

## Cascade-Siskiyou National Monument

### Field Activity “Be a Tree Detective”

“Be a Tree Detective” gives students the opportunity to learn to identify common trees found in the CSNM. Students will learn what a Dichotomous Key is and how to use one. They will also learn a few interesting facts about each species.

#### Activity:

Students will identify common trees and shrubs found in the CSNM based on their observations and by following the Dichotomous Key. Students can work in groups or individually. Students can draw pictures of each tree or shrub identified in their journals.



#### Doing the Activity:

1. Have each student find a tree or shrub and spend a minute getting acquainted with it. Ask them to note what type of leaf their plant has. Does it have rough edges or smooth? Does it have veins? Is it flimsy or rubbery? Does it have a particular smell? Examine the bark next. Is it textured? What color is it? Does it have grooves? What is the overall shape of the tree? Do you think your tree is an evergreen (one that keeps its leaves all year long) or deciduous (one that loses its leaves in the winter)?
2. Give each group, pair, or individual student a copy of the Dichotomous Key. Retain the picture key for after they have completed identifying the tree. Ask them to begin going through the key with their first sample. You might want to go through one together first as a class.
3. When students have completed the key, have them verify their selection with the picture key. If they have it correct, have students continue to step 4. If not, have them go through the Dichotomous Key again to see where they might have taken a wrong turn.
4. After they have successfully identified a tree or shrub, have students learn some “Fun Facts” about their tree from the “Fun Facts” page.
5. At the end, have students share what they identified and present one or two “Fun Facts” to the group.

# A Dichotomous Key to the Most Commonly Found Trees & Shrubs of the Cascade-Siskiyou National Monument

A dichotomous key is a tool that allows the user to determine the identity of items in the natural world, such as trees, wildflowers, mammals, reptiles, rocks, and fish. Keys consist of a series of choices that lead the user to the correct name of a given item. "Dichotomous" means "divided into two parts". Therefore, dichotomous keys always give two choices in each step. Decide which one best fits the sample you are observing. Once a choice has been made, the key will tell you where to go for your next clue. Eventually the key will direct you to the specific kind of tree you are looking at.

## WARNING!!

**Leaves of three; let it be!!**

**If you find Poison oak, do not touch it!**

**Before you begin, here are some helpful hints:**

1. Scale-like leaves look like *a*:
  
2. Needle-like leaves look like *b*:
  
3. A simple leaf has a bud at the base where the leaf attaches to the stem (*c*):
  
4. A compound leaf has 3 or more leaflets above the bud (*d*):

## OK, let's get started!!

- 1a Trees or shrubs with needle-like or scale-like leaves (Evergreen).....Go to 2
- 1b Trees or shrubs with leaves not needle-like or scale-like (Broadleaf).....Go to 6
- 2a Trees or shrubs with scale-like leaves.....Go to 3
- 2b Trees or shrubs with needle-like leaves.....Go to 4
- 3a Ends of branches look as if they have been ironed flat, twig ends look jointed, cones are 1/2" to 1" long.....Incense Cedar
- 3b Ends of branches do not look flattened, leaves are in opposite pairs. Fruits are small berries.....Western Juniper
- 4a Needles are small bundles of three, 4" to 8" long.....Ponderosa Pine
- 4b Needles not in bundles.....Go to 5
- 5a Needles occurring in 2 flat rows with white lines on top and bottom.....White Fir
- 5b Needles occurring singly along the stem, 3/4" to 1" long, no white lines. Cones have little "rat tails" hanging out.....Douglas Fir

# CSNM Dichotomous Key

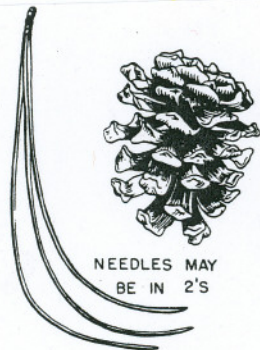
- 6a Plant a shrub usually under 8 feet tall or a climbing shrub.....Go to 7
- 6b Plant a tree, over 8 feet tall when fully grown.....Go to 11
- 7a Leaf edges entirely smooth.....Go to 8
- 7b Leaf edges lobed or toothed.....Go to 10
- 8a Grayish-green leaves arranged in opposite clusters.....Buckbrush
- 8b Bark reddish-brown and smooth.....Go to 9
- 9a Leaves are bright green.....Greenleaf Manzanita
- 9b Leaves are white or ashy white.....Whiteleaf Manzanita
- 10a Finely branched shrub with small leaves & waxy white berries.....Snowberry
- 10b Loosely branched shrub with fruits and seeds in hanging clusters.....Oceanspray
- 11a Trees with leaves made up of three or more leaflets (compound).  
Look for the bud at the base of the leaf, not at the base of the leaflet.....Go to 12
- 11b Trees with simple leaves, not made up of three or more leaflets.....Go to 16
- 12a Leaves are lobed.....Go to 13
- 12b Leaves are not lobed.....Go to 16
- 13a Leaves with 3 or more veins branching out from the same place.....Go to 14
- 13b Leaves with main veins branching off from a single large central vein. Fruit an acorn.....Go to 15
- 14a Leaves 5" in diameter or larger with 5 lobes.....Bigleaf Maple
- 14b Leaves less than 5" in diameter with 6 to 9 lobes.....Vine Maple
- 15a Lobes of leaf pointed.....California Black Oak
- 15b Lobes of leaf rounded.....Oregon White Oak
- 16a Leaf edges smooth, reddish-brown bark that peels off tree.....Pacific Madrone
- 16b Leaf edges toothed.....Go to 17
- 17a Leaves with strong veins that stand out on underside, and with small woody cones.....White Alder
- 17b Leaf underside whitish with rusty streaks, twigs sticky.....Black Cottonwood

# Common Trees and Shrubs of the Cascade-Siskiyou National Monument



SCALE LEAF  
LONGER THAN WIDE

incense-cedar

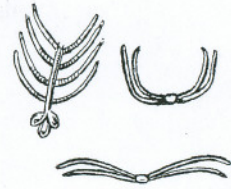


NEEDLES MAY  
BE IN 2'S

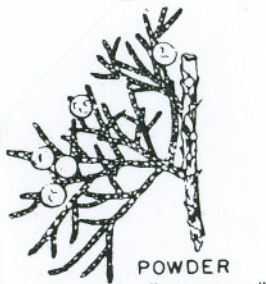
ponderosa pine



"PITCHFORKS"  
Douglas-fir



white fir



POWDER  
COATED "BERRIES"  
juniper



narrowleaf buckbrush



MAHOGANY BARK

manzanita



LOOK FOR  
THESE IN WINTER

ocean spray



WHITE BERRIES HANG ON

snowberry



vine maple



bigleaf maple



SHEDS BARK

Pacific madrone



California black oak



Oregon white oak



white alder



STICKY  
FRAGRANT BUDS

black cottonwood