

## Reference I–Glossary

**1-Hour Fuel:** Fuels that are less than ¼ inch in diameter. These fuels will only take about an hour to lose or gain two-thirds of the equilibrium moisture content of their environment.

**10-Hour Fuel:** Fuels that range in diameter from ¼ inch to 1 inch, and take about ten hours to lose or gain two-thirds of the equilibrium moisture content of their environment.

**100-Hour Fuel:** Fuels that range from 1 inch to 3 inches and take about 100 hours to lose or gain two-thirds of the equilibrium moisture content of their environment.

**1,000-Hour Fuel:** Fuels from 3 inches to 8 inches and take about 1,000 hours to lose or gain two-thirds of the equilibrium moisture content of their environment.

**10,000-Hour Fuel:** Fuels which are greater than 8 inches in diameter. Obviously, the 1,000- and 10,000-hour fuels do not burn easily. However, if they do burn, these fuels will generate extreme heat, often causing extreme fire behavior conditions. *From: National Weather Service. Fire Weather Definitions. Dead and Live Fuel Moisture. [www.crh.noaa.gov/fsd/firedef.htm](http://www.crh.noaa.gov/fsd/firedef.htm).*

**Access Roads:** Roads that allow entrance into and out of a property.

**Adaptive Management:** An approach to managing the environment/property that is based on a “learn by doing” technique that adjusts to changing conditions. Adjustments in management change over time as new information is learned.

**Age Classes:** A way of classifying the age range of trees or forests, usually divided into 20-year units or classes, e.g. 0–20 years.

**Aloft Winds:** Upper winds that occur in the atmosphere above the surface level, generally 2,000 feet and higher.

**Anchor Point:** The point at which firefighters begin fireline construction, usually blocked from the spreading fire to protect firefighters from harm.

**Anthropogenic:** The result of human activities or the influence of humans on nature.

**Aspect:** The direction that a slope faces—north, south, east, west, etc.

**Backburn:** *See Blackline.*

**Backfire:** A technique used in certain locations to direct fire spread against the wind while doing prescribed burns.

**Bare Mineral Soil:** The layer of inorganic earth below the litter and duff layer that is composed of sand, silt, and clay and has little to no combustible materials.

**Benches:** Flat landscape areas that occur along foothill and mountainous slopes. They can be the result of natural land formations through slope movement and sloughing, or land alteration by previous resource-extraction activities such as logging.

**Biodiversity:** The abundant variety of plant, fungi, and animal species found in an ecosystem including the diversity of genetics, species, and ecological type.

**Biomass:** The total weight of living matter in a given ecosystem. May also be defined as the total weight of plant debris that can be burned as a fuel.

**Bioregional/Bioregion:** The characteristic features of an area (bioregion) constituting a natural ecological community of contiguous geographic terrain, delineated by natural rather than artificial borders: the region's climate, local aspects of seasons, particular landforms, watersheds, soils, native plants, and animals. Humans are also an integral aspect of a bioregion's life.

**Blackline:** Preburning, or backburning, of fuels adjacent to a control line before igniting a prescribed burn (controlled burn).

**Bone Dry Ton (BDT):** A standard industry designation for a ton of material at nominal zero moisture content.

**Broadcast Burning:** A controlled burn, where the fire is intentionally ignited and allowed to proceed over a designated area within well-defined boundaries for the reduction of fuel hazard after logging, for site preparation before planting, and/or for ecosystem restoration.

**Broadcast Patch Burning:** A controlled burn, where the fire is intentionally ignited and allowed to proceed over a designated smaller area for site-specific management of fuels or plant community enhancement for certain groupings of vegetation or patches.

**Broadcast Underburning:** A method of burning where a prescribed fire is allowed to burn in the understory of a designated area to reduce fuel hazards and/or as a silvicultural treatment.

**Brush:** To control and/or clear small woody debris.

**Brushing:** The act of removing brush such as dead materials, shrubbery, and branches.

**BTU:** British Thermal Units (heat)/feet/second.

**Burn Plan:** Detailed document with specific information on prescribed burns. Used by the burn boss for implementing specific prescribed-burn (controlled-burn) projects.

**Burn-Out Time:** The length of time in which flaming and smoldering phases occur in a given area or for the whole fire.

**Cambium:** The growing layer of a tree, located between the bark and wood of the stem.

**Canopy:** The top layer of a forest or tree, which is formed by leaves, needles, and branches creating a continuous cover.

**Cavities:** Holes or openings, usually in a decayed area of a tree, where birds and animals may live.

**Chunk:** To complete the pile burning process by turning in or placing the unburned woody material ends into the fire ring.

**Climax Species:** The terminal community in ecological succession capable of self-replacement under the prevailing climatic, edaphic, physiographic, biotic, and pyric conditions.

**Closed Canopy:** Occurs when the canopies of trees touch and blend together enough so that light does not reach the floor of the forest.

**Codominant:** Species that share dominance or are of equal importance. For example, a codominant fir-pine forest would be dominated by both firs and pines.

**Colonize:** The act of establishing populations in new sites, such as burned areas, by seed.

**Compact:** To pack closely or tightly together, as in the fragments of soil being compacted from heavy equipment, thereby limiting the ability of oxygen or water to pass freely.

**Composition:** The percentage of each species that comprise a given area.

**Condition Class:** Condition class is based on a relative measure describing the degree of departure from the historical natural fire regime. Fire regime describes the characteristic patterns of fire in a given ecosystem and can include fire behavior, distribution, frequency, size, and season.

**Conks:** Shelf-like mushrooms that grow on trees, stumps, and downed wood. They are known for their wood decaying characteristics. *See Heart-Rot Decay.*

**Conservative Species:** Referring to species which are non-generalist. Conservative, sensitive species require very specific habitat niches and are generally uncommon, rare, or threatened.

**Containment:** The process of completely surrounding a fire with natural or man-made fuel breaks.

**Contour Falling:** Cutting and placing trees along the slope contour. This is a treatment that utilizes positioned logs to control erosion from water flow. Logs are offset on the slope contour to slow water by creating a meandering travel path.

**Control:** The act of managing a fire, which generally entails a completed control line around the fire.

**Controlled Burning (or Prescribed Fire):** A forest management practice that uses fire to improve habitat or reduce hazardous fuels. A plan for the prescribed burn must be written out and approved, and specific requirements must be met before commencing burning.

**Convection Column:** Heat generated from a fire into a column that rises into the air at varying heights, depending on the size of the burn.

**Cover:** Any plants or organic matter that holds soil in place or grows over and creates shade that provides wildlife with an area to reproduce and find protection from predators and weather.

**Crop:** The amount of fruits a group of plant yields in one growing season.

**Crown Density:** A measurement of the thickness or density of the foliage of the tree crown in a stand.

**Crown Fire:** A fire that spreads from treetop to treetop, and is characteristic of hot fires and dry conditions. Crown fires are generally more complex to control than surface fires.

**Crown Scorch:** When a fire or a convection column burns a portion or the entire crown of a tree.

**Crown Structure:** The structure or arrangement of the uppermost branches and foliage of a tree.

**Dappled Light:** When the forest canopy has small openings, where filtered sunrays project through the treetops onto the forest floor.

**DBH:** Diameter at Breast Height, a measurement of a tree's diameter at the level of an adult chest (approximately 4.5 feet above the ground).

**Dead Out:** When a fire has completely burned out or has been entirely extinguished.

**Decay Classes:** Decomposing wood is categorized based on the level of decomposition, broken into five classes.

**Defensible Fuel Profile Zone:** Defensible Fuel Profile Zones: a term used by federal and state land management agencies to describe a larger shaded fuelbreak normally 0.25 mile in width. The object of these measures are to reduce the fuel ladder and add space between the tree top canopy in order to keep the fire out of the canopy on the ground.

**Defensible Space:** An area around a home/structure that has been cleared of flammable materials to act as a barrier between wildfires and property, thereby decreasing the risk of damage or loss. This space is now defined as 100 feet around a structure in California.

**Defensible Space Zone:** The one-hundred-foot zone around the home.

**Discing:** Cultivating or roto-tilling the soil.

**Disturbance:** Various activities that disrupt the normal state of the soil such as digging, erosion, compaction by heavy equipment, etc.

**Disturbance Factor:** The aspects that influence changes to the environment, both human-caused and natural occurrences, such as agriculture, logging or development, and fire, wind, or floods.

**Disturbance Regime:** The characteristic and usually historical pattern of disruptions to the environment (such as fire or flood or drought) in a given area.

**Diurnal:** Belonging to or active during the day.

**Doghair:** An excessively dense stand of trees. An example is an acre with 35,000 trees, all smaller than seven inches DBH.

**Dominant:** The species that is the most abundant or influential in an ecosystem. For example, a dominant tree is one that stands taller than the rest and receives full sun.

**Downed Woody Debris:** The remains of dead trees, branches, and various woody brush that sit on the forest floor—generally refers to trunks of trees.

**Draft:** Using the forces of suction to draw water from ponds, swimming pools, or other bodies of water. This technique utilizes a partial vacuum formed by a suction pump and atmospheric pressure. The water is then moved where it is needed.

**Draw:** A topographic channel that is generally shallower than a ravine.

**Drip Torch:** A hand-held device used to ignite fires by dripping flaming liquid fuel on the materials to be burned.

**Drip Line:** The boundary of a tree's canopy, generally estimated by the extent of the tree's outermost limbs and the circular moisture line formed when rainfall drips from the limb tips.

**Drip-Line Thinning:** Clearing ladder fuels under the drip-line circumference of a leave tree. *See Appendix D for more detailed information.*

**Duff:** A layer on the forest floor that is made up of decomposing organic matter such as leaves, needles, and small branches.

**Early-Seral Species:** Species which start growing in natural succession soon after a disturbance (fire or logging). These can include plantshrubs, such as ceanothus, and hardwoods usually in tree form, such as red alder, bitter cherry and big leaf maple.

**Ecosystem:** A community of organisms (including plants, animals, and fungi and the non-living aspects of the physical environment) that makes up a specific area. Examples of ecosystem types include a pond or a forest.

**Ecotone Edge:** The boundary between two or more ecosystems. The change in ecosystems may be due to elevation, soil type, disturbance, or other factors.

**Ember Attack:** Embers blown by the wind during a firestorm that accumulate at intersections between horizontal and vertical members on the outside of your house, igniting debris and combustible materials. Embers can also enter into openings (e.g., attic vents and other wall openings), igniting debris on the inside of your home.

**Embers:** Small glowing or smoldering pieces of wood or other organic debris, often dispersed ahead of a fire, also known as firebrands.

**Endemic:** A plant that is native to a certain limited area and found nowhere else.

**Ephemeral:** Meaning short duration or life, as in an ephemeral stream that only exists after a rainstorm or during the rainy season.

**Ephemeral Stream:** A stream or watercourse that does not flow all year round, only during rainy season.

**Erosion:** The removal of soil over time by weather, wind and/or water such as rain or water runoff from roads.

**Escape Route:** A path or road that has been preplanned to get out of harm's way in a fire situation. The route should be well understood by all participants. If there is any unclear direction, the path should be marked.

**Escapes:** Wildfires that cannot be contained with the first attempts at suppression.

**Excessive Stems:** Stems (tree or shrub main trunks) in high density.

**Extension Agent:** An employee from the government or a university who provides information to rural communities about agriculture, land management, and/or resource management. In California, the University of California Cooperative Extension (UCCE) provides this service. *For more information on UCCE, see <http://ucanr.org/>.*

**Extinction Moisture:** The moisture level in fuels when fires tend to stop burning.

**Facultative Sprouter:** A species of plant that can resprout after a fire from the rootstock, although this may not be its usual method of reproduction in the absence of fire. The ability to resprout may be dependent on the intensity of the fire.

**Feathering:** A process that reduces the appearance of change between treated and untreated sites by gradually softening the transition.

**Firebrands:** A piece of wood or a coal that is hot and glowing from fire activity, often dispersed by wind ahead of a fire. Also called embers.

**Firebreak:** A strip of land that has been cleared of vegetation to help slow or stop the spread of wildfire. It may be a road, trail, or path cleared of vegetation or other burnable materials. A firebreak could also be a stream. *See Fuelbreak for the difference between the two.*

**Fireshed:** An area or areas with similar fire management, fire history, and risk of wildland fire issues.

**Fire-Adapted:** The ability of organisms or ecosystems to make long-term genetic change for the most advantageous response to fire-prone environments.

**Fire-Adapted Ecosystem:** A local mix of mature natural vegetation (ideally native species but often found in combination with exotic species) that maintains its ability to survive and regenerate, and perhaps even to thrive, with regular disturbance from wildfire. Some species may actually require fire to trigger seed maturation, such as the giant sequoia. Opportunistic species benefit from fire and the openings it can create in a woodland; this is part of their adaptation.

**Fire Behavior:** The combination of fire spread, heat output, flame length intensity, etc. as the fire responds to weather, topography, types of fuels, etc.

**Fire Climax:** The stage of vegetation that is sustained with frequent fire.

**Fire Ecology:** The study of fire and its relationship to the physical, chemical, and biological components of an ecosystem.

**Fire Free Zone:** A five-foot minimum zone around the home that is free of all fuels.

**Fire Hazard:** The amount, conditions, and structure of fuels that will burn if a fire enters an area.

**Fire Ignition:** The act of setting on fire or igniting a fire.

**Fire Intensity:** A measurement of the heat released in an area during a specific amount of time (BTU/ft./sec.). Intensity has a large influence on an ecosystems' recovery from fire.

**Fire Prevention:** Actions taken by homeowners and community members to lessen wildfires and damage caused by wildfires. Includes education, enforcement, and land management practices.

**Fire Regime:** The characteristic patterns of fire in a given ecosystem. May include fire behavior, distribution, frequency, size, and season.

**Fire Resiliency:** The ability of an ecosystem to maintain its native biodiversity, ecological integrity, and natural recovery processes following a wildland fire disturbance.

**Fire-Resilient Landscape:** A natural landscape featuring plants that have adapted to local wildfire conditions, or a domestic outdoor space where appropriate actions have been taken to make it less vulnerable to wildfire and certainly less prone to causing one.

**Fire-Resistant Building Materials:** Materials used in the construction of a house that are resistant to ignition when exposed to radiant heat or flames. Examples include clay tile roofs, metal roofs, and stucco siding.

**Fire-Return Interval:** A period of time between fires in a specific region or area.

**Fire Risk:** The combination of vegetation, topography, weather, ignition sources and fire history that lead to fire potential and danger in a given area.

**Fire Safe Council:** Public and private organizations that comprise a council intended to minimize the potential for wildfire damage to communities and homeowners, while also protecting the health of natural resources. Goals are achieved by distributing fire prevention materials, organizing fire safety programs, implementing fuel reduction projects, and more.

**Fire Safe Practices:** Activities such as creating defensible space, firebreaks, access to your home, fire-resistant landscapes, changes to your home in terms of material and design, etc., that make your home/property safer in wildfire situations.

**Fire-Sensitive:** A species of tree that is more susceptible to fire damage. Sensitivity may be due to thin bark or easily ignitable foliage.

**Fire Weather:** The various types of weather that affect how a fire ignites, behaves, and is controlled.

**First-Entry Thinning Treatment:** The first stage of tree thinning performed in a fuels reduction treatment.

**Flame Length:** The span of the flame from the tip to the base.

**Flammable:** A quantity of a substance that makes it likely to catch fire, be easily ignited, burn quickly, and/or have a fast rate of spreading flames.

**Flanks:** Slope areas on both sides below a ridge top.

**Flashy Fuels:** AKA fine fuels, such as grass, leaves, pine needles, ferns, moss and some kinds of slash, which ignite readily and are consumed rapidly when dry.

**Foehn Events:** A wind that blows warm, dry, and generally strong, creating extremely dry fuel and dangerous fire potential.

**Forbs:** Herbaceous flowering plants, other than grasses.

**Forest Stand Density:** The amount of trees in a forest per unit area. Can be measured in terms of basal area and crown cover.

**Forest Stand Enhancement:** A combination of both silvicultural thinning practices and other forest restoration activities such as controlled burning, which aim to increase the health, resiliency, and vigor of tree communities within a forest ecosystem.

**Fragment:** Used as a verb, the transformation of forests or vegetation into one or more patches of smaller size than the original area. Can also refer to one of the patches.

**Fragmentation:** The transformation of forests or vegetation into one or more patches of smaller size which can occur by natural means such as fire, disease, etc., or by management practices such as timber harvesting.

**Fuel:** All burnable materials including but not limited to living or dead vegetation, structures, and chemicals that feed a fire.

**Fuelbreak:** A strategic area where fuel volumes have been intentionally reduced to slow down a fire and reduce its flame lengths and intensity; as distinguished from fire breaks where all fuels are removed to bare mineral soil for fire suppression.

**Fuel Bed Height:** A measurement of the height of fuel composition on the forest floor.

**Fuel Complex:** The volume, type, condition, arrangement, and location of fuels.

**Fuel Continuity:** The amount of continuous fuel materials in a fire's path that allows the fire to extend vertically towards the crowns of trees or horizontally into the forest or other fuels.

**Fuel Ladder:** A ladder of vegetation from the forest floor into the canopy (or upper branches) of the trees that allows fire to climb upwards.

**Fuel Load Conditions:** The amount of combustible material (both dead and live fuels). It relates to the site's *fuel model* (see definition below and Chapter 3), slope, aspect, and the fuel moisture content.

**Fuel Model:** A standardized description of fuels available to a fire based on the amount, distribution, and continuity of vegetation and wood. Fuel models distinguish between vegetation (such as tall and short chaparral, or timber with and without an understory), as well as describe the arrangement and amount of the vegetative fuels. Fire managers use fuel models within the Fire Behavior Prediction System to analyze the wildfire environment. See Chapter 3 for more information.

**Fuel Modification:** The management of fuels for fire safety or ecosystem health. Examples include prescribed burns and creation of firebreaks.

**Fuel Treatment:** The act of removing burnable materials to lower the risk of fires igniting and to lessen the likelihood of damage to property and communities. Treatments may include creating a defensible space, developing fuelbreaks, initiating prescribed burns, and thinning vegetation.

**Fuel Volumes:** The quantity of fuel in a specified area that is susceptible to fire consumption.

**Future Desired Condition:** The short-term and long-term goals desired from management activities on a property/area. It is important to keep the Conservation Principles in mind (see Chapter 1) when designing these.

**Generalist Species:** A species with the ability to utilize a wide variety of resources and tolerate various environmental situations.

**Girdling:** A technique used to kill trees by cutting through the cambium and sapwood layer around the circumference of the tree. The flow of water and nutrients is broken and the tree eventually dies.

**GIS (Geographic Information System):** A system for storing and manipulating geographical information on a computer.

**GPS (Global Positioning System):** A hand held navigational device that uses satellites to determine positions on the earth.

**Green Islands:** Patches of live tree and plant communities retained within a mosaic thinning prescription.

**Ground-Disturbing Activities:** Actions that interrupt the natural condition of the ground, such as digging and compaction from heavy equipment.

**Ground Fuels:** The layer of combustible materials that exists below the layer of surface litter. This layer includes plant roots, duff, etc. These materials can combust and burn without contact with a flame, when embers drop from above.

**Growth or Vigor:** The ability of plants to exhibit healthy natural growth and survival.

**Habitat Conditions:** The conditions needed by local wildlife to survive, including food, water, cover, and nesting.

**Hammerhead Turnout:** A “T” shaped roadway that allows for large emergency vehicles to turnaround. This space allows for a three-point turnaround and should be as wide as other surrounding roads.

**Hand Pile Burning:** Hazardous fuels piled by hand for burning in a manner that will not damage surrounding trees or soil.

**Headwall:** Steep upper sides of a drainage where fire can move quickly.

**Heart-Rot Decay:** Fungus-caused decay of a tree's heartwood (interior wood). Trees are infected when fungal spores enter tree wounds or dead branch stubs, and encounter conditions favorable for spore germination. *See Conks.*

**Heat Output:** The total amount of heat a fire released in a specific area during the passing of the flaming front.

**Heat Per Unit Area:** The amount of heat produced by burning fuels in a given unit area through the entire duration of the fire.

**Herbaceous Overstory Vegetation:** The vegetation layer that forms the uppermost canopy layer and is partly composed of non-woody plants that die back in the winter.

**Herbaceous Understory Vegetation:** The layer of vegetation under the forest canopy that is composed of non-woody plants that die back in the winter.

**Heterogeneity:** An object or system consisting of multiple items having a large number of structural variations.

**High Pruning:** Cutting of both dead and live branches ten to fifteen feet from the base of the tree (height to live crown). This is done on larger trees to separate the fuel connectivity from the ground to the crown of a tree.

**Historic Natural Condition:** The natural condition of a property/area that occurred in the past, before fire suppression and industrial activities. Old photos, settlers’ journals, elders’ oral history, and clues on the property (such as old stumps) may be helpful in identifying the historical natural condition of an area.

**Home Ignition Zones:** Includes the home and a 100 to 200 foot area around the home.

**Hydrology:** A science that deals with the waters of the Earth including movement, distribution, seasonal patterns, and conservation.

**Hydrophobic:** Literally meaning “water-fearing,” as in a substance such as oil, which does not mix well with water. Also refers to a soil that will no longer absorb water.

**Ignition Specialist:** A trained professional who specializes in ignition and prescribed fire techniques and management. Ignition specialists are certified through the National Wildfire Coordinating Group and have years of experience in wildland fire suppression and prescribed fire use. They have met all necessary requirements to perform firing applications.

**Ignition Zones:** The zone where combustion is initiated.

**Ingress-Egress:** Roads and other avenues to enter and leave your property. The act or right to come in or go through, as in entering a property (ingress); the act or right to depart or go out, as in exiting a property (egress).

**Ingrowth:** The trees that grow large enough in a season to be considered a sapling or pole timber.

**Initial Data Assessment:** Information gathered from initial site assessment based on a series of questions.

**Initial Entry:** The first stage of vegetation and tree thinning performed in a fuel-reduction treatment.

**Initial Site Assessment:** The preliminary steps of an evaluation of a piece of property to determine fuel hazards and health conditions. Information is gathered to help plan a fuel hazard reduction treatment.

**Invasive Weeds:** Undesirable plants that are not native and have been introduced to an area by humans. These plants generally have no natural enemies and are able to spread rapidly throughout the new location. Some examples include Himalayan Blackberries, English Ivy, Arundo, tamarisk, and Scotch broom.

**Jackpots:** Generally, small pockets of dense fuels, which could allow a fire to flare up and burn more intensely.

**Key Ecosystem Component:** An important piece of an ecosystem such as soil, native species, or mature/rare habitats, which are essential to the stability of an ecosystem.

**Ladder Fuel Continuity:** The amount of continuous fuel materials in a fire's path that allows the fire to extend in a vertical direction towards the crowns of trees.

**Ladder Fuels:** Materials such as shrubs or small trees connecting the ground to the tree canopy or uppermost vegetation layer. In forests, this allows fire to climb upward into trees.

**Layout:** In this case, defining and designating forest operations for a specific location.

**Leading Edge:** The foremost part of a fire that is guiding the fire in the direction of travel.

**Leave-Trees:** Trees that have been selected to remain standing in an area of thinning or harvesting.

**Leave-Patches:** Swaths or clusters of trees or other vegetation that have been selected to remain standing in an area of fuel treatment.

**Limb Up:** To remove the lower branches from a woody plant to create a defined space between the forest floor and the canopy.

**Limbing:** Removing selected branches of a standing or fallen tree.

**Live Crown Percentages:** The proportion of the height of the tree on which live branches and foliage are present.

**Lop and Scatter:** The act of cutting and evenly spreading branches over the ground to reduce fire hazard and erosion potential, while promoting the decomposition of branches via their close proximity to the ground.

**Mast:** Nuts or fruits of trees and shrubs such as acorns, walnuts, or berries that collect on the forest floor and are a food source for animals.

**Mastication:** The grinding, shredding, chunking, or chopping of vegetation by heavy machinery.

**Meadows and seeps:** More or less dense grasses, sedges, and herbs that thrive, at least seasonally, under moist or saturated conditions. They occur from sea level to treeline and on many different substrates. They may be surrounded by grasslands, forests, or shrublands. A seep is an area where water rises from an underground source to the surface and creates a wet area.

**Merchantable:** Timber that is viable for sale under the current economic situation. This is generally determined by the part of the stem (trunk) that is suitable for timber products.

**Mesic:** The condition of being normally moist, as in vegetation or ecosystems.

**Mixed-Structural Thinning:** Practice of selectively eliminating multi-stemmed species to achieve a variety of densities where either one stem is retained or groupings of stems are retained.

**Modify Fire Behavior:** Using fire-safe practices such as fuel treatments, thinning, creating firebreaks, etc. to change the way a fire will behave, with a goal of slowing it down and/or suppressing it more easily.

**Moisture Content:** The dry weight of a material, such as wood or soil, compared to the wet weight of the same material. It is not unusual for live material to have moisture content greater than 100% because it could contain more water than solid material by weight.

**Monitor:** To watch, keep track of, or check regularly for changes—in this case, to the environment.

**Montane:** A mountainous region of moist cool upland slopes that occurs below the tree line and is predominately composed of evergreen trees. It is also described as the lower vegetation belt on mountains that is composed of montane plants and animals.

**Mosaic Thinning:** A style of vegetative thinning that creates openings and patches of vegetation to increase the potential variety of habitat types.

**Mosaic Thinning Regimes:** A system of thinning to create patches and openings that emulate the structural composition created by a wildfire.



**Mulch:** A material (such as decaying leaves, bark, or compost) spread around or over a plant to keep invasive weeds down, to reduce moisture-loss, or to enrich and insulate the soil; as a verb, the application of such material.

**Mycorrhizal:** The mutually beneficial relationship between plant roots and fungi “roots,” AKA mycorrhizae, where the fungus receives sugar from the tree while helping the tree with water and nutrient uptake. The majority of plants depend on this relationship.

**Natural Disturbance:** Disturbances, like fire and floods, which occur in the environment without the intervention of humans.

**Natural Place Community:** A simple term describing a specific type of ecosystem.

**Natural Range of Conditions:** The normal assortment of circumstances under which an organism or group can survive.

**Niches:** A species or population’s role and/or function within an ecosystem. Includes resource use, interactions, etc.

**Nurse Log:** A tree that has fallen, died, and started to decompose. The decaying log is rich in moisture and nutrients and provides a germination spot for plants, as well as habitat for insects.

**Obligate Seeder:** A plant that reseeds itself after fires as a means of recovery and regeneration.

**Obligate Sprouter:** A plant that resprouts after fires as a means of recovery and regeneration.

**Offshore Flow:** The flow of wind blowing from the land to the water, or in other words wind blowing offshore.

**One-Way Transport Route:** A hauling trail used during tree extraction activities where one entry pass is made.

**Overstory:** The topmost trees in a forest which compose the upper canopy layer; compared to the understory, which is the lower woody or herbaceous layer underneath treetops.

**Overstory Trees:** Trees that form the uppermost layer of the canopy in a forest.

**Patch Burning:** A method of prescribed burning where patches are burned to prepare an area for planting or to reduce fuels, forming an obstruction to future fires.

**Patch-Retention Thinning:** A silvicultural thinning practice where patches of trees and vegetation are retained in a given area while other parts of the treatment area are thinned (selectively cut) at intermediate levels.

**Patch Under-Burns:** A designated area, or vegetation patch, where fire is utilized to consume surface fuels but not trees and shrubs.

**Pathogens:** Insects or disease that can affect a site or individual plant.

**Perennial:** In reference to water, a stream that holds water year-round during a typical year. May have some flux in a drought year.

**Perennial Stream:** A stream or watercourse that has water all year round.

**Permeability:** In this case, a condition whereby fire can spread through a community with minimal negative impact.

**Photo-Point Monitoring:** Using a specific, identifiable point on a property from where photos are taken over time using the same view to compare and monitor changes.

**Pilot Ignition Piles:** Small piles of primarily small fine fuels such as branches, dead materials and organic matter.

**Pistol Butts:** Trees within a forest stand that have a crooked sweep beginning at the base of the tree, then growing straight toward the sky. A “pistol butt” tree indicates erosive soil movement on the slopes of a particular area.

**Plant Community:** A group of plants that are interrelated and occupy a given area.

**Plant Succession:** In ecology, progressive change of the plant and animal life of an area in response to environmental conditions.

**Pole-Sized:** Generally younger trees with a trunk diameter between four and eight inches.

**Precautionary Principle:** A concept that promotes a cautious approach to development and managing the environment when information is uncertain or unreliable. Erring on the side of caution and conservation is encouraged, along with a “better safe than sorry” attitude.

**Prescribed Fire (or Controlled Burn):** A forest management practice that uses fire to improve habitat or reduce hazardous fuels. A plan for the prescribed burn must be written out and approved, and specific requirements must be met before commencing burning.

**Present Condition:** The environmental conditions that occur on a property/area at the present time.

**Productive:** A term used for land or forests that are growing efficiently and in a vigorous manner.

**Pump Chance:** An area where water can be pumped from a pond or creek for fire-suppression purposes.

**Rate of Spread:** The speed of an advancing fire. May be measured by the growth in area or by the speed of the leading edge of the fire.

**Regeneration:** The renewal of trees or forests by planting seedlings or direct seeding by humans, wind, birds, or animals after large disturbances like fire. “Regeneration” also refers to young trees that were naturally seeded or planted.

**Registered Professional Forester (RPF):** A person licensed in California to manage state or private forestlands and advise landowners on management of their forests. *For more information, see [www.bof.fire.ca.gov/professional\\_foresters\\_registration/about\\_registration/](http://www.bof.fire.ca.gov/professional_foresters_registration/about_registration/).*

**Relative Humidity:** A measure of moisture in the air. If the humidity is 100%, the air is completely saturated with moisture. If the humidity is less than 20%, the air is very dry. When the air is dry, it absorbs moisture from the fuels in the forest making them more flammable. (*South Carolina Forestry Commission. Wildfire in S.C. 1994. See [www.state.sc.us/forest/refwild.htm](http://www.state.sc.us/forest/refwild.htm).*)

**Release:** Using thinning techniques to free a tree or group of trees from competition for nutrients, sunlight, and water by removing the competing small trees and shrubs.

**Repeating Skips and Gaps:** The forest structure throughout a treatment area, following a variable density treatment, where some areas are retained and not thinned (skips) and other portions of the stand are heavily harvested (gaps). The range of size of the skips and gaps are from a few hundred square feet to up to an acre where site conditions dictate.

**Residence Time:** How long the flaming front burns in any one location.

**Resilient/Resiliency:** The ability of an ecosystem to return to its balanced state after a disturbance.

**Retention Patch:** A clump of vegetation that has been isolated from contiguous fuels and retained for wildlife habitat and/or native plant species diversity.

**Rhizome:** An underground stem that has the ability to send out roots and shoots. Grasses and irises are two plants that exhibit rhizomes.

**Riparian:** A strip of land along the bank of a natural freshwater stream, river, creek, or lake that provides vast diversity and productivity of plants and animals.

**Salvage Logging:** Logging and removing merchantable trees after a fire to capture economic potential. This is a very controversial subject.

**Saturated:** The broad meaning is “full.” Saturated soil refers to the point at which the soil is so full of water that no more water can get into (be absorbed by) the soil, and therefore must run off.

**Scalping:** The act of removing the surface layer to expose the bare mineral soil.

**Scratch Line:** An incomplete control line in the beginning stages that is constructed as an emergency backup for spreading fires.

**Sediment:** Particles of topsoil, sand, and minerals that come from soil erosion or decomposing plants and animals. Wind, water, and ice carry these particles; when the sediment collects in waterways it can destroy fish and wildlife habitat.

**Seed Bank:** A repository of dormant seeds found buried in the soil.

**Seep:** An area where water rises from an underground source to the surface and creates a wet area.

**Sense of Place:** A feeling and understanding of the unique place in which one lives, derived from the mix of natural and cultural features in the landscape and community. Sense of place can also mean rooting and defining oneself in terms of a given piece of land, watershed, or bioregion.

**Sensitive Species:** A plant or animal species that can tolerate a small range of resources and environmental situations. These species raise concerns about population numbers and may be recognized locally as rare.

**Sequential Entries:** Entering a forest stand or other vegetation type several times over the course of years to spread out the impacts of treatments.

**Serotinous:** A condition where seeds are retained within cones that only open and release seeds en masse following fire. The mechanism varies, with some cones sealed by resin and waxes that melt during the fire, allowing the cones to open afterwards, releasing the seed.

**Shade Tolerant:** Attribute of a species that is able to grow and mature normally in and/or prefers shaded areas.

**Shaded:** Blocked from light with shade or shadows.

**Shaded Fuelbreaks:** A fire-suppression technique using fuelbreaks in forested areas. Vegetation is reduced and/or modified to reduce fire risk, but an adequate amount of crown canopy remains intact, thus inhibiting weedy undergrowth.

**Shape:** The act of pruning a tree to a desired form or appearance.

**Sheltered Connectivity:** Contiguous areas within a thinning treatment that are retained for wildlife cover and to support wildlife movement.

**Silvicultural:** The practice of caring for forest trees in a way that meets management objectives. For example, foresters may control the composition and quality of a forest stand for goods such as timber and/or benefits to an ecosystem.

**Site-Specific:** Applicable to a specific piece of land and its associated attributes and conditions (e.g. microclimate, soils, vegetation).

**Size Class:** The division of trees by the size of their diameter, sometimes split into three categories—seedlings, pole, and saw timber—or by diameter in inches.

**Slash:** The wood debris left on the ground after pruning, thinning, or brushing—may include branches, bark, chips, or logs.

**Slash Paper:** Paper used to cover slash piles before ignition with the intention of keeping the slash dry or allowing it to dry. Paper is more environmentally appropriate than plastic.

**Slope:** A percentage or degree change in elevation over a defined distance that measures the steepness of a landscape.

**Slope Stability:** The degree to which a slope is susceptible to erosion and slides, or the measure of its overall stability.

**Snag:** A standing dead tree that has usually lost most of its branches. Snags offer essential food and cover for a host of wildlife species.

**Social Capital:** The individual and communal time and energy that is available for such things as community improvement, social networking, civic engagement, personal recreation, and other activities that create social bonds between individuals and groups. *From: CDC Healthy Places Terminology, <http://www.cdc.gov/healthyplaces/terminology.htm#p>.*

**Soil Type:** Refers to the different combinations of soil particles and soil composition. Soil can vary greatly within short distances.

**Spatial Distribution:** The manner in which plants are arranged throughout an area.

**Species Composition:** The combination of species found in a particular site.

**Spot Fire:** A smaller fire outside the boundary of the main fire (usually ahead of the direction the fire is traveling), started by airborne sparks or embers.

**Spur:** A road branching off the main road to provide access to a designated area.

**Stacking Functions:** The act of accomplishing several goals with one activity.

**Stand:** A group of trees with similar species composition, age, and condition that makes the group distinguishable from other trees in the area.

**Stand Structure Model:** The spatial arrangement of the forest stand, describing the density and connectivity of the understory, mid-story, and overstory vegetation.

**Steady State Climax:** The stage of vegetation that is self-sustained without disturbance.

**Stem and Poles:** The trunk of a tree or a piece of wood that is long and slender.

**Stemwood:** The wood of the main stem or trunk of a plant

**Stocking Levels:** The density and calculation of tree seedlings, saplings, and poles in a given area.

**Strip Patch:** In prescribed burning, a narrow section or area where the fuel is burnt while the surrounding area is left untreated.

**Structural Protection Zone:** Immediate 30-ft. buffer zone around the home.

**Structure:** The composition of a forest or vegetation, specifically looking at the density, cover, size or diameter, and arrangement.

**Stump Sprout:** The ability of a tree to resprout from its cut stump.

**Submerchantable:** Trees that cannot be sold for timber products due to disease, deformities and/or size.

**Surface Fire:** A fire on the forest floor that consumes debris and smaller plants.

**Surface Fuels:** Materials on the ground like needles or low-growing shrubs that provide the fuel for fires to spread on the ground. Surface fuels are generally considered all fuels within six feet of the ground.

**Surface or Crown:** The distinguished location that a fire burns. Surface refers to the forest floor while crown refers to fires in the top of trees.

**Suspended Dead Material:** Typically composed of pine needles that are draped on living brush. Made up of dead fuels not in direct contact with the ground, consisting mainly of dead needles, foliage, twigs, branches, stems, bark, vines, moss, and high brush. In general these fuels easily dry out and can carry surface fires into the canopy.

**Swamper Burning:** A method of prescribed fire where fuel is added gradually and continually to a burning pile over the course of a day.

**Thermal Cover:** Vegetation cover that modifies unfavorable affects of weather for animals. For example, elk may move to a fir forest with trees at least forty feet tall and with seventy percent crown closure to protect themselves from harsh weather.

**Thicket:** A thick area of brush containing close-growing plants. Provides habitat to wildlife but may be difficult for humans to pass through.

**Thinning Away Contiguous Fuels:** The practice of cutting back fuel loads from the edge of a desired leave-tree or patch in an effort to separate fuel connectivity.

**Thinning From Below:** Silvicultural practice where smaller understory trees are selectively removed below overstory trees. This method is also called “low thinning.”

**Tillering:** The process by which new aerial shoots emerge from the base of the plant. To send forth shoots from the base of grass, for example.

**Tip-Sprout:** The ability of a shrub to resprout from a cut limb.

**Torching:** A rapid and intense burning of a single or small group of trees/shrubs, causing the upward movement of fire. AKA crown fire initiation or flare-up.

**Touch-Off:** A controlled burning (or prescribed fire) operation performed by a forestry or fire crew, where large quantities of forest treatment slash are arranged in hand piles and ignited with drip torches simultaneously by multiple crew members.

**Treatment:** An action or controlled technique that is applied in a specific process. Refer to “Fuel Treatment” for a more specific definition.

**Underburn:** A prescribed fire method where burning is conducted in the understory of the forest, below the dominant trees.

**Understory:** Generally herbaceous or shrubby vegetation that makes up the layer of forest under the tree canopy layer.

**Uneven-Aged Treatment:** A treatment that deals with three or more age-classes of trees.

**Unstable:** Land that is lacking stability, or liable to change with activity, such as in the case of steep slopes or crumbly soils.

**Untreated:** Not altered from a natural or original state; unprocessed, e.g. no fuel reduction or defensible space activities.

**Variable-Density Thinning:** Thinning or selectively cutting trees in a manner to restore repeating variability or redundancy in a forest. This technique ensures diversity in stand density and canopy cover.

**Variable Density Treatment:** Silvicultural thinning practice where some portions of a stand are left lightly or completely un-thinned (“skips”), providing areas with high stem density, heavy shade, and freedom from disturbance; while other parts of the stand are heavily cut (“gaps”), including removal of some dominant trees to provide more light for subdominant trees and understory plants. Intermediate levels of thinning are also applied in a typical variable-density prescription. This practice is also known as “free thinning.”

**Vernal pool:** Seasonal amphibious environments dominated by annual herbs and grasses adapted to germination and early growth under water. Spring desiccation triggers flowering and fruit set, resulting in colorful concentric bands around the drying pools.

**Vertical and Horizontal Structure Diversity:** Describes the configuration of trees within a forest stand that create a variation of structure where trees stand straight up and down (vertical) or grow at an angle (horizontal).

**Vertical Fuels:** Those fuels (brush, small trees, decks, etc.) that provide a continuous layer of fuels from the ground up into the top fuel layers (i.e. tree canopy).

**Viewshed:** The landscape or topography visible from a geographic point, especially that having aesthetic value.

**Watershed:** All of the land that drains water runoff into a specific body of water. Watersheds may be referred to as drainage areas or drainage basins. Ridges of higher elevation usually form the boundaries between watersheds by directing the water to one side of the ridge or the other. The water then flows to the low point of the watershed.

**Weed-Eater:** A hand-held tool that utilizes a gas or electric motor and a rotating nylon string or metal blade to cut down vegetation.

**Wick:** A combustible material that allows fire to travel along a confined path to larger fuel sources. An example would be a wooden fence connected to your home.

**Wildland-Urban Interface (WUI):** The area where wildlands and communities converge, often assumed to be at high risk of wildfire.

**Wildlands:** An area of land that is uncultivated and relatively free of human interference. Plants and animals exist in a natural state, thus wildlands help to maintain biodiversity and to preserve other natural values.

**Windthrow:** Trees that are uprooted by wind events. May occur in logged areas or in stands of shallow-rooted trees such as white pines. Formerly protected stands whose edges are opened up become vulnerable to this effect.

**Yarding:** A technique for moving felled trees, limbs, and brush by hauling them to the road with a cable and tractor.