furrowed and dark with many wart-like growths on older trees.

**Q**UAKING aspen grows in the mountains throughout Idaho. It is seldom more than 50 feet tall and frequently grows in dense stands. The flattened leaf stems cause the leaves to tremble in the slightest breeze. In the fall the yellow leaves of aspen patches lend color to many mountainsides. Aspen is usually a short-lived tree, often the first to come in on burned areas. When fire does not recur, Douglas-fir and other conifers eventually replace stands of aspen. The aspen is a favorite food of beaver.



Black cottonwood



Quaking aspen

## Rocky Mountain Maple

(*Acer glabrum*)

**Leaves:** 3"-5" in diameter, opposite, deeply-lobed to 3-parted; sharply toothed, dark green above and paler below. Leaf stems often bright red.

**Fruit:** Two single seeds, joined, each having a long papery wing (a double samara); the wings slightly spreading.

**Twigs:** Bright red-brown.

**Bark:** On older trees thin and smooth, dark red-brown to grayish.

Upper—Rocky Mountain maple  
Lower—Bigtooth maple

**R**OCKY Mountain maple is usually a shrub, up to 20 feet in height. It is common in most forested sections of the state. The wood is occasionally used for fuel.

## Bigtooth Maple

(*Acer grandidentatum*)

**Leaves:** 2"-5" in diameter, opposite, 3-5 lobed, dark green above, pale and usually hairy below.

**Fruit:** A double samara (see above), wings are  $\frac{1}{2}$ "-1" long, spreading or erect, usually rose-scarlet in summer.

**Twigs:** Bright red.

**Bark:** Thin, smooth and grayish on younger stems, older bark usually gray to dark brown, separating into thin scales.

**B**IGTOOTH maple is a small tree, up to 30 feet in height. It is found in southeastern Idaho counties, mostly in draws or canyon bottoms, as far north as Pocatello. The wood is not used commercially.

## Boxelder

(*Acer negundo*)

**Leaves:** 3"-7" long, opposite and compound, usually 3 (sometimes 5-7) leaflets, coarsely toothed.

**Fruit:** A double samara, wings overlapping or slightly spreading.

**Twigs:** Smooth or hairy when young, green to bluish.

**Bark:** On young trees is greenish; older bark is pale gray to light brown and furrowed.

### Boxelder

**B**OXELDER is actually a maple. Our native boxelders are small trees, found occasionally along streams in the extreme southeastern part of the state. Another variety of boxelder has been planted widely in Idaho as a farm and ornamental tree due to its fast growth. Its poor form, short life, and heavy attacks by boxelder bugs make it a poor choice for ornamental and windbreak planting. It has escaped from cultivation in places. The wood has no commercial value in Idaho.



## Paper Birch

(*Betula papyrifera*)

**Leaves:** 2"-3" long, margins doubly toothed.

**Twigs:** At first green and hairy, marked by scattered oblong orange spots, later they become shiny orange-brown.

**Fruit:** Cone-like, about 1" long, the scales dropping off in the fall.

**Bark:** On older trees is usually white with long, narrow, dark markings making bands around the trunk. It may peel away in strips, which will help to distinguish it from water birch. There are three varieties of paper birch in Idaho. These are difficult to differentiate and the bark colors range from almost white to a dark red-brown. Often the dark-barked varieties of paper birch are mistaken for water birch.

**P**APER birch is a medium-sized tree found in northern Idaho. Its botanical range extends as far south as the Salmon River, but it is most common in Bonner and Boundary counties.

Paper birch does not have high commercial value in Idaho, but is used locally for flooring, fancy woodwork and fuelwood. (Picture, page 20).

## Water Birch

(*Betula occidentalis*)

**Leaves:** Usually under 2" long, dark green above, yellow-green below; margins toothed.

**Twigs:** Light green when young, becoming dark red-brown.

**Fruit:** Cone-like, 1"-1¼" long.

**Bark:** On older trees is a lustrous dark bronze, with long, pale horizontal markings.

**W**ATER birch is a shrubby tree, seldom over 30 feet, found along streams throughout Idaho. There are no commercial uses for the wood, but it is cut locally for fuel. (Picture, page 20)

Bog birch (*B. glandulosa*) is a third birch species native to Idaho. It is commonly a shrub and rarely attains tree size. Bog birch can be distinguished from our other native birches by its small leaves, which are usually less than one inch long; also, by its reddish twigs, which are densely covered with small wart-like glands. It is found at high elevations in cold, moist areas.

## Netleaf Hackberry

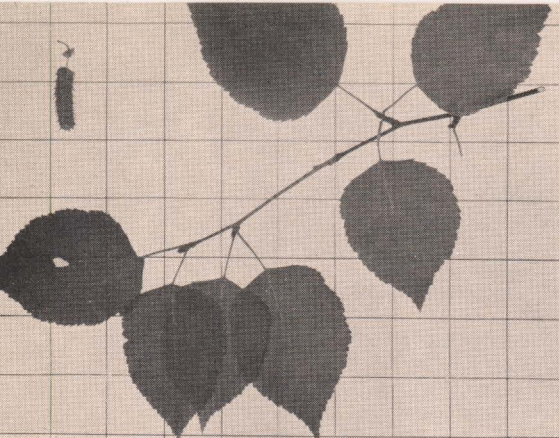
(*Celtis reticulata*)

**Leaves:** 1¼"-3" long, dark green and usually rough above; yellow-green with conspicuous veins below.

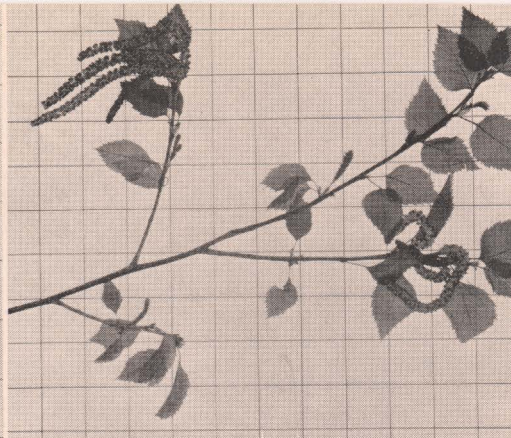
**Fruit:** A round, rather dry berry, ¼" in diameter.

**Bark:** Thick, rough, ashy gray, with prominent short projecting ridges.

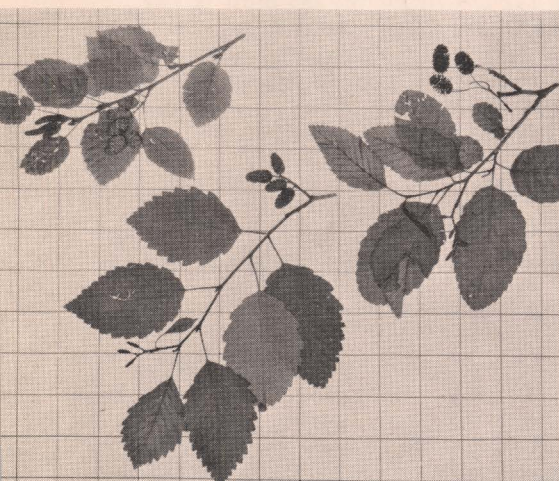
**N**ETLEAF hackberry is a small tree, up to 30 feet in height, that is occasionally found in the dry river valleys from Lewiston to southeastern Idaho. It has no commercial value. (Picture, page 20).



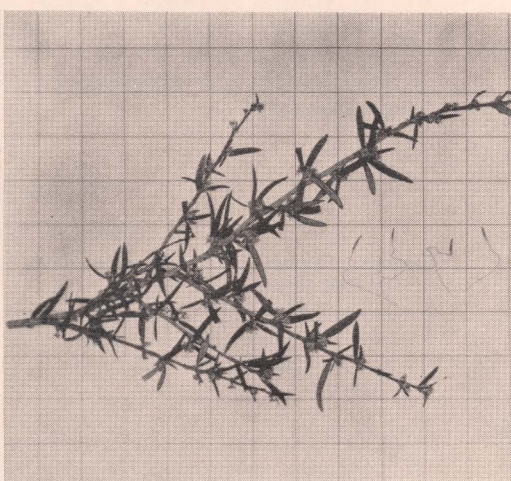
Paper birch



Water birch

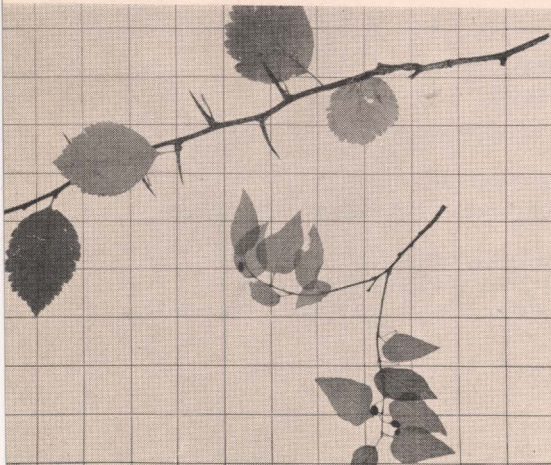


Left to right—Sitka, thinleaf and white alder



Mountain mahogany

Black hawthorn above; netleaf hackberry below



Common choke cherry left; serviceberry middle and right



## Thinleaf Alder and Sitka Alder

(*Alnus tenuifolia*)      (*Alnus sinuata*)

**T**HESE two alders are usually shrubs, but occasionally make small trees. They are relatives of the birches. There are two means of separating the alders from the birches: Alder cones have persistent scales, birch cone-scales are deciduous; alder twigs have terminal buds, whereas birch twigs do not. Thinleaf alder is found along streams statewide. Sitka alder grows north of the Salmon River. These characteristics will help to identify these two alders:

### Thinleaf alder

**Leaves:** 2"-4" long, deeply double-toothed.

**Fruit:** Woody, cone-like, with small nutlets for seeds; cone  $\frac{1}{2}$ " long, on rather stout stems.

**Winter buds:**  $\frac{1}{4}$ "- $\frac{1}{3}$ " long, reddish, rounded, stalked, very finely hairy.

**Barks:** Thin, smooth, red-brown when young, shading into gray on old trunks.

### Sitka alder

**Leaves:** 3"-6" long, shallowly double-toothed.

**Fruit:** Similar, except cones  $\frac{1}{2}$ "- $\frac{3}{4}$ ", on slender, spreading stems.

**Winter buds:**  $\frac{1}{2}$ " long, dark purple, pointed, no stalk, finely hairy.

**Bark:** Similar on both species.

## White Alder

(*Alnus rhombifolia*)

**W**HITE alder has a limited range in several northern counties, chiefly in the lower Clearwater and Snake River valleys. Leaves are 2" to 3" long, finely double-toothed; twigs with stalked buds. Mature cones remain closed until next flowering season, while the cones on the other two species open in the fall that they mature. Bark is dark red-brown, irregularly furrowed on old trunks.

## Mountain-Mahogany

(*Cercocarpus ledifolius*)

**Leaves:** About 1" long, short stemmed, shiny dark green above, pale and hairy below, somewhat leathery, margins slightly rolled, persistent for 2 years.

**Twigs:** Stout, rigid, red-brown, hairy, later becoming smooth and dark brown to silver-gray.

**Fruit:** A single seed, the cover chestnut brown with long hairs. Seed is tipped with a hairy, twisted, tail-like structure that is 2" to 3" long.

**M**OUNTAIN-MAHOGANY is a shrub or small tree rarely exceeding 25 feet in height. It is found on dry sites mainly south of the Salmon River. The trunk and branches are stout and crooked. The wood is extremely heavy and hard, and is used for novelties and locally for fuel. Folklore has it that rustlers and bandits used mountain-mahogany wood for campfires because it burns with so little smoke. It may also be called curlleaf mountain-mahogany or curlleaf cercocarpus.

## Hawthorns

(*Crataegus* species)

**T**HERE are three hawthorn species in Idaho: black hawthorn (*C. douglassi*), Columbia hawthorn (*C. columbiana*), and river hawthorn (*C. rivularis*). All have leaves that are noticeably toothed and usually shallowly lobed above the middle. Bark color ranges from light brown or red-brown on young growth to gray on old trunks. The distinguishing features of black and Columbia hawthorns are:

### Black hawthorn

**Fruit:** Black and lustrous when ripe, usually less than  $\frac{1}{2}$ " in diameter.

**Spines:**  $\frac{1}{2}$ "- $1\frac{1}{4}$ " long; or may have no spines. (Picture, page 20)

### Columbia hawthorn

**Fruit:** Dark red, about  $\frac{1}{2}$ " in diameter.

**Spines:**  $1\frac{1}{2}$ "- $2\frac{1}{2}$ " long.

River hawthorn is restricted to southeastern Idaho. It is similar to black hawthorn, except the fruits are usually larger and the spines somewhat longer and more slender. Black hawthorn may be found statewide along streams and in open areas at lower elevations; Columbia hawthorn is restricted to the fringes of the Palouse area in northern counties.

## Serviceberry

(*Amelanchier alnifolia*)

**Leaves:** Toothed above middle, dark green above, pale below.

**Flowers:** White; appearing early in the spring.

**Twigs:** Usually red-brown.

**Fruit:** Dark blue, berry-like,  $\frac{1}{4}$ "- $\frac{1}{2}$ " diameter, juicy, edible.

**Bark:** Smooth, light brown to reddish-brown. (Picture, page 20)

**U**SUALLY a large shrub, but may become tree-like. Ranges throughout Idaho in moist woods and along streams. No commercial value. (Sometimes called *A. florida*). Utah serviceberry (*A. utahensis*) is found in the southern part of the state, mainly from Twin Falls County east. It differs from serviceberry in being more shrubby and in having smaller, hairy leaves, and fruits that are dry and whitish to yellow-red when mature.

## Common Chokecherry

(*Prunus virginiana*)

**Leaves:** 2"-4" long, doubly toothed, dark green and shiny above; leaf stems with two small glandular projections near the leaf.

**Flowers:** White; in long racemes.

**Fruit:**  $\frac{1}{4}$ "- $\frac{1}{3}$ " diameter, bright red, becoming nearly black; edible, but with bitter or puckery taste.

It is found statewide in woodlands and along streams, fences and roads, and has no commercial value. (Picture, page 20)

**B**ITTERCHERRY (*P. emarginata*) ranges from central Idaho northward along streams and in woods. It can be distinguished from chokecherry by the projections being on the leaf margin instead of on the stem. It also has smaller, lighter green leaves; and the flowers are in clusters instead of racemes. Fruits are bright red, turning darker, and are extremely bitter. Bark on both cherries is strongly scented, smooth, and red-brown.

## Cascara Buckthorn

(*Rhamus purshiana*)

**Leaves:** Up to 7" long, slightly wavy margins, short hairy on underside and on veins above; leaf stems stout and hairy.

**Flowers:** Small, greenish.

**Fruit:** Plum-like,  $\frac{1}{3}$ "- $\frac{1}{2}$ " diameter, black; flesh thin and juicy.

**Twigs:** Hairy at first, later becoming smooth, yellow-green to red-brown; winter buds with heavy covering of hairs but not enclosed by scales.

**Bark:** Thin, gray to brown, often with reddish tinge.

Cascara buckthorn is a shrub or small tree found in Idaho from the McCall area northward. It is commercially important in part of its range for the laxative properties of the bark. (Picture, page 24)

## Sitka Mountain-ash

(*Sorbus sitchensis*)

**Leaves:** Compound, 4"-6" long, with 7-13 leaflets, blue-green above, pale below, toothed; leaf stems usually red.

**Flowers:** Cream-white in flat-topped clusters having an unpleasant odor.

**Fruit:** Berry-like,  $\frac{1}{4}$ "- $\frac{1}{2}$ " diameter, bright orange red.

**Twigs:** Red brown and hairy.

**Buds:** Dark red with gummy or sticky covering.

**Bark:** Thin and light gray.

Sitka mountain-ash rarely attains tree size. It is scattered throughout most of Idaho's forest lands, particularly at high altitudes. It has no commercial value. (Picture, page 24). In Idaho, the common ornamental mountain-ash is the European mountain-ash *S. aucuparia*) which is more tree-like in form.

## Willows

(*Salix* species)

Of the large number of willows that grow in Idaho, most are typically shrubs. Species identification is often difficult because they cross or interbreed. Peachleaf willow (*S. amygdaloides*) frequently reaches tree size.

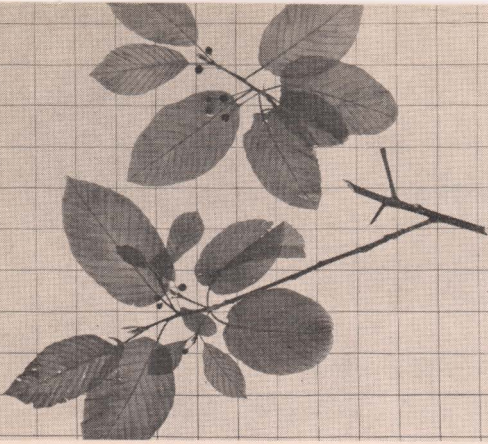
**Leaves:** 2"-5" long,  $\frac{3}{4}$ "-1 $\frac{1}{4}$ " wide, finely toothed, light green and shiny above, pale or whitish below.

**Twigs:** Smooth, shiny, dark orange to red brown.

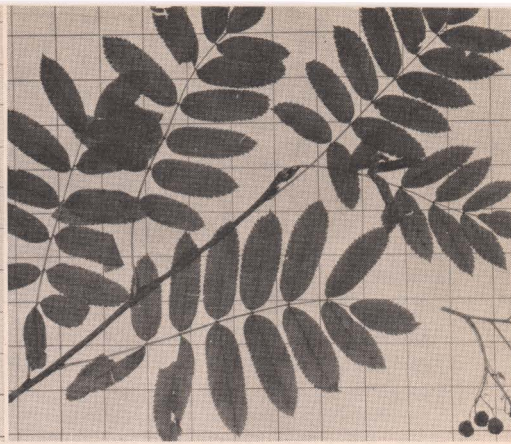
**Buds:**  $\frac{1}{8}$ " long, ovoid, dark brown, swollen on one side.

**Bark:** Brown or reddish tinged, irregularly furrowed into broad, flat, connected ridges.

Found along streams from the vicinity of Nez Perce County southward. Pacific willow (*S. lasiandra*) also reaches tree size and ranges from central Idaho northward. Native willow wood has no commercial use, but willows are valuable for wildlife food and cover. Some species are used in planting to control stream bank erosion.



Cascara buckthorn



Sitka mountain-ash

Titles of other Idaho forestry bulletins you might find useful:

Trees Against the Wind	Salt Treatment for Green
How to Plant Your Trees	Posts and Poles
Forestry in Idaho	How Much Timber Do I
Idaho Woodland Market	Have? A Cruising Guide
Report	Raising Christmas Trees
Fuel Values of Idaho Woods	for Profit
Cold Soak Wood Preserva- tion	

See your County Extension Agent or write to the  
Extension Forester, Moscow, Idaho.

Here are some titles of books that include western trees in case you would like a reference of a more technical nature:

“Rocky Mountain Trees” by Richard J. Preston, Jr. The Iowa State College Press, Ames, Iowa. Second Edition. 1947.

“North American Trees” by Richard J. Preston. Iowa State College Press, Ames, Iowa. 1950.

“Textbook of Dendrology” by W. M. Harlow and E. S. Harrar. McGraw-Hill Book Co., New York, New York. Fourth Edition. 1958.

“Knowing Your Trees” by G. H. Collingwood and Warren D. Brush. American Forestry Association, Washington, D.C.

“A Natural History of Western Trees” by Donald Culross Peattie, Houghton-Mifflin Book Co., Boston, Mass. 1953.

Cooperative Extension Work in Agriculture and Home Economics, James E. Kraus  
Director, University of Idaho College of Agriculture and United States  
Department of Agriculture Cooperating.

Issued in furtherance of the acts of May 8 and June 30, 1914.