

Handout M12-1: Tree Parts and Kinds of Fire

Bark: the outside covering on a tree's trunk and branches, the tree's "skin." Thick bark can protect the tree from surface fire.

Branch: a limb of a tree or shrub that grows out from the trunk and holds the leaves up in the light. Some trees drop their low branches as they age, which helps keep surface fires from climbing up into the crowns. This way the tree can avoid crown fire.

Bud: The cells that will grow next year's leaves and branches. Located at the tree's top and the tips of branches. Similar cells occur at the tips of roots.

Cambium: the layer of living cells under a tree's bark that produces the xylem and phloem layers of cells.

Catkin: a kind of flower produced by some trees and shrubs. This lightweight, fluffy package hangs down from the plant's branches. It contains many tiny flowers, which can mature into tiny seeds. The "fluff" helps the seeds float a long way on the wind, sometimes many miles.

Cone: the package in which a conifer stores its seeds. If cones are sealed tight with resin, the seeds inside may survive crown fire and be released soon afterward.

Crown: a tree's top, which holds most of its leaves and buds.

Crown fire: a fire that spreads through the crowns of trees and tall shrubs. Crown fires are usually ignited from surface fires. They are common in some conifer forests and chaparral-type shrublands.

Duff: the layer of soil that is made up of dead, rotting plant parts. Duff is below litter and above mineral soil. Sometimes it is mixed with mineral soil.

Ground fire: a fire that burns in the duff and other organic material in the soil. Ground fires usually burn slowly, with lots of smoldering instead of long flames. Even without flames, ground fires can burn hot enough to kill things living in the duff, including roots and other underground plant parts.

Heartwood: inner wood of a tree, which helps it stand strong and resist decay.

Leaf: the green part of a plant that uses sunlight, water, and carbon dioxide to make "food". Needles are a special kind of leaf.

Litter: the layer of dead leaves and other plant matter, not yet decayed, lying at the top of the forest floor.

Mineral soil: soil that contains no plant or animal parts, so it cannot burn.

Phloem: the layer of living cells under a tree's bark that moves nutrients from one place to another, especially from the leaves to other parts of the tree.

Root: the part of a plant that lives underground, collects water and minerals from the soil, and keeps it firmly planted in the soil. If the roots are buried deep in mineral soil, they may be able to survive a ground fire.

Seed: a very tiny, living plant—just waiting to grow—plus a package of nutrients and a protective covering. If seeds are sealed tight inside a cone, they may survive crown fire. If they're embedded in moist duff, they may survive surface fire. If they're buried in mineral soil, they may survive ground fire.

Seed wing: part of a conifer seed that helps it float away from the parent tree when it falls.

Snag: a dead tree, often with a broken top.

Sprouter: a kind of plant that can grow from underground parts if its top is killed off.

Surface fire: a fire that burns the litter, grasses, shrubs, and wildflowers on the forest floor but does not burn the crowns of trees or the duff.

Trunk: the stem of a tree. The faster the trunk grows, the sooner its crown will be out of reach of surface fires.

Xylem: the layer of wood cells inside the cambium that pump water from roots to leaves. Also called sapwood. As a tree grows, older xylem cells become inactive and die, forming heartwood.