Trees on the Trails

Think of this 4-page insert as your "cheat sheet" for the trees most often found along Washington's trails. Within, you'll find both conifers and flowering deciduous trees found everywhere from lowland forests to subalpine summits. Some of these trees are common west of the crest of the Cascades, while others are found only east of the crest. A few (such as Douglas-fir) are found on both sides of the divide.

A few tips to help you identify trees: Study the needles or leaves. What do the cones look like? Is the bark smooth, rough or papery? We've tried to picture both the overall tree and a detail such as cones or needles to help you identify the tree.

Other clues to consider: Where is the tree? Does the tree prefer higher elevations? Does it thrive east of the crest? Does it crave shade or open sunlight?

And last, some trees are tricky to tell apart. Some firs can't be distinguished unless you examine the cones (which stay high in the tree and rarely fall!). So have fun, and don't be too disappointed if you can't get a positive I.D. on that mystery tree.

Dave Schiefelbein

Dave Schiefelbein

Ponderosa pine

Pinus ponderosa

Distinctive, reddish-barked pine common in open parklands east of the crest. Needles come in sets of three.

Alan Bauer

Alan Bauer

Lodgepole pine

Pinus contorta

Found west of crest (where it's known as shore pine) and in eastern Cascades in abundance. Needles come in sets of two.

Susan McDougal

Susan McDougal

Western white pine

Pinus monticola

Once common, populations were decimated by a disease introduced in 1910. Large cones, needles in sets of five.

Susan McDougal

Alan Bauer

Whitebark pine

Pinus albicaulis

A subalpine pine found east of the Cascade crest. Clark's nutcrackers eat and disperse seeds. Needles in sets of five.

Dave Schiefelbein

Alan Bauer

Douglas-fir

Pseudotsuga menziesii

Abundant tree in both western rain forests and in drier forests east of the crest. Old-growth trees can reach 300 feet tall.

Sylvia Feder

Susan McDougal

Western hemlock

Tsuga heterophylla

Second only in abundance to Douglas-fir in westside forests below 3,500 feet, this tree is very shade tolerant.

Don Paulson

Alan Bauer

Mountain hemlock

Tsuga mertensiana

Distinguished from western hemlock by its larger cones and presence at higher elevations (generally above 4,500 feet).

Big Trees

No doubt about it, there are some really big trees in Washington's forests. Just what makes a "record" tree is complicated. American Forests has a registry of the largest trees in the U.S., but for those of us in the Pacific Northwest, that sometimes doesn't help when British Columbia is thrown into the mix.

Suffice to say, though, that Washington is home to some record-breaking trees. Olympic National Park, with its abundant rainfall, is home to the country's largest subalpine fir (circumference 252 inches, height 130 ft.), Alaska yellow-cedar (circ. 451 inches, height 126 feet) and Pacific silver fir (circ. 260 inches, 218 feet).

Olympic National Park is also home to "co-champions" such as mountain hemlock (circ. 234 inches, height 152 ft.) and western hemlock (including a tree with circ. 335 inches, height of 172 ft. and one circ. 273 inches, height 273 feet) a Douglas-fir (circ. 448 inches, height 298 feet) and a very massive Western red cedar (circ. 761 inches, height 159 feet).

One of the world's largest Sitka Spruce trees can be found near Lake Quinault in Olympic National Forest (circ. 668 inches, height 191 feet) and another record Douglas-fir is found in Olympic National Forest (circ. 505 inches, height 281 feet).

East of the crest, you'll find a record subalpine larch in the Wenatchee National Forest (circ. 265 inches, heigh 103 feet).

For more info on record trees, visit the National Register of Big Trees at www.americanforests.org/resources/bigtrees/ and Olympic National Park's record trees page at www.nps.gov/archive/olym/invrecord.htm.

Also, consult Robert Van Pelt's book *Champion Trees of Washington State* (UW Press, 1996).

Dave Schiefelbein

Kim Brown

Alaska yellow-cedar

Chamaecyparis nootkatensis

Found in moist sites west of the Cascade crest. Yellow inner bark and prickly leaves set it apart from red-cedar.

Erika Klimecky

Susan McDougal

Western red cedar

Thuja plicata

Huge, slow-growing tree found in wet sites. Trees can top 1,000 years in age. Very important tree for early native peoples.

Susan McDougal

Dave Schiefelbein

Engelmann spruce

Picea engelmannii

Common in the Rockies, this tree is found at elevations above 3,000 feet, east of the Cascade crest.

Dave Schiefelbein

Don Paulson

Sitka spruce

Picea sitchensis

Huge conifer found on coasts from SE Alaska to Oregon. To identify, grab a branch—the needles are painfuly sharp.

Charles Ardary

Alan Bauer

Western larch

Larix occidentalis

This conifer loses its needles in winter. Found east and slightly west of the crest between 2,500 and 5,000 feet of elvation.

Dave Schiefelbein

Dave Schiefelbein

Alpine larch

Larix lyalli

Needles of conifer turn brilliant gold in fall. Found higher than western larch, generally above 5,800 feet of elevation.

Susan McDougal

Kim Brown

Pacific silver fir
Abies amabilis

Distinguished by flat, blunt needles, these firs are found from 3,000 to 5,000 feet of elevation in westside forests.

Susan McDougal

Susan McDougal

Grand fir
Abies grandis

Found east of crest at all elevations, and scattered on westside. Needles have a strong lemon odor.

Susan McDougal

Dave Schiefelbein

Subalpine fir
Abies lasiocarpa

You'll find this fir as a stately spire in high country or as gnarled, shrublike krummholz near timberline.

Susan McDougal

Alan Bauer

Noble fir
Abies procera

Largest of state's true firs, found mostly between 2,500 and 5,000 feet, west of crest, south from Stevens Pass

Susan McDougal

Susan McDougal

Western juniper
Juniperus occidentalis

Small tree found in eastern Washington shrub-steppe ecosystems. Fragrant, blue berry-like cones.

Susan McDougal

Susan McDougal

Pacific yew
Taxus brevifolia

A small conifer (under 35 feet) with scaly bark, found in shady westside forests. Its red "berries" are poisonous.

Pacific Temperate Rain Forests

The Pacific temperate rain forest is a unique ecoregion found from Kodiak Island, Alaska south to Northern Californa. Because of high quantities of rainfall and few fires, these forests contain the most biomass of any ecosystem on the planet, even tropical rain forests. Because most of the moisture falls in these forests during the cold months, conifers tend to out-compete deciduous trees. In places such as the Queets, Hoh, and Bogachiel River Valleys, trees can reach ages well over 500 years old. Even though these trees are ancient, the ecosystem itself is relatively young. According to Daniel Mathews' *Cascade-Olympic Natural History*, the Pacific temperate rain forest ecosystem as we know it has only been active for about 5,000 years. Prior to that, fires and glaciers prevented development of such old and massive trees.

Daniel Cohe

Susan McDougal

Susan McDougal

Paper birch

Betula papyrifera

Found in lower elevations and slopes of western Cascades. Has thin, white, peeling, papery bark.

Susan McDougal

Susan McDougal

Black cottonwood

Populus trichocarpa

Found at low to mid-elevations along streams and rivers. Fastest growing tree in Washington, reaching 150 feet.

What's Krummholz?

Krummholz, from the German word meaning "crooked wood," is the stunted, gnarled and often shrub-like form certain trees take in harsh, high altitude conditions. Snow cover (often for 10 months of the year) high winds, and short growing season result in dwarfed varieties of trees (most common in Washington are mountain hemlock, subalpine fir, and whitebark pine). Krummholz grows very slowly—a tree with a trunk just four inches around can be several hundred years old.

Susan McDougal

Susan McDougal

Red alder

Alnus rubra

Abundant westside tree that colonizes disturbed streamsides and recently cleared or burned land.

Cindy Clark

Cindy Clark

Quaking aspen

Populus tremuloides

Found sporadically east of Cascade crest, aspen is known for its trembling leaves and brilliant yellow leaves in fall.

Alan Bauer

Alan Bauer

Bigleaf maple

Acer macrophyllum

Common westside maple, often covered in mosses in shady rainforests. Most common below 2,000 feet.

Susan McDougal

Susan McDougal

Pacific madrona

Arbutus menziesii

Largest broadleaf evergreen in the state, found on bluffs and rocky sites west of the crest. Papery, peeling red bark.

Susan McDougal

Alan Bauer

Pacific dogwood

Cornus nuttallii

White "bracts" surround the true, smaller flowers of dogwood. Trees found in shady, low elevation sites on westside.

Sylvia Feder

Sylvia Feder

Vine maple

Acer circinatum

Abundant small tree or shrub found at all elevations below timberline. Provides brilliant color in autumn.