

# Glossary

**Aboveground Carbon Stocks:** Carbon stocks refer to a distinct pool or reservoir capable of accumulating and releasing carbon. Aboveground carbon stocks are the amount of carbon stored in the living biomass of forest trees and plants, and dead wood and litter.

**Acquisition:** Parcels of land changing ownership through title transfer.

**Afforestation:** The establishment of a forest in an area where preceding vegetation or land was not forest.

**Age Class:** An interval into which a tree is classified based on its age, often in ten-year increments.

**Air Pollution:** The introduction of chemicals, particulate matter, or biological materials that cause harm or discomfort to humans or other living organisms, or damage the natural environment, into the atmosphere.

**Animal Unit Month (AUM):** The amount of forage needed to sustain one cow and her calf, one horse, or five sheep or goats for a month (U.S. Forest Service/BLM definition).

**Belowground Carbon Stocks:** This includes living and dead roots, soil mesofauna, and the microbial community. In addition to this is the larger pool of soil organic carbon (see Soil Organic Carbon, SOC).

**Biological Diversity:** The variety of life over some spatial unit, used to describe all aspects of the broadly diverse forms into which organisms have evolved especially including species richness, ecosystem complexity and genetic variation.

**Biomass Energy:** Renewable organic materials including wood, agricultural crops or wastes, and municipal wastes, that can be used as a source of fuel or energy.

**Bioregion:** An area that includes a rational ecological community with characteristic physical (climate, geology), biological (vegetation, animal), and environmental conditions.

**Bioswales:** Landscape elements designed to remove pollution from surface run-off water. Commonly placed in parking lots where substantial automotive pollution is collected by the paving and then flushed by rain.

**California Stream Condition Index:** Translates data about individual benthic macro invertebrates (BMI) found living in a stream into an overall measure of stream health. The indicator evaluates the environmental health of a stream against reference sites.

**California Wildlife Habitat Relationship System (CWHR):** A classification system for California's wildlife, containing life history, management, and habitat relationships information on 675 species of amphibians, reptiles, birds, and mammals known to occur in the state. The classification system is identified by vegetation attributes that define wildlife habitat types and are used as predictors for where wildlife can be found.

**Carbon Dioxide:** A colorless, odorless, non-combustible gas, present in low concentrations in the atmosphere (about three hundredths of one percent by volume). Carbon dioxide is produced when any substance containing carbon is burned. It is also a product of breathing and fermentation. Plants absorb carbon dioxide through photosynthesis.

**Carbon Sequestration:** The process of capturing and storing atmospheric carbon dioxide that would otherwise be emitted into the atmosphere. Through photosynthesis, forests (trees, shrubs, grass, and other plants) store carbon as biomass (i.e. trunks, branches, foliage, roots) and soils, thereby preventing it from collecting in the atmosphere as carbon dioxide.

**Carbon Sink:** A carbon pool that has more carbon flowing into it than flowing out. Forests are good sinks because they are the most efficient means of taking carbon out of the atmosphere and storing it for long periods of time.

**Carbon Storage:** The process of storing carbon in leaves, woody tissue, roots, and soil nutrients.

**Climate Change:** Any long-term significant change in the “average weather” that a given region experiences. Average weather may include average temperature, precipitation and wind patterns.

**Climatic Water Deficit:** The amount of water by which potential evapotranspiration (PET) exceeds actual evapotranspiration (AET). This term effectively integrates the combined effects of solar radiation, evapotranspiration, and air temperature on watershed conditions given available soil moisture derived from precipitation.

**CNRM CM5:** Under this warmer and wetter climate scenario, by the end of this century mean annual minimum temperatures increase by 3.26°C and total annual precipitation increases 35% (+ 5.8 inches) under the RCP8.5 emissions scenario.

**Compliance Carbon Offset Project:** Projects that have been verified by ARB as meeting the requirements of California’s Cap-and-Trade Regulation, and have been issued ARB offset credits.

**Community Wildfire Protection Plan (CWPP):** Authorized and defined in Title I of the Healthy Forests Restoration Act of 2003, the CWPP must be collaboratively developed (with agreement among local government, local fire departments and the state agency responsible for forest management), identify and prioritize areas for hazardous fuel reduction treatments, and recommend measures that homeowners and communities can take to reduce the ignitability of structures.

**Condition Class:** A measurement of the degree to which a vegetation community has departed from its historical fire regime resulting in alterations of key ecosystem components such as species composition, structural stage, stand age, and canopy closure.

**Conifer Forest:** A forest that consists of mostly evergreen, cone-bearing trees, generally located in higher elevation mountainous areas. California Wildlife Habitat Relationships (CWHHR) types include Douglas fir, red fir, lodgepole pine, Sierran and Klamath mixed conifer and redwood.

**Conifer Woodland:** A woodland of low density, small, brushy conifer-dominated tree species. California Wildlife Habitat Relationships (CWHHR) types include pinyon-juniper and juniper.

**Conifer:** Trees belonging to the order Gymnospermae, comprising a wide range of trees that are mostly evergreens. Conifers bear cones and have needle-shaped or scale-like leaves. In the wood products industry, the term “softwoods” refers to conifers.

**Conservation Easement:** A restriction deeded to a qualified third party that permanently limits certain activities on real property to protect conservation values such as biodiversity, water quality, wildlife habitat, or carbon sequestration. The restriction stays with the property through successive owners, and reduces the “highest and best” economic use of the property so that the property’s value reflects only the allowed uses.

**Contract County:** In most cases State Responsibility Areas (SRA) is protected directly by CAL FIRE, however, in Kern, Los Angeles, Marin, Orange, Santa Barbara and Ventura counties, SRA fire protection is provided by the counties under contract with CAL FIRE.

**Corridors:** Any space that improves the ability of a species to move among patches of their habitat.

**Defensible Space:** CAL FIRE defines defensible space as a property’s front line defense against wildfire. Creating and maintaining defensible space around a home can dramatically increase the home’s chance of surviving a wildfire and improves the safety of firefighters defending the property. One hundred feet of defensible space is required by law.

**Desert Shrub:** Shrubland that is dominated by desert shrub and chaparral types. California Wildlife Habitat Relationships (CWHR) types include desert scrub, alkali desert scrub, desert succulent shrub and desert wash.

**Developed Land:** A Natural Resource Inventory definition comprising large urban and small built-up areas, as well as roads and railroads not included in urban/built-up areas.

**Development:** A human settlement pattern measured by housing density. Includes “conversion”, where natural landscapes are assumed to lose virtually all their ecological processes, and “parcelization”, where ecosystem processes are impacted but not completely lost. It is assumed that conversion occurs at an average housing density of five housing units per acre, and parcelization at 20 per acre.

**Direct Protection Area (DPA):** DPA refers to the lands that are assigned wildland fire protection by each State, Federal, and Local agency. The Cooperative Fire Management Agreement (CFMA) between the federal agencies and CAL FIRE is the primary mechanism that provides the framework for wildland fire protection responsibilities statewide. This framework allows agencies to negotiate exchanges of areas where they have legal protection responsibility, in order to consolidate DPA protection into more efficient blocks of contiguous lands.

**Disturbance Regime:** The characteristic pattern of natural- or human-caused events that disrupt the current physical and biological conditions of an area, such as floods, fires, storms, pest outbreaks, and human activity that shape vegetative composition and seral stage.

**Drought:** A protracted deficiency of precipitation over an extended period of time, usually a season or more. This deficiency results in a water shortage for some activity, group, or environmental sector. Drought occurs in most climatic zones, but its characteristics can vary from one region to another.

**Early Action Carbon Offset Project:** Projects that are being issued voluntary offsets must be listed with ARB to become early action projects. Early action projects may be issued ARB offset credits if specific requirements in the Cap-and-Trade Regulation are met.

**Easement:** A right to make limited use of another's real property, such as a right of way. Legal title to the underlying land is retained by the original owner for all other purposes. Easements are a tool for protecting lands against threats such as development, without the costs of acquiring and managing the land.

**Ecological Integrity:** The degree to which the components (types of species, soil etc.), structure (arrangement of components), and processes (flows of energy and nutrients) of an ecosystem, or natural community are present and functioning intact. Lands with high ecological integrity generally have not been subjected to significant human influences or disruption of natural processes, such as fire, floods, and nutrient and hydrological cycling.

**Ecological Restoration:** The process of assisting the recovery of resilience and adaptive capacity of ecosystems that have been degraded, damaged, or destroyed (U.S. Forest Service).

**Ecosystem Function:** The operational role of ecosystem components, structure, and processes.

**Ecosystem Health:** The degree to which a biological community and its nonliving environmental surroundings function within a normal range of variability; the capacity to maintain ecosystems structures, functions and capabilities to provide for human need.

**Ecosystem Processes:** The flow or cycling of energy, materials, and nutrients through space and time.

**Ecosystem Services:** The beneficial outcomes, for the natural environment, or for people, that result from ecosystem functions. Some examples of ecosystem services are support of the food chain, harvesting of animals or plants, clean water, or scenic views.

**Ecosystem Structure:** Spatial distribution or pattern of ecosystem components.

**Ecosystem:** The interacting system of a biological community and its nonliving environmental surroundings.

**Emission Scenario:** Based on the Representative Concentration Pathways (RCPs) used by the 5<sup>th</sup> IPCC (2014) Assessment Reports to model a range of future greenhouse gas emission scenarios through 2100, for projecting the effects of climate change. The RCP8.5 emissions scenario was selected for Assessment climate analysis since it appears to best match the current global trajectory of emissions, which of course could be altered through future actions.

**Endemic:** Found only in a specified geographic region.

**Exotic Invasive Species:** Plants, animals, and microbes not native to a region which, when introduced either accidentally or intentionally, out-compete native species for available resources, reproduce prolifically, and dominate regions and ecosystems.

**Fire Adapted Community:** A community of informed and prepared citizens collaboratively planning and acting to safely coexist with wildland fire. In these communities, the actions of residents and agencies in relation

to infrastructure, buildings, landscaping and the surrounding ecosystem lessen the need for extensive protection actions and enable the communities to safely accept fire as part of the surrounding landscape (National Wildfire Coordinating Group).

**Fire Frequency:** A broad measure of the rate of fire occurrence in a particular area. For historical analyses, fire frequency is often expressed using the fire return interval calculation. For modern-era analysis, where data on timing and size of fires are recorded, fire frequency is often best expressed using fire rotation.

**Fire Hazard Severity Zone (FHSZ):** A mapped area that designates zones (based on factors such as fuel, slope, and fire weather) with varying degrees of fire hazard (i.e., moderate, high, and very high). While FHSZ zones do not predict when or where a wildfire will occur, they do identify areas where wildfire hazards could be more severe and therefore are of greater concern.

**Fire Prevention:** This includes various precautions that are taken to prevent or reduce the likelihood of a fire. Specific fire prevention tools include education, law enforcement, inspections, etc.

**Fire Regime:** A measure of the general pattern of fire frequency and severity typical to a particular area or type of landscape: The regime can include other metrics of the fire, including seasonality and typical fire size, as well as a measure of the pattern of variability in characteristics.

**Fire Rotation:** An area-based average estimate of fire frequency, calculated as the length of time necessary for an area equal to the total area of interest to burn. Fire rotation is often applied to regionally stratified land groupings where individual fire-return intervals across the variability of the strata (i.e., the fine scale pattern of variation in timing of fires) is unknown, but detailed information on fire size is known. Hence, fire rotation is a common estimate of fire frequency during periods of recorded fire sizes.

**Fire Suppression:** The act of extinguishing destructive fires. In areas that burn too frequently, fire suppression infrastructure (engines, personnel, etc.) may be augmented to increase the effectiveness of extinguishing ignitions before they can spread.

**Fire Threat:** An index of expected fire frequency and physical ability to cause impacts. Components include surface fuels, topography, fire history, and weather conditions.

**Forage:** Browse and herbage that is available and acceptable to grazing animals.

**Forb:** A broad-leafed herb other than a grass, especially one growing in a field, prairie, or meadow.

**Forest Health:** The capacity of a forest for renewal, for recovery from a wide range of disturbances, and for retention of ecological function, while meeting the current and future needs of people for desired levels of values, uses, products, and services.

**Forest Inventory and Analysis (FIA) Program:** U.S. Forest Service program that conducts a plot-based survey and statistical analysis of all forest lands.

**Forest Management:** The processes of planning and implementing practices for the stewardship and use of forests and other woodlands aimed at achieving specific environmental, economic, social and /or cultural objectives.

**Forest Management (Climate Change):** In the context of climate change, forest management refers to management actions that are taken to either reduce the potential loss of carbon from wildfire and associated emissions, or actions that are taken to increase carbon sequestration. This can cover a broad range of actions that includes: forest thinning, fuel reduction, reforestation and afforestation.

**Forest Meadows:** Wet and dry grassland vegetation in montane areas. Impacts to meadow systems from forest encroachment, grazing, and other land management practices can degrade montane meadows.

**Forest Pests:** Organisms (insects and diseases) capable of causing injury or damage to forests (particularly trees).

**Forest Structure:** The horizontal and vertical distribution of components of a forest stand including height, diameter, crown layers, and stems of trees, shrubs, herbaceous understory, and down woody debris (Dictionary of Forestry).

**Forest/Forests:** A biological community of plants and animals that is dominated by trees and other woody plants; by definition in the Assessment, all lands with greater than 10 percent tree canopy cover and including all CWHR types in the Conifer Forest, Conifer Woodland, Hardwood Forest and Hardwood Woodland land cover classes.

**Forests and Rangelands:** All CWHR types in the Conifer Forest, Conifer Woodland, Hardwood Forest, Hardwood Woodland, Shrub, Grassland, Desert Shrub, and Desert Woodland land cover classes plus the Wetland CWHR type Wet Meadow; excludes Urban, Agriculture, Barren, and Water.

**Forest Industry:** An ownership class of private lands owned by a company or individual(s) operating a primary wood-processing plant (USFS-FIA definition).

**Fragmentation:** The process by which a contiguous land cover, vegetative community, or habitat is broken into smaller patches within a mosaic of other forms of land use/land cover, e.g., islands of an older forest age class immersed within areas of younger aged forest (Dictionary of Forestry), or patches of oak woodlands surrounded by housing development.

**Fuels Reduction Projects:** The harvest of live and dead vegetation to reduce potential fire threat, and often resulting in improved timber growth and/or forage production. Some projects create revenue through the sale of wood products or biomass for energy.

**Geographic Information System (GIS):** A computer-based system used to store and manipulate geographical (spatial) information.

**Geothermal:** Natural heat from within the earth, captured for production of electric power, space heating, or industrial steam.

**Global Climate Models:** Computer-driven models for weather forecasting, understanding climate, and projecting climate change.

**Grassland:** Land on which the vegetation is dominated by grasses, grasslike plants, or forbs (The Dictionary of Forestry). California Wildlife Habitat Relationships (CWHR) types include annual and perennial grasslands.

**Grazing Allotment:** An area of land where one or more lessees or permittees graze their livestock. The number of livestock and period of use are stipulated for each allotment (BLM definition).

**Greenhouse Gases:** Any of the atmospheric gases, including carbon dioxide (CO<sub>2</sub>), that contribute to the greenhouse effect by absorbing infrared radiation produced by solar warming of the Earth's surface.

**Gross State Product:** Gross economic output (sales, receipts and other operating income, commodity taxes, and inventory changes) minus intermediate inputs (consumption of goods and services purchased from other U.S. industries or other nations).

**Groundwater Basins:** A groundwater basin is defined as an area underlain by permeable materials capable of furnishing a significant supply of groundwater to wells or storing a significant amount of water. Groundwater basins in California have been delineated by the Department of Water Resources (Bulletin 118).

**Habitat:** The living place of an organism, natural or otherwise, characterized by its physical or biological properties; a specific classification of vegetation in the California Wildlife Habitat Relationships System.

**Hardwood Forest:** A forest that is made up of 50% or more hardwoods, and is usually located in the mountainous elevations above the Hardwood Woodlands and are often associated with Conifer Forest tree species. California Wildlife Habitat Relationships (CWHR) types include montane riparian and montane hardwood.

**Hardwood Woodland:** A land cover class with greater than 10% total tree cover and of which 50% or more are hardwoods (70% or more for mixed hardwood-conifer stands, except the CWHR type Blue Oak-Foothill Pine, which for the Assessment is considered Hardwood Woodland); different from Hardwood Forest in species composition and in that trees are widely spaced, of shorter stature and often found in lower elevations in the transition between Grassland/Shrub and Conifer Forest. In the foothills of the Sierra Nevada and the eastside of the northern coast ranges, tree species typically include blue oak (*Quercus douglasii*) and interior live oak (*Quercus wislizenii*). In the mid to southern coast range, species include coast live oak (*Quercus agrifolia*) and California bay (*Umbrellula californica*) and further south, Englemann oak (*Quercus englemannii*). Typical understory is composed of extensive annual grass vegetation.

**Hardwoods:** Dicotyledonous trees; generally deciduous, broad-leafed species such as oak, alder, or maple.

**Herbaceous:** See grassland definition.

**Hydroelectric:** Of or relating to production of electricity from falling water that turns a turbine generator, referred to also as "hydro."

**Impaired Water Bodies (303d):** Section 303(d) of the federal Clean Water Act, requires states to identify waters that do not meet water quality standards (called "impaired water bodies") after the technology-based effluent limits or other required pollution control mechanisms are put into place. States are then required to prioritize waters/watersheds for total maximum daily loads (TMDL) development.

**Interface:** Development can be classified into two Wildland Urban Interface (WUI) classes (interface and intermix), each presenting unique fire protection problems and opportunities for risk mitigation. Interface represents dense urban development adjacent to wildland. The definable boundary between houses and wildland provides a line of defense, and focuses mitigation efforts along this boundary.

**Intermix:** Development can be classified into two Wildland Urban Interface (WUI) classes (interface and intermix), each presenting unique fire protection problems and opportunities for risk mitigation. Intermix represents sparse development interspersed within a landscape that maintains much of the wildland characteristics. Intermix areas often require fire agencies to devote resources to protect individual houses. Mitigation includes actions such as prevention efforts, fire resistant building materials, and defensible space clearance around structures.

**Invasive Species:** A species of plant or animal that can proliferate and alter native biological communities and ecosystem function.

**Land Cover:** Predominant vegetation life forms, natural features, or land uses of an area.

**Land Trust:** A private, nonprofit organization formed to protect natural resources such as wildlife habitat, prime farmland, and recreational lands. It accomplishes this through a variety of means, including outright purchase, securing donations, and receiving conservation easements.

**Litter:** The uppermost layer of the forest floor consisting chiefly of fallen leaves and other decaying organic matter.

**Livestock:** Domestic animals, such as cattle or horses, raised for home use or for profit, especially on a farm.

**Management Landscape:** FRAP has developed the Management Landscape applied to productive forestlands (including timberland plus productive forest withdrawn from timber production) to characterize how unique owner objectives translate into timber management emphasis. Management emphasis relates not only to harvest volume, but also to the silvicultural systems and practices used to grow and harvest timber and the level of associated ecosystem services provided.

**Meadow Restoration:** Montane meadows consist of wet and dry grassland vegetation. Impacts to meadow systems from forest encroachment, grazing, and other land management practices can degrade montane meadows. The restoration of these meadow systems can enhance water quality, water quantity, and improve wildlife habitat.

**Megafire:** A wildfire that burns at least 100,000 acres and poses a great risk to human lives and resources.

**Megawatt:** One thousand kilowatts; one megawatt is approximately the amount of power required to meet the peak demand of a large hotel.

**MIROC ESM:** Under this hotter and drier climate scenario, by the end of this century mean annual minimum temperatures increase by 3.95°C and total annual precipitation decreases by 26% (- 6.9 inches) under the RCP8.5 scenario.

**Mitigation Banking:** The restoration, creation, enhancement, or preservation of a habitat conservation area which offsets expected adverse impacts to similar nearby ecosystems. In the United States, the federal government as well

as many state and local governments, require mitigation for the disturbance or destruction of wetland, stream, or endangered wildlife habitat. Once approved by regulatory agencies the mitigation bank may sell credits to developers whose projects will impact these various ecosystems.

**National Forest:** Federal lands that have been designated by Executive Order or statute as national forest or purchased units and other lands under the administration of the U.S. Forest Service (U.S. Department of Agriculture).

**Native Species:** A species of plant or animal present prior to European settlement.

**Natural Community Conservation Plan (NCCP):** A cooperative effort to protect habitats and species, between private landowners, the California Department of Fish and Wildlife (CDFW) and other interested parties. The primary objective of NCCPs is to conserve natural communities at the ecosystem scale while accommodating compatible land use. CDFW seeks to anticipate and prevent the controversies and grid-lock caused by species' listings by focusing on the long-term stability of wildlife and plant communities and including key interests in the process.

**Niche Product:** A good or service with features that appeal to a particular market subgroup. A typical niche product will be easily distinguished from other products, and it will also be produced and sold for specialized uses within its corresponding niche market (Business Dictionary definition).

**Nonindustrial Forestland:** Forestlands owned by private individuals, groups or corporations that do not also own a wood processing facility (USFS-FIA definition).

**Nonindustrial Timber Management Plan (NTMP):** Owners of up to 2500 acres of timberland can streamline the Timber Harvesting Plan process by preparing a NTMP. NTMPs have a core requirement for an assessment of long-term sustained yield based on an uneven-aged silvicultural prescription. Plans also must include provisions for protecting environmental and ecological values.

**Non-Point:** Pollution whose source cannot be ascertained, including runoff from storm water and agricultural, range, and forestry operations, as well as dust and air pollution that contaminate waterbodies.

**Nutrient Cycling:** The exchange or transformation of elements (nutrients) among the living and nonliving components of an ecosystem.

**Old Growth Forest:** A stand or stands of natural forest trees that have developed over a long period of time with trees that are at least 150 years old, without experiencing severe stand replacing disturbance, and have developed a complex structure characterized by large, live and dead trees, down woody debris, multiple canopies and multi-aged trees, and a distinctive habitat with a diverse group of plants, fungi and animals.

**Open Space:** Land free from intensive residential or commercial uses.

**Option A:** The California Forest Practice Rules (14 CCR 913.11) require that a forest landowner with more than 50,000 acres must demonstrate Maximum Sustained Production of High Quality Timber Products (MSP), via a Sustained Yield Plan (SYP), a Programmatic Timber Environmental Impact Report (PTEIR), or an Option A document. An Option A document defines how a landowner will manage for sustained yield, consideration of non-timber values, maintaining stand vigor, and ensuring adequate regeneration.

**Ozone (O<sub>3</sub>):** An unstable, poisonous allotrope of oxygen that is formed naturally from atmospheric oxygen by electric discharge or exposure to ultraviolet radiation. It is also produced in the lower atmosphere by the photochemical reaction of certain pollutants.

**Parcelization:** The process of land ownership being broken into increasingly smaller tracts; by definition in the Assessment, housing density of one or more units per 20 acres and less than one unit per acre.

**Perennial:** 1) A plant which lives or continues over two years, whether it retains its leaves in winter or not; 2) A stream or water body that persists year-round in normal weather years.

**Pest:** As used in this Assessment, pests includes both insects and diseases that affect vegetation in California.

**Population:** The number of individuals of a particular taxon in a defined area.

**Post-Fire Erosion:** The accelerated soil loss that can occur after a large fire event. The rate of loss is a function of factors such as slope, soil type, geology, burn severity, vegetation, and rainfall.

**Prescribed Fire:** A deliberate burn of wildland fuels in either their natural or modified setting and under specific environmental conditions which allow the fire to be confined to a predetermined area and intensity to attain a planned resource management objective (Dictionary of Forestry).

**Public Water Supply:** Water supplied to a group through a public or private water system. This can include residential, commercial, and industrial uses.

**Rangelands:** Any expanse of land not fertilized, cultivated or irrigated that is suitable, and predominately used for grazing by domestic livestock and wildlife. These include the Conifer Woodland, Hardwood Woodland, Shrub, Grassland, Desert Woodland and Desert Shrub classes as well as some habitats within the Wetland and Hardwood Forest classes.

**Reforestation:** The natural or intentional restocking of existing forests and woodlands that have been depleted, usually through deforestation.

**Renewable Energy:** A power source other than a conventional power source within the meaning of Section 2805 of the Public Utilities Code, provided that a power source utilizing more than 25% fossil fuel may not be included.

**Reserve:** This includes forestland withdrawn from timber utilization through statute or administrative designation (Forest Service definition). It also includes rangelands with permanent legal protection, and typically dedicated for a specific public purpose or program.

**Riparian Area:** Transition zone between a stream's edge and the drier uplands.

**Riparian Vegetation:** Vegetation found on the interface between land and a stream or waterbody. Plant communities that develop along the banks of streams are referred to as riparian vegetation and are characterized, but not exclusively defined, by hydrophytic (water adapted) plants. California Wildlife Habitat Relationships (CWHHR) types include Montane Riparian, Valley Riparian, and Desert Riparian.

**Riparian:** Relating to or located on the banks of a river or stream.

**Salmonids:** Any of the family Salmonidae, some of which are freshwater species, such as golden trout (*Salmo aquabonita*) and Lahontan cutthroat trout (*Salmo clarki henshawi*), and some of which are anadromous (spending part of their life cycle at sea and returning to freshwater to reproduce), such as coho (*Oncorhynchus kisutch*) and chinook (*Oncorhynchus tshawytscha* Walbaum).

**Seed Tree:** A silvicultural method in which all trees are removed except for a small number of seed bearers left singly or in small groups, maybe 10 per acre. The seed trees are generally harvested after regeneration is established. An even-aged stand results.

**Seral Stage:** A temporal and intermediate stage in the process of succession.

**Shelterwood:** A silvicultural method to establish seedling regeneration via a series of partial harvests, followed by the almost complete removal of overstory trees in a removal harvest once adequate numbers of seedlings are in place to permit the seedlings to grow in full sunlight.

**Shrub:** A woody, perennial plant differing from a perennial herb in its persistent and woody stem, and less definitely from a tree in its lower stature and the general absence of a well-defined main stem (The Dictionary of Forestry). California Wildlife Habitat Relationships (CWHR) types include, but are not limited to, bitterbrush, sagebrush, coastal scrub, chamise-redshank, alpine-dwarf shrub, desert scrub and montane and mixed chaparral.

**Silviculture:** The science and art of cultivating (such as with growing and tending) forest crops, based on the knowledge of silvics. More explicitly, silviculture is the theory and practice of controlling the establishment, composition, constitution, and growth of forests.

**Site Class:** A species-specific classification of forest land in terms of inherent capacity to grow crops of industrial, commercial wood (Dictionary of Forestry).

**Size Class:** An interval into which a tree is classified based on its trunk diameter at breast height (DBH), often in two-inch size classes.

**Small Hydro/Hydroelectric:** A facility employing one or more hydroelectric turbine generators, the sum capacity of which does not exceed 30 megawatts.

**Snags:** Standing dead trees with a minimum DBH of 10 inches and a height of 10 feet.

**Soil Organic Carbon:** Organic carbon in mineral soils to a specified depth and applied consistently through a time series. This is a generic term referring to all organic material in soil that is not part of a root system.

**Soil Productivity:** The capacity of a soil, in its normal environment, to support plant growth. This capacity can be diminished by large wildfire events, due to post-fire soil erosion.

**Species of Greatest Conservation Need (SGCN):** Species of wildlife that are indicative of the state's biological diversity and have the greatest need for conservation. The California Department of Fish and Wildlife sets the criteria to determine the list.

**Species of Special Concern:** An administrative designation given to animals that were not listed under the federal Endangered Species Act or the California Endangered Species Act at the time of designation but are declining at a rate that could, and sometimes does, result in listing.

**Species Recovery Plan:** A program to develop protocols for protecting and enhancing federally rare and endangered species populations. A recovery plan is a non-regulatory document that may apply to one species or an ecosystem.

**Species Richness:** The total number of species, based on species range overlap and taken from "A GAP Analysis of California."

**Stand:** A group of trees sufficiently uniform in composition, age, and/or condition forming a management entity and distinguishable from adjoining tree groups.

**Stand Age:** Hardwood or forest stands that are characterized into classes according to their age.

**Stand Density Index (SDI):** Stand Density Index is one way to measure tree stocking levels, based on stand basal area. To identify overstocked stands, we looked at two thresholds - stands that exceed 100% of stand density as determined from Stand Density Index (SDI) values (i.e. the upper limit of self-thinning zone), and 60% SDI (the lower threshold of the self-thinning zone, where competition due to tree density begins to induce tree mortality).

**State Responsibility Area (SRA):** CAL FIRE has a legal responsibility to provide fire protection on all State Responsibility Area (SRA) lands, which are defined based on land ownership, population density and land use. For example, CAL FIRE does not have responsibility for densely populated areas, incorporated cities, agricultural lands, or lands administered by the federal government.

**Strategically Placed Landscape Treatments (SPLATS):** Groups of disconnected patches of fuel treatments placed strategically across a landscape, typically overlapping perpendicular to the direction of heading fire spread, in order to reduce fire intensity and forward spread rate in the absence of active suppression.

**Stocking Level:** A measure of the quantity of wood fiber growing in a standing timber acre.

**Stressor:** Pressure that directly or indirectly influence the quality and quantity of habitat used by terrestrial and aquatic wildlife, mainly from human-induced changes in the landscape. Stressors include agricultural and urban land use, introduced invasive and exotic species, nutrient enrichment, direct human disturbance, water management conflicts, climate change and toxic chemicals.

**Structures:** Residential and commercial development, which is measured using housing density classes applied to census blocks from the 2010 U.S. Census, and commercial areas mapped in National Land Cover data.

**Succession:** The process of a predictable sequence of changes in the species structure and composition of an ecological community over time, usually following a disturbance or the initial colonization of new habitat.

**Sudden Oak Death (SOD):** A brown algae species, *Phytophthora ramorum*, that infects a variety of host plant species, including several coastal oak species.

**Sustainable Management:** Ensures forests and rangelands can contribute to the resilience of ecosystems, societies, and economies while also safeguarding biological diversity and providing a broad range of goods and services for present and future generations (U.S. Forest Service).

**Taxon:** The name that is applied to a group in biological classification, for example, species, subspecies, variety, or Evolutionarily Significant Unit (ESU). The plural is taxa.

**Terrestrial Landscape Intactness:** The condition of the landscape based on disruption of human impacts such as agriculture, urban development, natural resource extraction, and invasive species.

**Threatened and Endangered Species:** Legally protected plants and animals under the State and/or Federal Endangered Species Act.

**Timber:** Standing trees which will be used for lumber and other wood products. The value depends on tree species present, tree size, and stocking.

**Timberland:** Land capable of producing over 20 cubic feet/acre/year of wood with commercial value and not withdrawn from timber utilization by statute or administrative regulation (U.S. Forest Service).

**Timberland Production Zone (TPZ):** A statutory designation for lands assessed for taxes based on growing and harvesting timber as the highest and best use of the land.

**Total Maximum Daily Load (TMDL):** A calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, as well as an estimation of the percentage originating from each pollution source. A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. The calculation must include a margin of safety to ensure that the waterbody can be used for State-designated purposes. The calculation must also account for seasonal variation in water quality.

**Transfer Payments:** Income payments to persons for which no current services have been performed. They consist of payments to individuals and to nonprofit institutions by businesses and federal, state, and local governments.

**Turbidity:** The relative clarity of water that may be affected by material in suspension in the water.

**Understory:** The trees and other woody species growing under a relatively continuous cover of branches and foliage formed by the overstory trees.

**Uneven-aged:** A silvicultural system in which individual trees originate at different times and result in a forest with trees of many ages and sizes; stands where less than 70% of the tree stocking falls in three adjacent 10-year age classes.

**Unsuitable:** Lands that are not in a reserved status through removal of the area from timber utilization by statute, ordinance, or administrative order, but in practice or as prescribed in management plans or regulatory rules, are not primarily managed for timber production.

**Urban Forest Carbon Stocks:** Refers to the carbon stocks associated with trees planted within the urban area. It can include both the above and belowground carbon stocks. See aboveground carbon stocks.

**Urban Forest Expansion:** The planting of trees and associated vegetation in urban areas that is additional to a baseline measurement and will increase economic, environmental, and social benefits to urban residents. Often the tree planting is a cooperative venture with the community and is completed with citizen participation and labor.

**Urban Forest Management:** The care and management of urban forests (i.e., tree populations in urban settings) for the purpose of improving the urban environment.

**Urban Heat Island:** An urban or metropolitan area that is significantly warmer than its surrounding rural areas. There are concerns that average annual days over 90 degrees are increasing in many urban areas, and urban heat islands may contribute to changing climatic conditions.

**Urban Tree Canopy (UTC):** The layer of tree leaves, branches, and stems that provide tree coverage of the ground when viewed from above (U.S. Forest Service).

**Urban Tree Maintenance:** The systematic technical care of trees in urban areas that conforms to currently accepted national standards. Such standards currently are the ANSI A-300 tree care standards in association with the International Society of Arboriculture Best Management Practices. Such activities include tree inventory (measurement), young tree care, root management, tree pruning, tree removal, stump removal, and pest and disease assessment and treatment utilizing Integrated Pest Management techniques.

**Urban Tree Planting:** This involves expanding or augmenting the urban forest through tree planting. Often the tree planting is a cooperative venture with the community, and is completed with citizen participation and labor.

**Urban:** A Census-defined area comprised of a densely-settled core of census tracts and/or census blocks that meet minimum population density requirements. The Census Bureau identifies two types of urban areas: 1) Urbanized Areas (UAs) of 50,000 or more people; 2) Urban Clusters (UCs) of at least 2,500 and less than 50,000 people.

**Value-Added:** Of or relating to the estimated value that is added to a product or material at each stage of its manufacture or distribution.

**Vegetation Zone:** Based on CALVEG Zones that are large-scale assemblages of plant species that co-occur according to climatic and soil variations, heavily influenced by latitude, distance from the coast, and elevation, as well as by human activities.

**Very High Fire Hazard Severity Zone:** Areas protected by local fire agencies (LRA) receive a Very High FHSZ recommendation from CAL FIRE, and adoption of these zones carries state-level minimum regulations for fire safety and building codes.

**Watercourse and Lake Protection Zone (WLPZ):** A strip of land, along both sides of a watercourse or around the circumference of a lake or spring, where additional practices may be required for protection of the quality and beneficial uses of water, fish and riparian wildlife habitat, other forest resources and for controlling erosion.

**Water Conservation:** This refers to reducing the use of water and reducing the waste of water.

**Water Demand:** The desired quantity of water that would be used if the water is available and several other factors such as price do not change. Demand is not static. Water demand is assessed as part of the California Water Plan.

**Water Supply Watersheds:** Those areas that contribute to public water supply. These are watersheds that drain downstream to a reservoir or major water storage facility.

**Watershed Groups:** Community based groups that conduct planning and restoration projects to protect and enhance the broad range of natural resources found within California watersheds.

**Watershed Management Plan:** The goal of watershed management is to plan and work toward an environmentally healthy watershed that provides a broad range of ecosystem services and benefits to all who live in the watershed. Typically, watershed management plans bring together stakeholders to develop solutions to address environmental issues of concern.

**Watershed Restoration:** Restoration of a watershed returns the ecosystem to as close an approximation as possible of its state prior to impairment. This typically benefits water quality that has been degraded by non-point source pollution.

**Watershed:** The land area drained by a single stream, river, or drainage network (Dictionary of Forestry).

**Wetland:** A transitional area between aquatic and terrestrial ecosystems that is inundated or saturated for periods long enough to produce hydric soils and support hydrophytic vegetation (The Dictionary of Forestry). California Wildlife Habitat Relationships (WHR) types include fresh and saline emergent wetlands.

**Wildfire:** Any fire occurring on undeveloped land; the term specifies a fire occurring on a wildland area that does not meet management objectives and thus requires a suppression response. Wildland fire protection agencies use this term generally to indicate a vegetation fire. Wildfire often replaces such terms as forest fire, brush fire, range fire, and grass fire.

**Wildland Urban Interface (WUI):** The geographical intersection of two disparate systems, wildland and structures. At this interface, structures and vegetation are close enough that a wildland fire could spread to structures or fire could spread from structures to ignite vegetation.

**Wildland:** Land other than that dedicated for other uses such as agricultural, urban, mining, or parks (Dictionary of Forestry).

**Wildlife Habitat:** The physical and biological characteristics of the natural environment where a particular species can find food, shelter, protection and space to live.

**Woody Debris:** Fallen dead wood or large branches; woody debris is an important source of nutrients and habitat as well as a source of fuel for fire.

**Woody Plant:** A plant having hard lignified tissues or woody parts, especially stems.

**Working:** Lands managed for commodity output, including livestock grazing (rangelands) or wood products (forestlands).

**Zone of Infestation:** CAL FIRE, with the approval of the California Board of Forestry and Fire Protection (BOF), has broad authority (PRC § 4716) to deal with large scale pest outbreaks through declaration of a Zone of Infestation for native and exotic forest pests. Within a declared Zone, CAL FIRE employees may go on private lands to attempt eradication or control in a manner approved by the BOF.

**Zoning:** Assigning a legal status to land that defines permitted uses. Zoning can be a tool for keeping lands as working landscapes for a set period of time. Examples of state-level zoning mechanisms include Timberland Production Zones (TPZ) that designate lands for timber production, and Williamson Act lands that are designated for livestock grazing. Local governments also define zoning which can include timber zones, agriculture preserve zones, etc.

# Acronyms

AB	Assembly Bill	CNPS	California Native Plant Society
ABAG	Association of Bay Area Governments	CO <sub>2</sub>	Carbon Dioxide
ACA	Affordable Care Act	CO <sub>2</sub> e	Carbon Dioxide Equivalent
ACEP	Agriculture Conservation Easement Program	COG	Council of Government
ADS	Aerial Detection Survey	CPAD	California Protected Areas Database
AG	Aboveground	CRCC	California Rangeland Conservation Coalition
AGL	Aboveground Live	CSCI	California Stream Condition Index
AQ	Air Quality	CSP	Conservation Stewardship Program
ARB	Air Resources Board	CWD	Cumulative Water Deficit
AUM	Animal Unit Months	CWHR	California Wildlife Habitat Relationships
BA	Basal Area	CWPP	Community Wildfire Protection Plan
BCPI	Beef Cattle Price Index (aka Prices Received Index)	cwt	hundredweight
BG	Belowground	DOF	Department of Finance
BioMAT	Bioenergy Market Adjusting Tariff	DPA	Direct Protection Areas
BLM	Bureau of Land Management	DRECP	Desert Renewable Energy Conservation Plan
BMI	Benthic Macro Invertebrates	DWR	Department of Water Resources
BOF	Board of Forestry and Fire Protection	ECP	Emergency Conservation Program
BVOC	Biogenic Volatile Organic Compound	EIR	Environmental Impact Report
C	Carbon	EPA	U.S. Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection	EQIP	Environmental Quality Incentive Program
Caltrans	California Department of Transportation	ERS	Economic Resource Service
CFPC	California Forest Pest Council	ESA	Federal Endangered Species Act
CAL-IPC	California Invasive Plant Council	FHAASST	USDA Forest Health Assessment and Applied Sciences Team
CAR	Climate Action Reserve	FHRWG	Forest Health and Resilience Working Group
CAR	Community At Risk	FHSZ	Fire Hazard Severity Zone
CARS	Community Accomplishment Reporting System	FIA	Forest Inventory and Analysis
CAUFC	California Urban Forests Council	FMMP	Farmland Mapping and Monitoring Program
CBC	California Building Code	FPODA	Forest Pest Observation Database Application
CDFW	California Department of Fish and Wildlife	FPR	Forest Practice Rules
CDP	Census Designated Place	FPS	Forest Practice System
CEQA	California Environmental Quality Act	FRAP	Fire and Resource Assessment Program
CESA	California Endangered Species Act	FRASC	Forest and Rangelands Assessment Steering Committee
CFIP	California Forest Improvement Program	FRI	Fire Return Interval
CFPC	California Forest Pest Council	FRID	Fire Return Interval Departure
CFRI	California Forest and Rangeland Indicators		
CIG	Conservation Innovative Grants		
CLFA	California Licensed Forester Association		

FSC	Forest Stewardship Council	PFE	Pre-Fire Engineer
FY	Fiscal Year	PM	Particulate Matter
GCM	Global Climate Models	PPI	Prices Paid Index
GDP	Gross Domestic Product	PRC	Public Resources Code
GGRF	Greenhouse Gas Reduction Fund	PRIA	Public Range Improvement Act of 1978
GHG	Greenhouse Gas	PTEIR	Program Timber Environmental Impact Report
GIS	Geographic Information System		
GSP	Gross State Product	R&D	Research and Development
HCP	Habitat Conservation Plan	RAM	Renewable Auction Mechanism
HFRA	Healthy Forests Restoration Act	RCD	Resource Conservation District
HFRP	Healthy Forests Reserve Program	RCP	Representative Concentration Pathway
HHZ	High Hazard Zones	RCPP	Regional Conservation Partnership Program
HU	Housing Units		
HWP	Harvested Wood Products	RDM	Residual Dry Matter
ICLUS	Integrated Climate and Land Use Scenarios	RHNA	Regional Housing Need Allocation
IOU	Investor-Owned Utility	RPF	Registered Professional Forester
IPCC	Intergovernmental Panel on Climate Change	RPS	Renewables Portfolio Standard
		SAF	Society of American Foresters
IRWMP	Integrated Regional Water Management Plan	SALC	Sustainable Agricultural Lands Conservation Program
LAFCO	Local Area Formation Commission	SB	Senate Bill
MMT	Million Metric Tons	SDI	Stand Density Index
MOU	Memorandum of Understanding	SERGoM	Spatially Explicit Regional Growth Model
MPC	Montreal Process Criterion	SGCN	Species of Greatest Conservation Need
MSG	Monitoring Study Group	SNAMP	Sierra Nevada Adaptive Management Program
MSP	Maximum Sustained Production		
MT	Metric Ton	SNC	Sierra Nevada Conservancy
MTC	Metropolitan Transit Commission	SOD	Sudden Oak Death
MW	Megawatt	SOFAR	South Fork American River
NAIP	National Agricultural Imagery Program	SOI	Sphere of Influence
NASS	USDA National Agricultural Statistics Service	SO <sub>2</sub>	Sulfur Dioxide
		SPLAT	Strategically Placed Landscape Treatment
NCCP	Natural Community Conservation Plan	SRA	State Responsibility Areas
NFPA	National Fire Protection Association	SRR	Sustainable Rangelands Roundtable
NIDRM	National Insect and Disease Risk Map	SST	Seedlot Selection Tool
NO <sub>2</sub>	Nitrogen Dioxide	SWAP	California State Wildlife Action Plan
NO <sub>x</sub>	Nitrogen Oxides	SWRCB	State Water Resources Control Board
NPS	National Park Service	SYP	Sustained Yield Plan
NRCS	Natural Resources Conservation Service	THP	Timber Harvesting Plan
NTMP	Nonindustrial Timber Management Plan	TMDL	Total Maximum Daily Load
O <sub>3</sub>	Ground Level Ozone	TMTF	California Tree Mortality Task Force
OMB	U.S. Office of Management and Budget	TPZ	Timberland Production Zones
OTR	Online Technical Report	TRFRF	Timber Regulation and Forest Restoration Fund
PCAPCD	Placer County Air Pollution Control District		
PET	Potential Evapotranspiration	UA	Urban Area

UC ANR University of California Division of  
Agriculture and Natural Resources  
UHI Urban Heat Islands  
USDA U.S. Department of Agriculture  
USFS U.S. Forest Service  
USFWS U.S. Fish and Wildlife Service  
UTC Urban Tree Canopy  
VOC Volatile Organic Compound  
WA Williamson Act

WET Watershed Enforcement Team  
WFMP Working Forest Management Plan  
WHR Wildlife Habitat Relationships  
WIP Watershed Improvement Program  
WLFW Working Lands for Wildlife  
WLPZ Watercourse and Lake Protection Zones  
WUI Wildland Urban Interface  
ZOI Zone of Infestation

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