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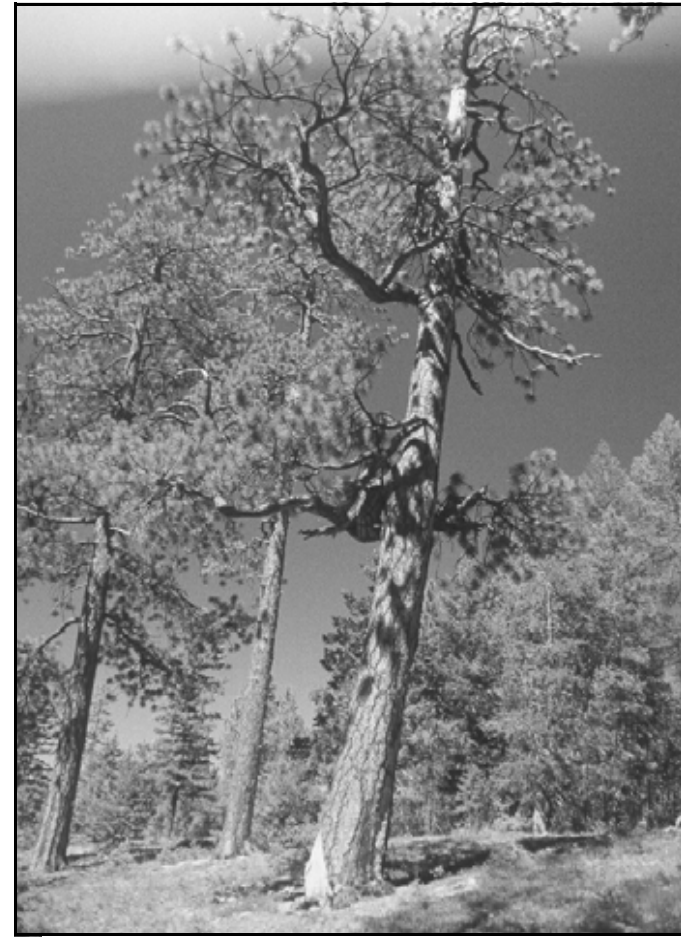
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# TREES OF THE LOLO NATIONAL FOREST



800 year old Ponderosa Pine



**Lolo National Forest**

## About This Guide

This guidebook covers the most common native trees found on the Lolo National Forest. Use it as a way to begin to identify and get to know the trees around you as you hike, camp or picnic on the forest. If you take the time to learn to identify trees, you just may find yourself slowing down a bit and becoming more aware of the natural world around you. When you get good at identifying trees, there will still be plenty of other plants, birds and butterflies to discover to keep you busy for a lifetime.

### Sources:

#### Text:

*Northwest Trees* by Steve Arno. The Mountaineers, Seattle, 1977.

#### Illustrations:

*Flora of the Pacific Northwest* by C.L. Hitchcock and Arthur Cronquist, University of Washington Press, Seattle; 1973.

*Field Guide to Forest Plants of northern Idaho* by Patricia Patterson, Kenneth E. Neiman; Jonalea R. Tonn. Intermountain Research Station. USDA Forest Service, GTR INT-180, Ogden, UT. 1985.

This brochure is dedicated to the memory of  
Phyllis N. Woodford  
Pattee Canyon Volunteer Host 1990 - 2001

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**PAPER BIRCH - *Betula papyrifera***  
**WATER BIRCH - *Betula occidentalis***



Paper Birch

Both birches are small, up to 80 feet tall, slender deciduous trees with open crowns. Paper birch grows on moist, open, sunny uplands. Water birch grows mostly along streams. Both attract woodpeckers and other cavity nesters.



Water Birch

**LEAVES:**

The ovate deciduous leaves are similar, but those of the paper birch have a pointy tip.



**FLOWERS:**

Both birches bear cylindrical catkins.

**BARK:**

Paper birch: Light reddish bark when young, aging to creamy white to coppery. Bark peels away in thin papery strips.  
 Water birch: Its reddish-brown bark does not peel.



Paper Birch



Water Birch

**WESTERN REDCEDAR**  
*Thuja plicata*

Large, tapering tree up to 160 feet tall, with fluted trunk and drooping branches. Redcedar grows best in moist soils along streams. It is tolerant of shade and lives up to 1,000 years of age.



**NEEDLES:**

Dark yellow-green, glossy and scaly with branches forming flat sprays. It has a very strong aroma.



**CONES:**

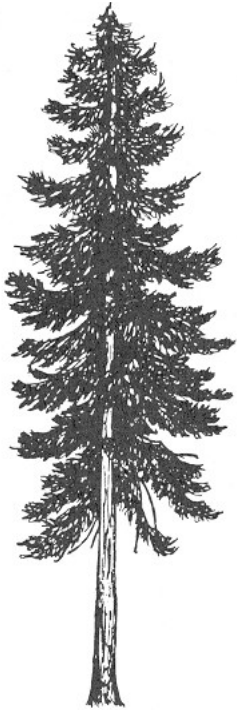
Tiny, 1/2" oval cones. Cones sit erect and point backward on twigs.



**BARK:**

Gray, stringy, bark tearing off in long strips on mature trees.





## GRAND FIR

*Abies grandis*

A large tree, grows up to 160 feet tall, with neatly symmetrical, densely packed branches. It has thin bark, which makes it easily killed by fire.

### NEEDLES:

Flat, dark green needles, 1 to 2 inches long; tip rounded and notched.

### CONES:

Cylindrical, 2- to 4-inch cones borne upright and high in the tree crown.



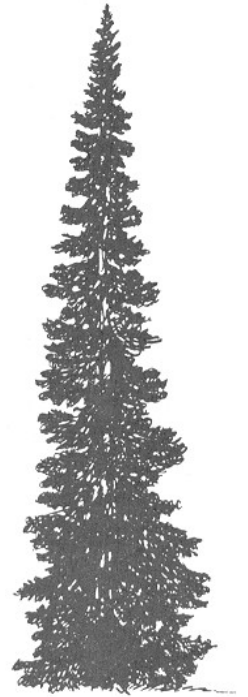
### BARK:

Smooth and grayish bark with resin blisters when young, aging to ashy brown with thick, deep furrows. Inner bark purplish.

## SUBALPINE FIR

*Abies lasiocarpa*

A distinctive tree that grows to about 140 feet tall, with a spire-like crown and branches that often extend to the ground. Commonly found with spruce, subalpine fir grows in high-elevation country where it's cold and snowy. Also thin barked and easily killed by fire.



### NEEDLES:

Thick needles, 1 to 2 inches long, with blunt and often notched tips.

### CONES:

Purplish-gray, 2- to 4-inch, cylindrical cone borne upright on branches high in the top of the crown. Cones disintegrate on the tree.



### BARK:

Thin, gray and smooth with resin blisters.



## MOUNTAIN HEMLOCK

*Tsuga mertensiana*



A subalpine tree that grows up to 140 feet tall. It has a pyramid-shaped crown with slender, drooping branches and a slightly drooping top. It occupies the wet, snowy ranges, where soils seldom freeze. **Western Hemlock, *Tsuga heterophylla***, is similar to the mountain hemlock, but grows on wet, low elevation sites on the Plains/Thompson Falls District.

### NEEDLES:

Deep bluish-green, 1-inch-long needles that extend out on all sides of twig.

### CONES:

Cylindrical cones, 2 to 3 inches long, with thin scales, purple turning brown when mature.

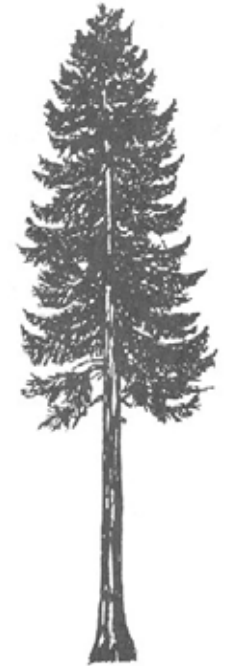


### BARK:

Dark red-brown bark with cracked and grooved into narrow ridges.

## DOUGLAS FIR

*Pseudotsuga menziesii*



Tree grows up to 160 feet tall and has compact, pyramid-shaped crown with upward spreading branches. Douglas fir is highly valued as lumber because the wood is hard, stiff and durable.



### NEEDLES:

Small, 1-inch-long, flattened with slight groove down the center on the top of the pointed needle.

### CONES:

Downward hanging, reddish-brown, 2- to 4-inch long cones with three-lobed bracts protruding from thin scales.

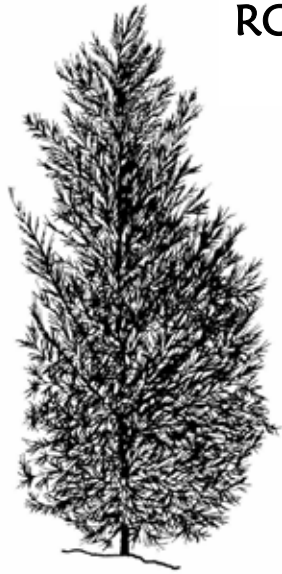
### BARK:

Rough, very thick grayish bark with light-colored corky furrows streaked with reddish brown.



## ROCKY MOUNTAIN JUNIPER

*Juniperus scopulorum*



A short, shrubby tree with a wide, irregularly shaped crown and twisted trunk. Abundant on dry, rocky sites, often forming a “woodland” on sites too dry for other forest trees to survive.

### NEEDLES:

Young trees are covered with prickly, ½-inch, awl-like leaves. Mature trees have tiny scale-like leaves arranged opposite each other in pairs on the twig.

### CONES:

Junipers produce “berry-like cones.” The small bluish berries, with a whitish waxy coating, attract foraging birds that eat the fruit, thereby dispersing the seeds, which pass through their digestive system.

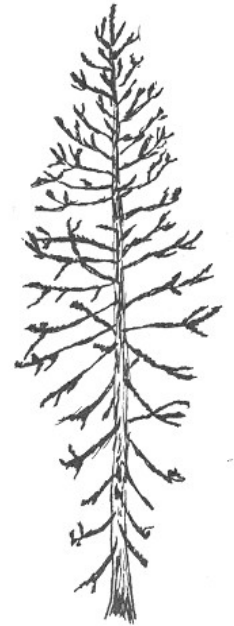


### BARK:

The thin, reddish or gray bark shreds off in strips. The wood smells like cedar.

## ALPINE LARCH

*Larix lyallii*



A tree of the timberline, this conifer loses its needles each fall. It grows up to 90 feet tall and has long spreading limbs and a broad gnarled crown. Alpine larch grows above 6,000 feet in elevation in cold and snowy areas with rocky soils. On Carlton Ridge, Missoula Ranger District, it hybridizes with western larch.



### NEEDLES:

Deciduous needles, light green in summer and golden-yellow in autumn before needle shed. Branches covered with short spur, which hold clusters or 30-40, 1- to 2-inch rigid needles.

### CONES:

Small, 1- to 2-inch cones with bracts much longer than cone scales.

### BARK:

Thin, smooth and ashy gray bark turns brown, deeply furrowed with age.



## WESTERN LARCH

*Larix occidentalis*



Sun-loving tree, up to 170 feet tall, with short, open crown on long, clear trunk. Often grows with other tree species, but will form pure stands after severe fire. Larch shares some of the same fire defenses as ponderosa pine--thick, scaly bark and branches high off the ground. Long-lived larch trees around Seeley Lake date back 1,000 years.

### NEEDLES:

Tiny, soft green needles that turn golden yellow in the fall before shedding. Clustered in bunches of 15-30 and borne on short spurs.

### CONES:

Small, 1-inch-long, oblong cone with red-brown scales borne on a short spur.

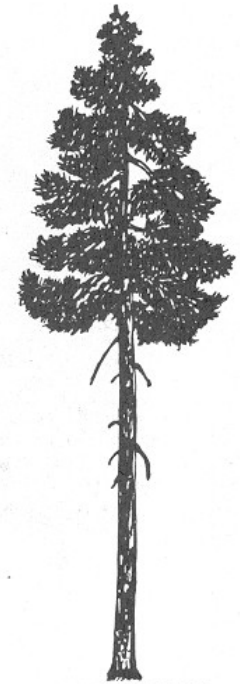


### BARK:

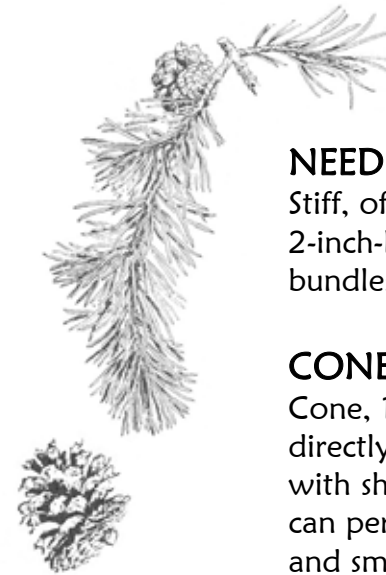
Thin and scaly when young, becoming thick and deeply furrowed with large plates with age.

## LODGEPOLE PINE

*Pinus contorta*



A slim pine, up to 130 feet tall, with a short crown. An adaptable tree that can grow on poor soils. It often grows in dense thickets, called dog-hair stands.



### NEEDLES:

Stiff, often twisted, yellowish-green, 2-inch-long needles grow in bundles of 2.

### CONES:

Cone, 1-inch-long, attached directly onto the branch. Cones with sharp tips on scales and cones can persist on branches for decades, and many cones (serotinous) rarely open unless exposed to fire.

### BARK:

Thin, black, rectangular plated bark.





## PONDEROSA PINE

*Pinus ponderosa*

Montana's state tree, the straight and large-crowned ponderosa pine can grow more than 200 feet tall. Pure stands abundant at low elevations, mixes with Douglas fir at higher elevations. Its long taproot allows it to access soil moisture on dry sites and makes it wind-firm. Thick bark and branches high off the ground make it one of the most fire resistant tree in our area. Montana's largest ponderosa, 194 feet tall, can be found near Alberton.

### NEEDLES:

Long, flexible, yellowish green needles in bundles of 3.

### CONES:

Egg-shaped, 3 to 6 inches long, with sharp prickle on the back of each scale.



### BARK:

Bark blackish, rough and scaly on young trees, turns orange with age. Mature to old trees show distinctive puzzle piece-like bark.

## WESTERN WHITE PINE

*Pinus monticola*

A large tree that grows up to 170 feet tall with a long, clear trunk and slender crown. It has a wide distribution, but seldom dominates a stand. A favorite of early loggers, now it's hard to find because of the invasion of white pine blister rust disease, which was introduced in 1910 through a shipment of infected seedlings from France.

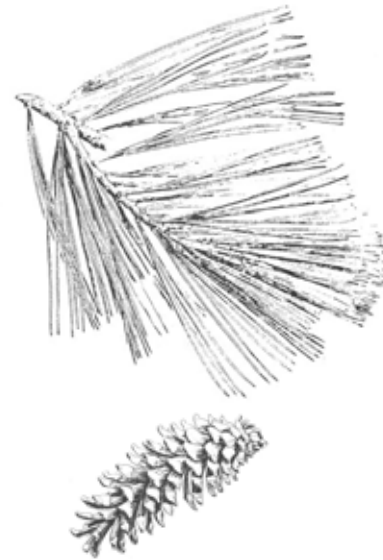


### NEEDLES:

Long, blue-green, slender and flexible needles that grow in bundles of 5.

### CONES:

Narrow and curved cones, 5 to 15 inches long. Cones dangle from branch tips.



### BARK:

Gray, smooth and very thin bark with resin blisters when young. Mature trees become finely checked with dark gray squares.







## WHITEBARK PINE

*Pinus albicaulis*

Subalpine tree, up to 80 feet, with broadly branched crown that inhabits the upper reaches of the forest. On exposed high elevation sites, it grows gnarled and stunted, called “krummholz”, meaning “crooked wood” in German. Trees often growing in clumps with several stems are caused by Clark’s Nutcrackers, birds that bury pine seeds in the soil to be retrieved later to feed their young. Like western white pine, whitebark pine communities have also been decimated by white pine blister rust and mountain pine beetle. **Limber Pine, *Pinus flexilis***, is rare west of the Continental Divide. It’s found on the Seeley Lake RD on dry and

### NEEDLES:

Stout and stiff, yellow green, 1- to 3-inch-long needles in bundles of 5.

### CONES:

Ovoid, deep red to purple-brown cone, 2 to 4 inches long, which contain large, pea-size nuts consumed by animals such as nutcrackers, red squirrels and grizzly bears.



### BARK:

Thin, white bark on young trees and scaly, grayish bark when mature.

## ASPEN

*Populus tremuloides*

Slender, broadleaf tree that grows up to 80 feet tall and forms dense groves or clones, which sprout from a single root system. Some clones are very large and long-lived, ranging up to 5,000 years old. Individual aspen live for about 100 years and rot easily, which attracts cavity-nesting birds.



### LEAVES:

Deciduous with leaves alternately attached to branches. The leaves shake vigorously in a light breeze. The 1- to 4-inch long leaf is broadly ovate to almost round.



### FLOWERS:

Drooping catkins appear before leaves.

### BARK:

Smooth, cream-colored bark that turns blackish and rough with age.





## BLACK COTTONWOOD

*Populus trichocarpa*

Large, deciduous, stream- or lake-side tree, that grows over 100 feet tall, with a broad, open crown. A sun-loving tree named for the wispy hairs on the mature seeds that float in the air like cotton.

### LEAVES:

Alternately grown, ovate, 2- to 6-inch-long leaf that is dark-green above and silver-white beneath.



### FLOWERS:

Drooping catkins appear before leaves in early spring.



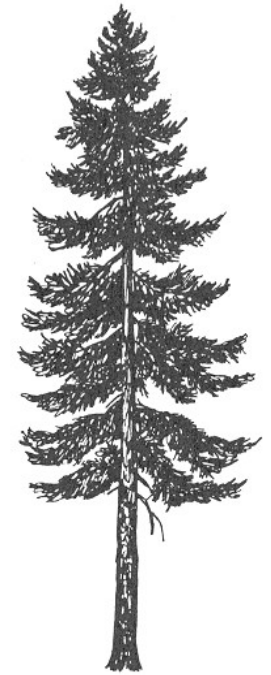
### BARK:

Smooth yellowish tan bark on young trees, which turns darker and deeply grooved with age.

## ENGELMANN SPRUCE

*Picea engelmannii*

Grows up to 190 feet tall with spire-like crown and branches extending to the ground. It grows on deep, moist soil, often along streams. On drier and higher sites, it can be found growing with lodgepole pine. Hybrids of white spruce are common on the Seeley Lake Ranger District.



### NEEDLES:

Short, pointy, blue-green, 1- to 2-inch-long needles.

### CONES:

Oblong, 1- to 2-inch-long cones with light chestnut-brown, paper-thin scales.

### BARK:

Thin, scaly, brownish-red.

