



Idaho Forest  
Products  
Commission

# TREES OF IDAHO

USDA  
Forest  
Service  
Idaho Panhandle  
National Forests



# Welcome to Idaho's forests

We hope you will find this booklet to be a useful guide to identifying the major tree species found in Idaho's forests. Trees are found in forest ecosystems, which provide a home for wildlife and a source of clean water. Trees are also a valuable and renewable resource which provides wood products for the homes we live in, the paper we read and key ingredients that go into hundreds of products we rely on every day.

Forest trees also provide scenery, shade, and a place to recreate. Whether you are just passing through, or a long-time resident of the area, please enjoy Idaho's forests.

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This booklet was developed by the Idaho Panhandle National Forests, and is provided to you by the Idaho Forest Products Commission.

The Idaho Forest Products Commission provides information and education opportunities about Idaho's forests and the forest products industry.



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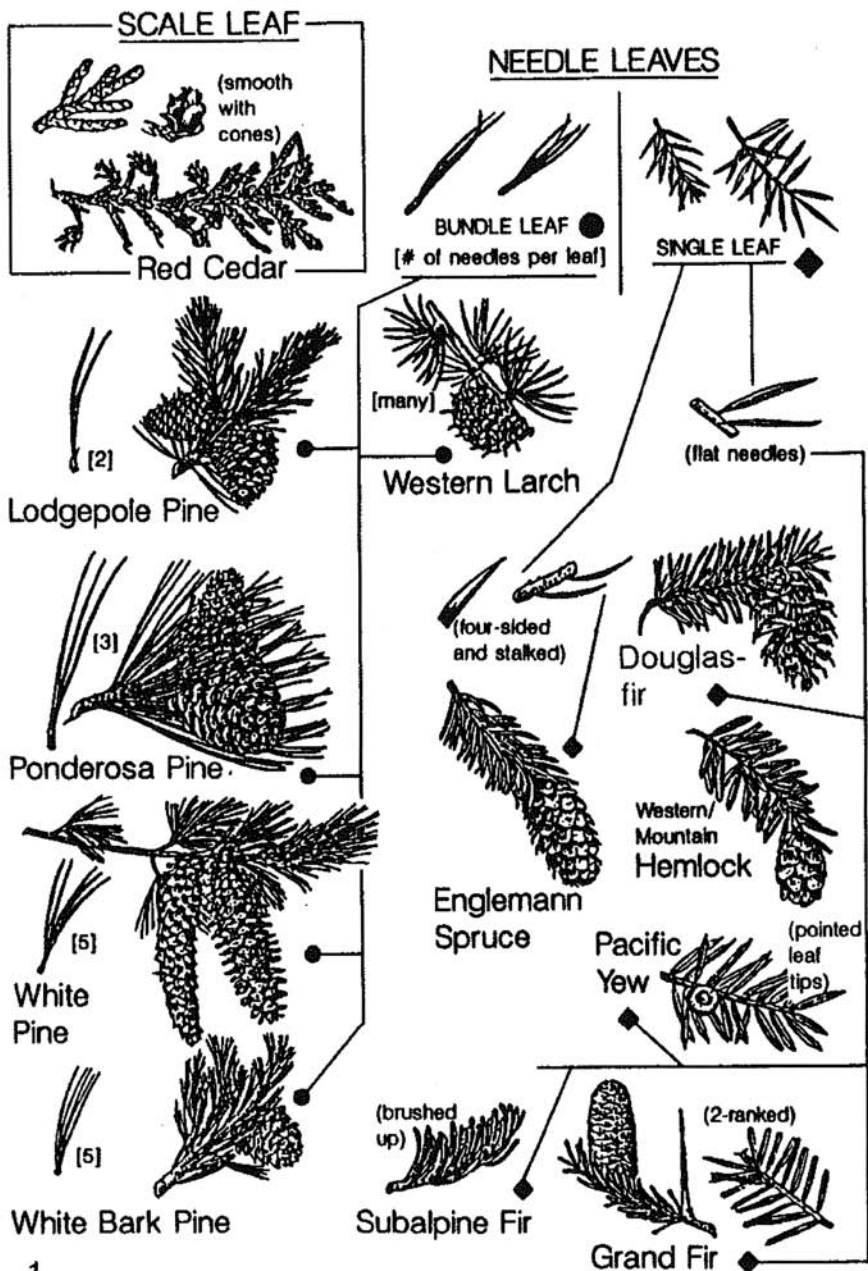
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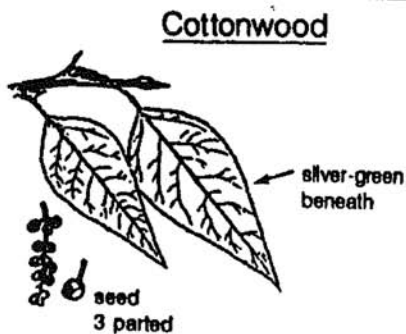
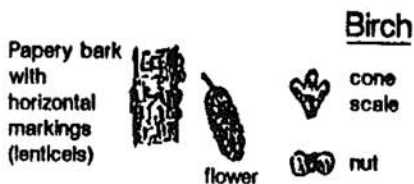
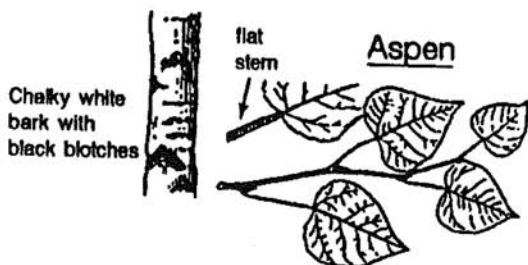
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# KEY TO IDAHO CONIFERS



## KEY TO IDAHO BROADLEAF TREES



## Western White Pine

Pinus monticola

### SIZE AT

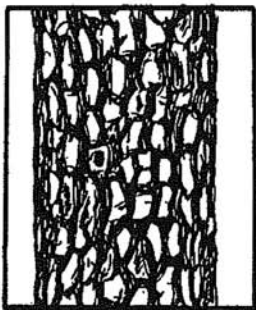
AGE 150: 120-180 feet tall  
2½-3½ feet in diameter

LIFE SPAN: 350 years

NEEDLES: 2-4" long in bundles  
of 5.

CONES: 6-12" long. Curved  
when dry.

BARK: Dark gray. Broken  
into small, square  
blocks on mature trees.



### WHERE TO FIND:

At low and middle  
elevations.  
Often occurs in mixed forests,  
and occasionally in almost pure stands.

### PRODUCTS:

Western White Pine, or, Idaho white pine, is used in cabinetmaking, furniture, interior finishes, woodenware, matches and lumber. It is the most valuable softwood lumber in North America and is used extensively for interior trim, window sashes, door frames and for intricate carpentry.

## Lodgepole Pine

Pinus contorta

**SIZE AT**

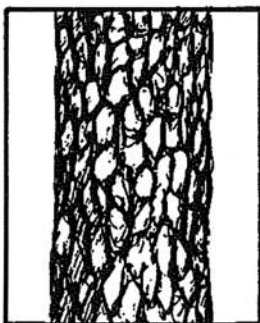
**AGE 100:** 70-110 feet tall  
1-2 feet in diameter

**LIFE SPAN:** 150 years

**NEEDLES:** 1-3" long. In bundles of 2.

**CONES:** ¾-2" long. Eggshaped with small prickle on each scale.

**BARK:** Black to reddish-brown. Thin and scaly.



**WHERE TO FIND:**

Middle elevations on well drained soils, often in pure stands.

**PRODUCTS:**

Lodgepole Pine is used for framing, paneling, posts, corral poles, utility poles, railroad ties, and pulpwood.

## Whitebark Pine

Pinus albicaulis

### SIZE AT

AGE 250: 30-60 feet tall  
1-2 feet in diameter

LIFE SPAN: 450 years

NEEDLES: In bundles of 5, clustered  
toward the ends of the branchlets.  
1½-2¾ long.

CONES: About 2½" long, egg-  
shaped, purplish-brown.

BARK: Young trees light brown-  
ish gray to creamy white  
becoming dark brown at  
maturity.



### WHERE TO FIND:

High elevations above 5,000 feet.  
May occur as a shrub near timberline.

### PRODUCTS:

Whitebark Pine wood is similar to that of western white pine, but this high elevation species is typically not sought after for harvest. The seeds from this tree are an important food source for several species of birds and mammals. In fact, Grizzly Bears and American Black Bears often raid squirrel middens for Whitebark Pine seeds, an important pre-hibernation food.



## Ponderosa Pine

Pinus ponderosa

### SIZE AT

AGE 150: 120-180 feet tall  
2½-4 feet in diameter

LIFE SPAN: 300 years

NEEDLES: 5-10" long in bundles of 3, sometimes 2 on the same twig.

CONES: 4-6" long. Conical or egg-shaped. Outward pointed prickles.

BARK: Black on young trees, yellow-brown with large scaly plates on mature trees.



### WHERE TO FIND:

Lower elevations and dry southern slopes

### PRODUCTS:

Ponderosa Pine is used for framing lumber, paneling (both clear and as knotty pine), furniture, architectural woodwork, and may be preservative treated for outdoor use.

## Douglas-fir

### Pseudotsuga menziesii

**SIZE AT**

**AGE 120:** 110-170 feet tall  
3-4 feet in diameter

**LIFE SPAN:** 300 years

**NEEDLES:**  $\frac{3}{4}$ - $1\frac{1}{4}$ " long. Flattened  
all around the twig.  
Soft to the touch.

**CONES:** Cylindrical cones.  
2-3" long with 3  
pointed bract pro-  
truding from scales.

**BARK:** Dark gray brown.  
Corky looking,  
deeply furrowed in  
mature trees. Inside  
furrows often rusty-red.



**WHERE TO FIND:**

Rocky soils at middle  
elevations across the forest,  
occurs mostly in mixed forests.

**PRODUCTS:**

Douglas-fir is used mostly for  
building and construction purposes,  
due to its high strength  
characteristics.

## Grand Fir

Abies grandis

### SIZE AT

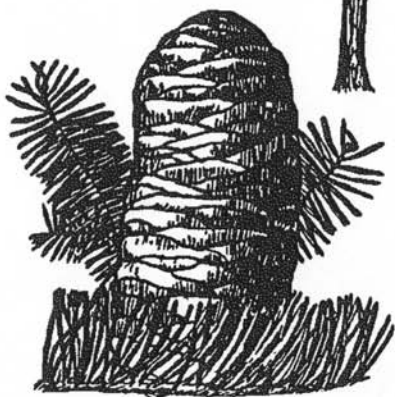
AGE 120: 100-160 feet tall  
1½-3½ feet in diameter

LIFE SPAN: 250 years

NEEDLES: Flat, in 2 rows, 1-2" long, dark green and shiny, silvery white beneath.

CONES: Upright, 2-4" long, green, maturing to brown.

BARK: Brown, smooth, with resin blisters, becoming deeply furrowed with age.



### WHERE TO FIND:

Valleys and moist mountain slopes, often occurring in mixed forests.



### PRODUCTS:

Grand Fir is used for lumber, plywood, and pulpwood.

## Subalpine Fir

Abies lasiocarpa

**SIZE AT**

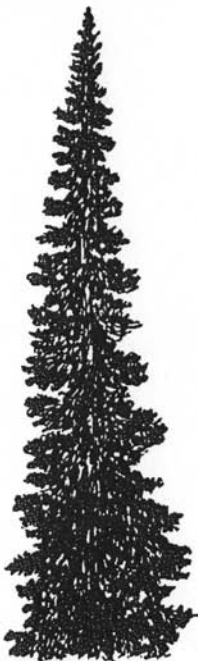
**AGE 200:** 60-120 feet tall  
1-2 feet in diameter

**LIFE SPAN:** 200 years

**NEEDLES:** Flat, 1-1¼" long, spread almost at right "brushed up" angles. Blue-green in color.

**CONES:** Upright, 2¼-4" long, purple.

**BARK:** Gray, smooth, with resin blisters, becoming cracked with age.



**WHERE TO FIND:**

Subalpine zone of high mountains. May occur as a shrub near timberline.

**PRODUCTS:**

Subalpine Fir wood can be used for lumber, due to its moderate strength, and is ideally suited for interior paneling, shelving, and trim.

## Engelmann Spruce

Picea engelmannii

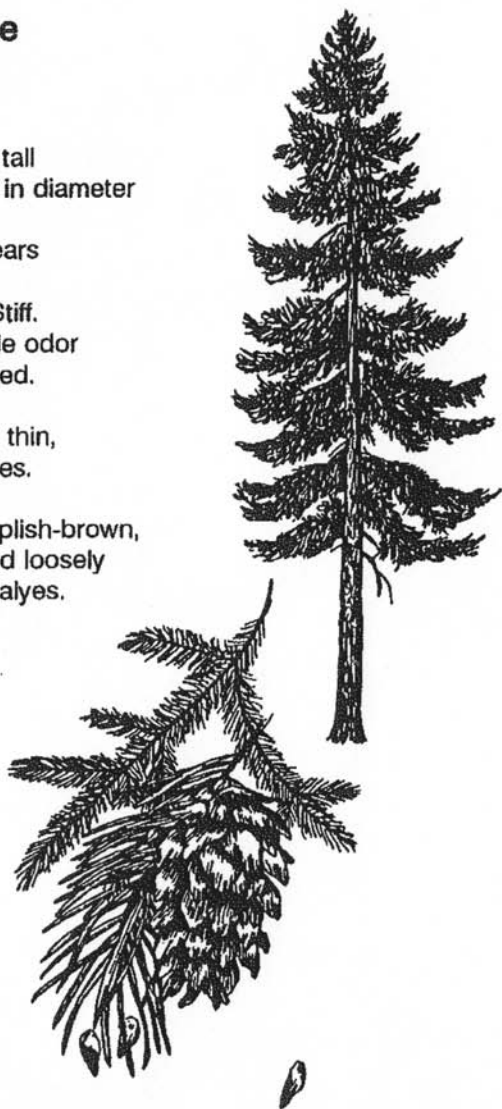
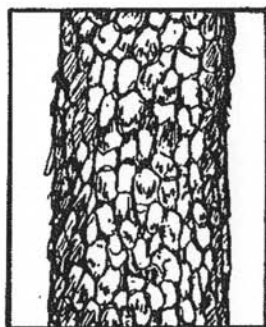
SIZE AT  
AGE 200: 80-150 feet tall  
1½-2½ feet in diameter

LIFE SPAN: 350 years

NEEDLES: ½-1" long. Stiff.  
Disagreeable odor  
when crushed.

CONES: 2" long with thin,  
papery scales.

BARK: Gray or purplish-brown,  
very thin and loosely  
attached scalyes.



### WHERE TO FIND:

Found in moist cool  
air drainages, and at  
higher altitudes with  
Subalpine fir.

### PRODUCTS:

Engelmann Spruce is used principally  
for lumber and for mine timbers, railroad  
crossies, and poles. It also is prized for  
its excellent sound quality in guitar,  
violin, and mandolin sound boards.

# Western Hemlock

Tsuga heterophylla

## SIZE AT

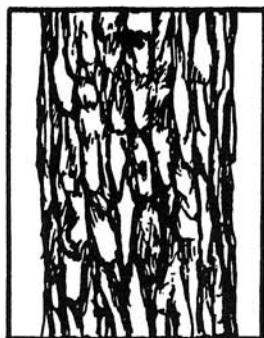
AGE 150: 120-180 feet tall  
3-4 feet in diameter

LIFE SPAN: 400 years

NEEDLES:  $\frac{1}{4}$ - $\frac{3}{4}$ " long. Flat, flexible, 2-ranked, rounded at tip. Distinctly stalked.

CONES: Egg-shaped, light brown,  $\frac{3}{4}$ -1" long, thin scales, wavy edges, located on tips of branchlets.

BARK: Russet-brown. In mature trees about  $1\frac{1}{2}$ " thick, hard deeply furrowed.



## WHERE TO FIND:

Moist slopes and flat areas.

## PRODUCTS:

Western Hemlock is used for lumber and, due to its fine grain and even texture, is used for wood paneling, cabinets, and trim. The lumber is used in building material, as well we in the manufacture of boxes, pallets, crates, flooring, furniture, and ladders. Western Hemlock is one of the best pulpwoods for paper and paperboard products.

# Mountain Hemlock

Tsuga mertensiana

## SIZE AT

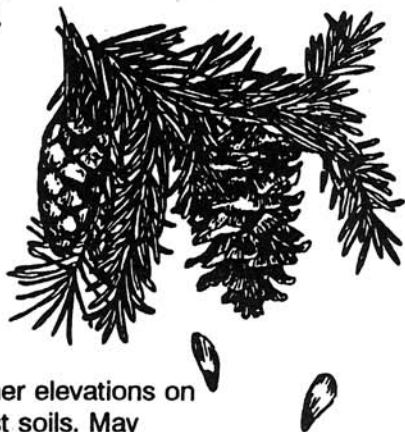
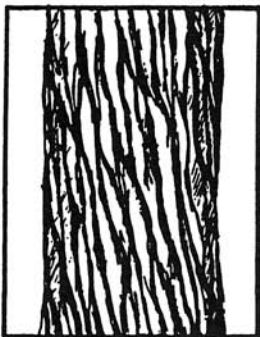
AGE 200: 50-100 feet tall  
2-4 feet in diameter

LIFE SPAN: 250 years

NEEDLES: Short stalked, half-rounded or angled,  $\frac{1}{4}$ -1" long, blue-green. Usually crowded and whorled at end of twig and curved upwards.

CONES: 1-2½" long, usually purplish or green, turning brown.

BARK: Reddish-brown, deeply furrowed into narrow ridges. Bark has a tendency to twist around the bole.



## WHERE TO FIND:

Higher elevations on moist soils. May occur as a shrub at timberline.

## PRODUCTS:

Mountain Hemlock is similar to Western Hemlock, but, because it has a lower density, has somewhat lower strength properties. It is used for products including flooring, doors, windows, and molding. It is also used for pulp in paper production.

## Western Larch (Tamarack)

Larix occidentalis

**SIZE AT**

**AGE 150:** 100-160 feet tall  
1½-3 feet in diameter

**LIFE SPAN:** 500+ years

**NEEDLES:** Crowded deciduous  
in cluster of 14-30, ½"  
long on spur twigs. Turn  
brilliant gold in fall,  
then drop to ground.

**CONES:** 1-1½" long with bract  
protruding from each  
cone scale.

**BARK:** Reddish-brown. Flat  
plates on mature trees.



**WHERE TO FIND:**

Mountain slopes  
and valleys on  
gravelly, sandy or  
loamy soils. Often  
found in mixed forests.

**PRODUCTS:**

Western Larch is used for  
lumber, fine veneer, poles, ties,  
mine timbers, and pulpwood.



## Pacific Yew

Taxus brevifolia

### SIZE AT

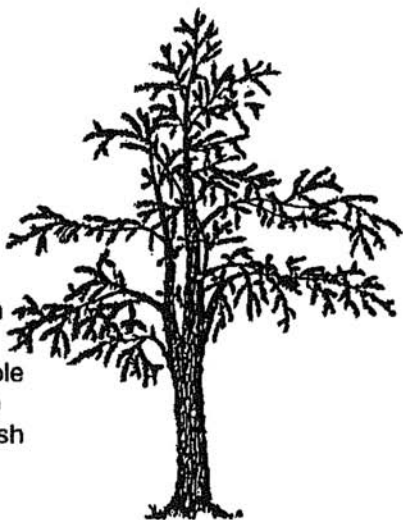
AGE 150: 15-30 feet tall  
6"-1 foot in diameter

LIFE SPAN: 300 years

NEEDLES:  $\frac{1}{2}$ - $\frac{3}{4}$  inches long  
in two rows along branch  
flattened, short points at  
both ends, soft and flexible  
deep yellow-green above  
light green with two whitish  
bands beneath.

FRUIT: Elliptical seeds  $\frac{1}{4}$ " long  
stalkless blunt pointed,  
enclosed in scarlet cup.

BARK: Purplish-brown, very thin  
with red-brown papery scales.



### WHERE TO FIND:

Moist soils of stream banks  
and canyons. Understory  
of cedar/hemlock forests.  
Varies from a many stemmed shrub  
to a small irregular shaped tree.

### PRODUCTS:

Pacific Yew is used for archery bows, canoe  
paddles, tool handles, gunstocks, boat  
decking, furniture, and musical furniture. Its  
resistance to decay makes it useful for  
fenceposts. In addition, taxol-a complex  
compound extracted from yew bark-was  
identified as a possible anticancer agent.

## Western Redcedar

Thuja plicata

**SIZE AT**

**AGE 250:** 100-160 feet tall  
2-8 feet in diameter

**LIFE SPAN:** 1,000+ years

**LEAVES:** Small, overlapping scale-like leaves that form sprays, in opposite pattern, shiny dark-green in color. 1/16-1/8" long.

**CONES:** 3/4" long. Brown.

**BARK:** Cinnamon-red on young stems, gray on old trunks. Fibrous and shredding.



**WHERE TO FIND:**



Moist hillsides, beside streams. Often found with western hemlock.



**PRODUCTS:**

Western Redcedar is primarily used in roofing for shingles and shakes, because of its attractive appearance, durability, lightness, and superior insulation qualities. It is also used in exterior finishings, utility poles, fence posts, piling, paper pulp, and various types of containers.

## Western Paper Birch

Betula papyrifera var. occidentalis

SIZE AT

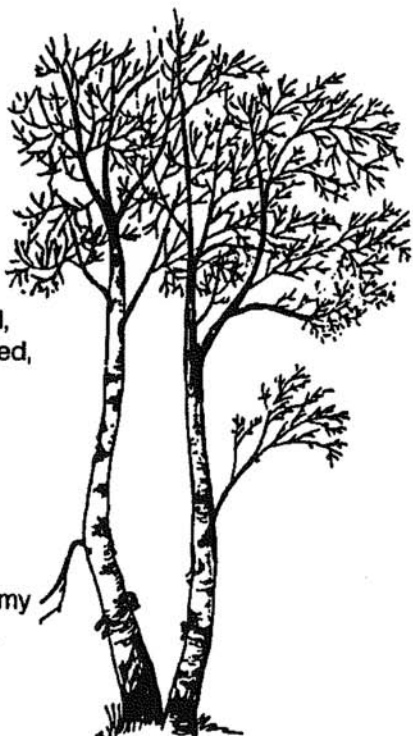
AGE 60: 50-70 feet tall  
1-2 feet in diameter

LIFE SPAN: 80 years

LEAVES: 2-3" long, egg-shaped,  
edges coarsely notched,  
surface dull, dark  
green.

FRUIT: Cylindrical, stalked  
strobile, 1-1½" long.

BARK: Dark brown at first,  
turning chalky to creamy  
white. Separates into  
thin papery strips.



WHERE TO FIND: Moist upland soils and  
cutover lands. Often  
in nearly pure stands.

PRODUCTS: Western Paper Birch can be used  
to make oriented strandboard, and  
is also a great wood for making  
Popsicle sticks.

## **Black Cottonwood**

Populus trichocarpa

- SIZE AT AGE 120:** 60-120 feet tall  
1-3 feet in diameter
- LIFE SPAN:** 120 years
- LEAVES:** 3-6" long, egg-shaped, tapering to a point, edges notched, dark green.
- FRUIT:**  $\frac{1}{3}$ - $\frac{1}{2}$ " long, 3 valved, pubescent.
- BARK:** Tawny yellow to gray and smooth on young trees, turning dark gray and deeply furrowed in older trees.



- WHERE TO FIND:** Moist to wet soils of valleys, mainly on streambanks and flood plains.

- PRODUCTS:** Black Cottonwood has short, fine fibers which are used in the production of high-quality book and magazine paper.

## Quaking Aspen

Populus tremuloides

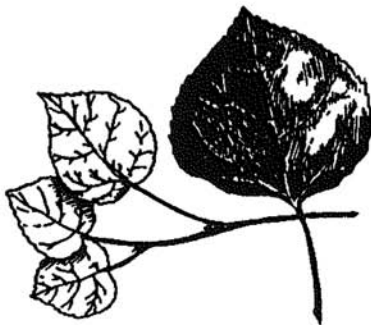
SIZE AT  
AGE 100: 50-60 feet tall  
1-1½ feet in diameter

LIFE SPAN: 120 years

LEAVES: 1½-3" in diameter,  
broadly egg-shaped,  
edge finely sawtoothed.  
Upper surface shiny green,  
dull green beneath turns  
brilliant gold in Fall.

FRUIT: About ¼" long, narrowly  
conical, curved.

BARK: Smooth, whitish and thin  
to cream-colored be-  
coming dark brown or  
gray with age.



WHERE TO FIND:

Sandy or gravelly slopes  
at mid to low elevations,  
often found in pure stands  
sharing a single root system.

PRODUCTS:

Quaking Aspen is mostly used in panel  
products such as oriented strandboard.  
Its lumber is light in weight and is used  
in furniture, boxes and crates, core  
stock in plywood, and wall panels.

## Habitat Generalities

### A VARIETY OF ECOSYSTEMS

Annual precipitation in Idaho varies widely throughout the state, ranging from an average of 8 inches in the sagebrush flats to 45 inches in some parts of the panhandle. This range of moisture, along with diverse topography, allows for a variety of trees to grow in the forested portions of the state. In the wettest areas, such as along rivers and streams, western hemlock, western redcedar, and black cottonwood grow, while at the drier sites ponderosa pine and Douglas-fir are found.

Elevation and temperature will also determine where a tree species will occur. White bark pine and mountain hemlock grow almost exclusively at high elevations. Subalpine fir and Engelmann spruce generally won't be found at low elevations, unless in a cool air drainage, a frost pocket, or an unusual site.

Aspect, the direction a slope faces, is another determinant. Generally, dry site trees are found on southerly aspects, and moist site trees on north-facing slopes.

Some trees, such as western larch and lodgepole pine aren't particular about where they grow, and can be found from wet to dry, high to low, while other trees, such as grand fir are "in-between" wet and dry, high and low.

And, of course, there are exceptions to these generalities!

After a major disturbance, whether from a timber harvest, a wildfire or some other change, plant communities go through a series of development stages which reach a climax if no more disturbances take place. Many of the trees in this guide are climax species, meaning that, barring any disturbances, they will reach a point when they dominate the site, in size and numbers.

## Habitat Indicators

The following climax trees on the forest are listed from wet to dry sites. Some associated plants known as **habitat indicators** are also included. These associated plants will overlap into habitats and ecosystems other than those they are listed under. Try to determine what kind of habitat you're in—wet or dry, high or low—by the species of trees and associated plants present at the site.

### Western redcedar (*Thuja plicata*)

Devil's club (*Oplapanax horridum*), lady fern (*Athyrium felix-femina*), and maidenhair fern (*Adiantum pedatum*).

### Western hemlock (*Tsuga heterophylla*)

Oak fern (*Gymnocarpium dryopteris*), wild ginger (*Asarum caudatum*), and queen's cup (*Clintonia uniflora*).

### Subalpine fir (*Abies lasiocarpa*)

Bluejoint reedgrass (*Calamagrostis canadensis*), dwarf huckleberry (*Vaccinium caespitosum*), and beargrass (*Xerophyllum tenax*).

### Grand fir (*Abies grandis*)

Arrowleaf groundsel (*Senecio triangularis*), twinflower (*Linnea borealis*), and blue huckleberry (*Vaccinium globulare*)

### Douglas-fir (*Pseudotsuga menziesii*)

Ninebark (*Physocarpus malvaceus*), birch leaf spiraea (*Spiraea betulifolia*), and pine grass (*Calamagrostis rubescens*).

### Ponderosa pine (*Pinus ponderosa*)

Snowberry (*Symphoricarpos albus*), Idaho fescue (*Festuca idahoensis*), and bluebunch wheatgrass (*Elytrigia spicata*).



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