Reference I–Glossary of Fire Safety Terms[1,2]

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 that take about 1,000 hours to lose or gain two-thirds of the equilibrium moisture content of their environment.

10,000-Hour Fuel: Fuels that are greater than 8 inches in diameter. 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.

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. Management practices tend to change over time as new information is learned and the effects of one's actions become apparent.

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

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

Anthropogenic: An adjective for something that is 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.

Best Management Practices (BMPs): In this context, fire safety activities that effectively reduce wildfire risk while limiting potential negative environmental impacts. BMPs can range from reducing impacts on specific wildlife species, to maintaining or enhancing ecosystem functions and processes.

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

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.

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[1] This glossary contains terms used in this Community Wildfire Protection Plan, as well as related fire-safety terms that are not found in the CWPP but are included as helpful background information.

[2] Many definitions in this glossary were found on the websites below. The remaining terms were researched and defined by ForEverGreen Forestry.
US Forest Service; Caster, J. Fire Information Toolbox. Dictionary, www.fs.fed.us/r2/fio/dict.htm; Wikipedia: www.wikipedia.org.

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.

Biosolids: A term used by the wastewater industry to denote the byproduct of domestic and commercial sewage and wastewater treatment.

Biotic: A term referring to all living things, organisms, or their materials; of life, of living things.

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 in which 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 or patches of vegetation.

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.

British Thermal Unit (BTU): A unit of energy equal to about 1.06 kilojoules.

Built Environment: Man-made structures as opposed to the natural environment.

Built Out: In this case, a community with little space left for further development.

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, tree, or lower-growing stand of shrubs, 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.

Check Dams: Small barriers built across the direction of water flow to control sediment movement.

Chimney: A vertical cleft in topography, which may increase the intensity and/or speed of a fire.

Chip: To cut up slash materials into small pieces, or chips.

Chipping Program: A program where several individuals or communities share the resources associated with processing debris from fuel-reduction activities, including the chipper (the machine that creates the chips), staff, insurance, etc.

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 tops of trees or shrubs touch and blend together sufficiently to prevent direct sunlight from reaching the ground in most or all places.

Coarse Woody Material: Large-dimension wood, usually 20 inches in diameter or larger, found on the ground from fallen trees or downed branches.

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.

Collaborative: An open, inclusive process that assumes all participants have valuable knowledge and opinions,

and all of their comments are heard and considered. Collaboration does not mean consensus or ownership.

Colonize: In the plant world, the act of establishing populations in new sites, such as burned areas, by seed.

Community-Based Monitoring: The act of community members observing and noting ecological processes and the effects of their own actions (such as planting, mowing, and fuel reduction) in the area where they live.

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

Composite Decking: Deck boards manufactured from wood fiber and plastic to form a profile that requires less maintenance and generally has a longer lifespan than natural wood.

Composition: The percentage of each species that together comprise the life present in a given area.

Condition Class: This landscape designation is based on a relative measure describing the degree of departure (low, moderate, or high) from the historical natural fire regime.

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: Refers to plant or animal species that 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 fuelbreaks.

Contour Falling: Cutting and placing trees along the slope contour. This is a treatment that utilizes positioned logs to help 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 vegetation management practice that uses fire to improve habitat and/or reduce hazardous fuels. A plan for the prescribed burn must be written out and approved by fire department authorities, and specific requirements must be met before commencing burning. *This practice is not recommended in this CWPP.*

Convection Column: Heat generated from a fire rises in a column to varying heights above the flames, depending on the size of the burn.

Cover: Any plants or organic matter that hold soil in place and/or grow over and create shade that provides wildlife with an area to reproduce and find protection from predators and weather.

Crop: The amount of fruits or seeds that a group of plants of one species yields in one growing season.

Crown Density: A measurement of the thickness or density of the foliage of the treetops (crown) in a stand.

Crown Fire: A fire that spreads through the top of the vegetative canopy 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 or shrub.

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

Dappled Light: When the vegetative canopy has small openings, filtered sunrays project through the treetops onto the ground.

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.

Debris: The vegetative remains from thinning or fuel-reduction operations, also known as slash.

Decay Classes: Rotting wood is categorized based on the level of decomposition, broken into five classes. For example, decay class 1 is structurally intact (with bark attached) ranging to decay class 5, which is very soft, disintegrated wood.

Defensible Fuel Profile Zone: This term is used by federal and state land management agencies to describe a larger shaded fuelbreak normally a quarter-mile in width. The object of creating such a large break is to reduce the fuel ladder (both horizontal and vertical) and to add space between the treetop canopy in order to

keep the fire out of the canopy and on the ground.

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

Defensible Space Zone: The 100-foot zone around the home or other structure.

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 Factors: Various aspects that influence changes to the environment, both human-caused and natural occurrences, such as agriculture, logging, and other development, and fire, wind, floods, and earthquakes.

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

Diurnal: Belonging to or active during the day (opposite of nocturnal).

Doghair: An excessively dense stand of trees. An example is an acre with 35,000 trees, all smaller than 7 inches DBH.

Dominant: The species or individual 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, or the shrub species most abundant in the local understory.

Downed Woody Debris: The remains of dead trees, branches, and various woody brush that sit on the ground; generally refers to trunks of downed 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. *This practice is not recommended in this CWPP.*

Duff: A layer on top of the soil made up of mostly fine (small) decomposing organic matter such as leaves, needles, and small branches.

Early-Seral Species: Species that start growing in natural succession soon after a disturbance (fire or logging). These can include shrubs (such as ceanothus) and hardwoods, usually in tree form.

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.

Ecosystem Functions: The processes and interactions that occur between organisms and the physical environment.

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

Edaphic: A general term referring to characteristics of the soil, often used to describe plant communities that are found only on specific soil conditions.

Ember Attack: Sparks and small flaming bits blown by the wind during a firestorm. These can accumulate at intersections between horizontal and vertical members on the outside of a 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 the home.

Ember Interceptors: An ignition-resistant object or plant, such as coast live oak, that interrupts the flight of embers during a firestorm, often slowing their descent long enough for them to burn out before reaching

surface fuels below. In some wildfires this process appears to have resulted in reduced frequency of ignitions of urban fuels (homes) beneath ember interceptors (mature oaks that had been cleared of dead wood).

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 or animal that is native to a certain limited area and found nowhere else.

Endangered Species: A population of organisms classified as such by the state or federal government as being at risk of becoming extinct because it is few in number and/or threatened by changing environmental or predation parameters.

Engine Strike Team: A specified number and type of fire engine assembled for a tactical assignment on an emergency.

Environmental Compliance: To meet the environmental regulations, laws, standards, and requirements enacted.

Environmentally Sensitive Habitat Area (ESHA): An area protected from human activities or development due to the existence of rare or especially valuable and/or vulnerable plants, animals, and habitats.

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

Epicormic Branching: Branches of a plant that shoot sporadically from the main stem rather than from the top. May be caused by disturbance.

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 for getting out of harm's way in a fire situation. The route should be well understood in advance of crisis 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 at which fires tend to stop burning.

Extirpated: A species is considered extirpated when it no longer exists in the wild in a certain area.

Exurban: A region lying beyond the suburbs of a city.

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

Feather or Feathering: A process that reduces the appearance of change between treated and untreated sites by gradually softening the transition (gradually doing less and less manual work on an area as one moves away from the primary treatment site).

Federal Responsibility Area (FRA): An area where fire protection responsibility and liability is federal.

Firebrand: 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 stream could also serve as a firebreak. *See Fuelbreak for the difference between the two.*

Fireline Intensity: The heat energy released by the fire at the forefront of the fire.

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. Opportunistic species benefit from fire and the openings it can create in a woodland; this is part of their adaptation.

Fire-Adapted Vegetation: Vegetation that has adapted to fire as a disturbance factor and can generally survive wildfire. In the case of chaparral vegetation, survival depends on fires occurring only every 25 years or more, and it is not adapted to more frequent fire.

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

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

Fire-Dependent: Plant communities and specific habitat types that have evolved to rely on fire in order to exist and/or thrive.

Fire-Dependent Vegetation: Vegetation that depends on some fire for its long-term survival.

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

Fire Flow: The flow rate of a water supply, measured at 20 pounds per square inch (PSI) (137.9kPa) residual pressure, that is available for fire fighting. When water supply tanks are approved for use, the flow rate of a water supply may be at draft.

Fire Followers: Plants that flourish after a fire; seeds from long-lived seedbanks typically germinate abundantly in ashy soils.

Fire-Free Zone: A 5-foot minimum zone around the home that is free of all fuels.

Fire Hazard: The amount, condition, 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 ecosystem's 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 Protection (a.k.a. Fire Suppression): Fire-fighting tactics used to suppress wildfires. Fire-fighting efforts in wildland areas require different techniques, equipment, and training from the more familiar structure fire-fighting found in populated areas.

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: A material, substance, or structure that is difficult to ignite by fire and burn.

Fire-Resistant Building Materials: Construction materials that are resistant to ignition when exposed to radiant heat or flames. Examples include clay tile roofs, metal roofing, 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 leads 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. www.firesafecouncil.org.

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

Fire Safe or Fire Safety: The act of preparing something—a home, neighborhood, or community—to survive a wildfire; the ability of an object to survive fire.

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 Severity: A qualitative indicator of the effects of fire on an ecosystem. Fire severity reflects the amount of heat released by a fire, and therefore it is also dependent on fuels and fire behavior.

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 fuel-reduction treatment.

Flame Length: The span of the flame from the tip to the base, irrespective of tilt.

Flammable: A quality 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 ridgetop.

Flashy: An adjective that when applied to fuel means that it ignites readily and is consumed rapidly when dry.

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

Foëhn 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 silvicultural thinning practices and other forest restoration activities (such as controlled burning) that 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. Used as a noun, can also refer to one of the patches.

Fragmentation: The transformation of contiguous stretches of forest or vegetation into one or more patches of smaller size, which can occur by natural means such as fire, disease, etc.; by management practices such as timber harvesting; or changing land uses such as development.

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 length and intensity; as distinguished from a *firebreak,* 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 ground.

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 toward the crowns of trees or horizontally into other fuels.

Fuel Ladder: A ladder of vegetation from the ground into the canopy (or upper branches) of the trees that allows fire to climb upward.

Fuel Levels: Amount of all burnable materials including but not limited to living or dead vegetation, structures, and chemicals that feed a fire.

Fuel-Load Conditions: The amount of combustible material (both dead and live fuels). It relates to a site's *fuel model (see definition below and in 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 among vegetation (such as tall and short chaparral, or timber with and without an understory), as well as describe the arrangement and amount of 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 Management: The management of fuels for fire safety or ecosystem health. Examples include prescribed burns and creation of firebreaks.

Fuel Modification: In Los Angeles County, the establishment of a plan to be approved by the fire department that helps protect homes and neighborhoods by requiring vegetation planted in zones around structures to be selected from an approved list and identifies areas that require fuel reduction or other modifications.

Fuel Moisture: The amount of water in vegetation, typically expressed as a percentage, and having a large effect on the rate of spread of fires.

Fuel Reduction/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)* and Best Management Practices *(see Chapter 5)* when designing these activities.

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

Geomorphology: The study of the evolution and configuration of landforms.

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 program for storing and manipulating geographical information on a computer; very useful for landscape-level planning efforts.

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 direct contact with a flame when embers drop from above.

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

Habitat: An ecological or environmental area that is inhabited by a particular species of animal(s), plant(s), or other type of organisms.

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

Hammerhead Turnout: A "T"-shaped roadway that allows large emergency vehicles to turn around. This space allows for a three-point turn and should be as wide as surrounding roads.

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

Hardening/Harden Homes: This term refers to improving a building's resistance to fire, such as updating a roof with noncombustible roofing material; the goal is to make the structure survivable in fire.

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

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 that a fire releases 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 a 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 winter.

Herbaceous Understory Vegetation: The layer of vegetation under the tree canopy that is composed of non-woody plants that die back in 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 10 to 15 feet up from the base of the tree. This is done on larger trees to separate the fuel connectivity from the ground to the crown of a tree.

Historic Natural Condition: The climax environmental 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 Zone: The home and the area out to approximately 100 feet, where local conditions affect the potential ignitability of a home during a wildfire.

Home-to-Home Ignitions: The event of combustion initiation that creates fire as embers pass from one home to another. The action of one home igniting adjacent homes.

Hydrology: The science that describes 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.

Ignitions: The event of combustion initiation that creates fire.

Ignition Specialist: A trained professional whose expertise is 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 Zone: The place where combustion is initiated.

Ingress-Egress: Roads and other avenues to enter and leave a property. Also refers to the act or right to come in or go through, as in entering a property (ingress), and 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.

Knox-Box: A small safe typically mounted on a wall or post that holds the keys to a building or gate for firefighter or EMT use in emergency situations.

Ladder Fuel Continuity: The presence of connected or adjacent fuel materials in a fire's path that allow the fire on the ground to extend in a vertical direction toward the crowns of trees.

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

Landscape: The visible features of an area of land, including topography, water bodies, vegetation, human elements such as land uses and structures, and transitory elements such as lighting and weather conditions.

Landing: In logging or fuel-reduction work, a place where logs and branches are taken in order to be processed by a chipper.

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.

Leap-frog development: This occurs when development skips over available land and instead focuses on larger or more desirable and often isolated areas.

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.

Lignotubers: A starchy enlarged root of a woody plant that stores water and nutrients as a survival mechanism during fire events.

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 or shrub.

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

Local Responsibility Areas (LRA): An area where fire protection is provided by local sources such as city fire departments, fire protection districts, and counties. Legal responsibility is at a local level, not at the state or federal level.

Lollipop: A woody plant that has had the lower branches removed from the main stem, making it look similar when finished to candy on a stick.

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: Areas of 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 treeline and is predominantly 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 reduce fuel connectivity and increase the potential variety of habitat types.

Mosaic Thinning Regime: 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 and/or to enrich and insulate the soil; as a verb, the application of such material. In the Santa Monica Mountains, only native vegetation should be used as mulch.

Mutual Aid: An agreement among emergency responders to lend assistance across jurisdictional boundaries. This may occur due to an emergency response that exceeds local resources, such as a disaster or a multiple-alarm fire.

Mycorrhizal: The mutually beneficial relationship between plant roots and fungi "roots," a.k.a. 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: Disruptions, 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.

Niche: 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 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 that 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, the objective of the latter being to form an obstruction to future fires. *This practice is not recommended in this CWPP.*

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: Plants that live from year to year. In reference to water, a stream that flows 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: By utilizing a specific, identifiable point on a property from where photos are taken over time, it's possible to use the same view to compare and monitor changes.

Phos-Chek: A fire retardant (long-term) foam or gel applied to homes and vegetation ahead of wildfires. May come in the form of powder or concentrated liquid that needs water added to it.

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

Pistol Butts: Trees 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 4 and 8 inches.

Pre-Fire Plan: A plan to address fire issues before ignition, including fire prevention actions such as hazardous fuel reduction. Occasionally these plans may extend into the suppression phase of fire protection and detail such items as evacuation routes, fuelbreaks, and fire-fighting strategies.

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 management practice that uses fire to improve habitat or reduce hazardous fuels. A plan for the prescribed burn must be written out and approved by the local fire department, or CAL FIRE, depending on the location, and specific requirements must be met before commencing burning. *This practice is not recommended in this CWPP.*

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.

Pruning: The act of cutting back the unwanted portions of a plant, or cutting for the purpose of enhancing growth.

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/.

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.

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 or ecosystem 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). In a forest, the range of size of the skips and gaps is from a few hundred square feet to up to an acre where site conditions dictate. In shrub systems the area is much smaller.

Residence Time: How long the flaming front of a fire 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.

Risk Assessment: The process of identifying and evaluating assets at risk.

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 of fire suppression 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 excessive 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, or habitat. These species raise concerns about population numbers and may be recognized locally as rare, or listed as Threatened or Endangered by the state or federal Endangered Species Act.

Sequential Entries: Working in a given area 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.

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 vegetative clearing—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.

Soil Crust: A hard crust forming on exposed soils, usually found in semiarid and arid environments.

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 or shrubs with similar species composition, age, and condition that makes the group distinguishable from other trees in the area.

Stand-Replacing Fires: A fire that kills the majority of the dominant aboveground vegetation in an ecosystem and encourages the start of regrowth.

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

State Responsibility Area (SRA): An area that has fire protection provided at the state level. Incorporated cities and federal land do not fall in this area. Legal responsibility is at a state level.

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.

Stroke Size: In this case, the minimum required inch width (3/8) of the brush used for letters, numbers, and symbols for street and road signs.

Structural Ignitability: The ease with which a home or other structure ignites.

Structural Protection Zone: Immediate 30-foot 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.

Subsidence: Settling of the Earth's surface downward, creating a sinking motion.

Surface Fire: A fire at the ground level 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 6 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 effects of weather for animals. For example, deer may move into riparian areas with 70% canopy to avoid very hot weather.

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

Thinning: The act of removing a percentage of vegetation to encourage an open space and healthy growth for the remaining vegetation.

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."

Threatened Species: Any species including animals, plants, fungi, etc., that is vulnerable to extinction in the near future, and is so classified by the state or federal government.

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; a.k.a. 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.

Type Conversion: The unintended replacement of native plant communities due to various disturbances such as more frequent and unnatural fires. Typically replacement is by invasive or non-native plants.

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 plant layer 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.

Urban Fuels: Any flammable materials within a landscape as a result of urban development. Examples include urban structures, landscaping, and urban debris such as wood piles, trash dumps along roadsides, and die-back from weedy invaders.

Variable-Density Thinning: Thinning or selectively cutting trees or shrubs in a manner to restore repeating variability or redundancy in an ecosystem. 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 similarly applied in a typical variable-density prescription. This practice is also known as "free thinning."

Vascular: Plants that have lignified tissues for conducting water, minerals, and photosynthetic products through the plant.

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).

Viewscape: The line-of-sight from one location to another in its entirety or a portion of it.

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. Using this tool is called "weed-eating," "weed-whacking," or "weed-whipping."

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.

Wildfire/Fire Risk: The combination of vegetation, topography, weather, ignition sources, and fire history that leads to the probability that something will ignite and/or burn.

Wildland-Urban Interface (WUI): The area where wildlands and communities converge, often assumed to be at high risk of wildfire, which can be due to increased sources of human-caused ignitions.

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.

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

Windthrow: Trees that are uprooted by wind events. 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 or landing with a cable and tractor.