# APPENDIX A:
# ACRONYMS

# APPENDIX A: ACRONYMS

## List of Acronyms and Abbreviations

| | |
|---|---|
| **AED** | Automated External Defibrillator |
| **Alliance** | California Fire Alliance |
| **ALS** | Advanced Life Support |
| **AOB** | Alternative Owner Builders |
| **ARRF** | Aircraft Rescue Fire Fighting |
| **ATV** | All-Terrain Vehicle |
| **BAER** | Burned Area Emergency Response |
| **BIA** | Bureau of Indian Affairs |
| **BID** | (Humboldt County) Building Inspection Division |
| **BLM** | Bureau of Land Management |
| **BLS** | Basic Life Support |
| **BMP** | Best Management Practice |
| **BOF** | Board of Forestry |
| **BOS** | Humboldt County Board of Supervisors |
| **BVFC** | Bridgeville Volunteer Fire Company |
| **CAD** | Computer-Aided Dispatch |
| **CAFS** | Compressed Air Foam System |
| **Cal EMA** | California Emergency Management Agency |
| **CAL FIRE** | California Department of Forestry and Fire Protection |
| **CAL FIRE HUU** | California Department of Forestry and Fire Protection Humboldt-Del Norte Unit |
| **CalOSHA** | California Occupational Safety and Health Administration |
| **CalTrans** | California Department of Transportation |
| **CAR** | Communities At Risk |
| **CDF** | California Department of Forestry and Fire Protection |
| **CDF-HUU** | California Department of Forestry and Fire Protection, Humboldt-Del Norte Unit |
| **CDFG** | California Department of Fish and Game |
| **CD** | Compact Disc |
| **CDS** | Humboldt County Community Development Services |
| **CEQA** | California Environmental Quality Act |
| **CERT** | Community Emergency Response Teams |
| **CFSC** | California Fire Safe Council |
| **CNDDB** | California Natural Diversity Database |
| **CRC** | Community Review Committee |

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|---|---|
| **CHP** | California Highway Patrol |
| **Cohesive Strategy** | National Cohesive Wildland Fire Management Strategy |
| **the Council** | Northern California Prescribed Fire Council |
| **CPA** | Community Planning Area |
| **CPFSC** | Crooked Prairie Fire Safe Council |
| **CPR** | Cardio Pulmonary Resuscitation |
| **CSA** | County Service Area |
| **CSD** | Community Services District |
| **CNDDB** | California Natural Diversity Database |
| **CR** | College of the Redwoods |
| **CRC** | Community Review Committee |
| **CWPP** | Community Wildfire Protection Program |
| **DFG** | (California) Department of Fish and Game |
| **DMA 2000** | Disaster Mitigation Act of 2000 |
| **DOI** | Department of the Interior |
| **DPA** | Direct Protection Area |
| **ERC** | Energy Release Component |
| **EMD** | Emergency Medical Dispatcher |
| **EMS** | Emergency Medical Services |
| **EMT** | Emergency Medical Technician |
| **ERVTRT** | Eel River Valley Technical Rescue Team |
| **FBPS** | Fire Behavior Prediction System |
| **FEMA** | Federal Emergency Management Agency |
| **FHSZ** | Fire Hazard Severity Zone |
| **FICC** | Fortuna Interagency Command Center |
| **Fire Chiefs** | Humboldt County Fire Chiefs' Association |
| **FLAME Act** | Federal Land Assistance Management and Enhancement Act |
| **FLASH Program** | Fire-adapted Landscapes and Safe Homes Program |
| **FMP** | Fire Management Plan |
| **FMU** | Fire Management Unit |
| **FMZ** | Fire Management Zone |
| **FPA** | Fire Program Analysis |
| **FPD** | Fire Protection District |
| **FRA** | Federal Responsibility Area |
| **FRAP** | Fire Resource Assessment Program |

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|---|---|
| **FRCC** | Fire Regime Condition Class |
| **FRX** | Fire-Retardant Treated |
| **FSC** | Fire Safe Council |
| **GDRCo** | Green Diamond Resource Company |
| **GIS** | Geographic Information System |
| **GPU** | General Plan Update |
| **GPS** | Global Positioning System |
| **HazMat** | Hazardous Materials |
| **HAM Radio** | Amateur Radio |
| **HBMWD** | Humboldt Bay Municipal Water District |
| **HCAOG** | Humboldt County Association of Governments |
| **HCFSC** | Humboldt County Fire Safe Council |
| **HCFDC** | Humboldt County Fire Dispatch Cooperative |
| **HFA** | Hazardous Fire Areas |
| **HFPD No. 1** | Humboldt Fire Protection District No. 1 |
| **HFRA** | Healthy Forests Restoration Act |
| **HOACC** | Humboldt Operational Area Communications Committee |
| **HMP** | Hazard Mitigation Plan / (Humboldt Operational Area) Hazard Mitigation Plan |
| **HRCD** | Humboldt Resource Conservation District |
| **HROP** | Humboldt Regional Occupation Program |
| **HRSP** | Humboldt Redwoods State Park |
| **HSU** | Humboldt State University |
| **HVFC** | Honeydew Volunteer Fire Company |
| **HVFC** | Hoopa Volunteer Fire Company |
| **HVIR** | Hoopa Valley Indian Reservation |
| **HVT** | Hoopa Valley Tribe |
| **HWFD** | Hoopa Wildland Fire Department |
| **HWY** | Highway |
| **IC** | Incident Command |
| **ICS** | Incident Command System |
| **ISO** | Insurance Services Office |
| **JPA** | Joint Powers Authority |
| **KFPD** | Kneeland Fire Protection District |
| **KVFD** | Kneeland Volunteer Fire Department |

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|---|---|
| **LAFCO** | Local Agency Formation Commission |
| **LANDFIRE** | Landscape Fire Resource and Management |
| **LM CWPP** | Lower Mattole Community Wildfire Protection Plan |
| **LMFSC** | Lower Mattole Fire Safe Council |
| **LOS** | Level of Service |
| **LRA** | Local Responsibility Area |
| **MFPP** | Master Fire Protection Plan |
| **MOU** | Memorandum of Understanding |
| **MRC** | Mattole Restoration Council |
| **MSR** | Municipal Service Review |
| **NCUAQMD** | North Coast Unified Air Quality Management District |
| **NEPA** | National Environmental Policy Act |
| **NEST** | Neighborhood Emergency Support Teams |
| **NF** | National Forest |
| **NFDRS** | National Fire Danger Rating System |
| **NFIRS** | National Fire Incident Reporting System |
| **NFPA** | National Fire Protection Association |
| **NMFS** | National Marine Fisheries Services |
| **NOAA** | National Oceanic and Atmospheric Administration |
| **North Coast EMS** | North Coast Emergency Medical Services Agency |
| **NPS** | National Park Service |
| **NWS** | National Weather Service |
| **OA** | Operational Area |
| **OASIS** | Operational Area Satellite Information System |
| **OCSD** | Orleans Community Services District |
| **OES** | Office of Emergency Services |
| **OSB FSC** | Orleans/Somes Bar Fire Safe Council |
| **OSHA** | Occupational Safety and Health Administration |
| **OVFD** | Orleans Volunteer Fire Department |
| **PG&E** | Pacific Gas and Electric |
| **PPC** | Public Protection Classification |
| **PPE** | Personal Protective Equipment |
| **PRC** | Public Resource Code |
| **PSA** | Public Service Announcement |

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|---|---|
| **PSAP** | Public Safety Answering Point |
| **PUAP** | Planning Unit Action Plan |
| **PVFD** | Petrolia Volunteer Fire Department |
| **RAWS** | Remote Automated Weather Stations |
| **RAC** | Resource Advisory Committee |
| **RAMS** | Risk Assessment and Mitigation Strategies |
| **RAWS** | Remote Automated Weather Stations |
| **RCD** | Rural Conservation District |
| **RCEA** | Redwood Coast Energy Authority |
| **RID** | Resort Improvement District |
| **RMP** | Resource Management Plan |
| **RNP** | Redwood National Park |
| **RNPS** | Redwood National Park Service |
| **SB** | Senate Bill |
| **SEMS** | Standardized Emergency Management System |
| **SHEPT** | Southern Humboldt Emergency Preparedness Team |
| **SHFCA** | Southern Humboldt Fire Chiefs Association |
| **SHFSC** | Southern Humboldt Fire Safe Council |
| **SMA** | Streamside Management Area |
| **SOD** | Sudden Oak Death |
| **SRA** | State Responsibility Area |
| **SRNF** | Six Rivers National Forest |
| **SWAP** | Sheriff Work Alternative Program |
| **T&E Species** | Threatened and Endangered Species |
| **TPZ** | Timberland Production Zone |
| **TVFD** | Trinidad Volunteer Fire Department |
| **UC** | University of California |
| **UCANR** | University of California Agriculture and Natural Resources Division |
| **UCCE** | University of California Cooperative Extension |
| **USAR** | Urban Search and Rescue |
| **USDA** | United States Department of Agriculture |
| **USFS** | United States Forest Service |
| **USFWS** | United States Fish and Wildlife Service |
| **VFC** | Volunteer Fire Company |
| **VFD** | Volunteer Fire Department |
| **VIP** | Volunteers in Prevention |

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|---|---|
| **VMP** | Vegetation Management Program |
| **WCFSC** | Willow Creek Fire Safe Council |
| **WCSD** | Weott Community Services District |
| **WCVFD** | Willow Creek Volunteer Fire Department |
| **WFLC** | Wildland Fire Leadership Council |
| **WUI** | Wildland-Urban Interface |
| **WVFD** | Westhaven Volunteer Fire Department |
| **YVFC** | Yurok Volunteer Fire Company |

# APPENDIX B:
# GLOSSARY

## APPENDIX B: GLOSSARY

Definitions listed in this Glossary came from the following sources:

- The 2006 Humboldt County Master Fire Protection Plan
- Fire Plans authored by Tracy Katelman of ForEverGreen Forestry - http://www.forevergreenforestry.com/fire.html
- http://www.fire.ca.gov/fire_protection/downloads/siege/Glossaryofterms.pdf
- http://www.nwcg.gov/pms/pubs/glossary/d.htm
- http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5296997.pdf

**1-Hour Fuel:** *See Fuel Description table.*

**10-Hour Fuel:** *See Fuel Description table.*

**100- Hour Fuel:** *See Fuel Description table.*

**Access Roads/Routes:** Roads that allow entrance into and out of a property. Routes available for fire trucks and equipment to approach and defend areas or structures, including roadways or driveways.

**Advanced Life Support (ALS):** a set of life-saving protocols and skills that extend Basic Life Support (BLS) to further support the circulation and provide an open airway and adequate ventilation (breathing).

**All-Risk Fire Protection:** Protection associated with fire response that may include fire protection, Emergency Medical Services (EMS), hazardous materials (HazMat), and rescue.

**Aloft Winds:** *See "Winds Aloft"*.

**Amador Agreement:** A contract that continues CAL FIRE staffing and station coverage through the winter "off season".

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

**Annexation:** The addition of a territory into a jurisdiction, such as a city or special district.

**Anthropogenic:** An adjective for something that is the result of human activities or the influence of humans on nature.

**Apparatus:** Fire apparatus includes firefighting vehicles of various types. For the purposes of the Humboldt County Master Fire Protection Plan, fire apparatus includes wildland fire engines, rescue vehicles, ladder and aerial trucks, engines, and water tenders.

**Aspect**: The cardinal direction toward which a slope faces: north, south, east, west, etc. This has an effect on fire behavior and intensity. South facing slopes dry out faster and have less moisture available for plants. North facing slopes tend to have denser vegetation because there is more moisture available for plants. While north slopes may not burn as frequently as south slopes, they can burn with more intensity because there is more fuel.

**Assessment:** The evaluation and interpretation of measurements, intelligence, and other information to provide a basis for decision-making.

**Assets at Risk:** Those things that are important to quality of life that can be threatened with destruction or loss from wildfire. These include homes, businesses, infrastructure, cultural sites, wildlife habitat, natural resources, air quality, recreational facilities and areas, historical structures, and any other important attribute that individual communities rely on for their well being.

**Automatic Aid Agreement:** An agreement between two or more agencies whereby such agencies are automatically dispatched simultaneously to predetermined types of emergencies in predetermined areas.

**Backburn:** *See Blackline.*

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

**Basic Life Support (BLS):** The level of medical care which is used for victims of life-threatening illnesses or injuries until they can be given full medical care at a hospital. It can be provided by trained medical personnel, including emergency medical technicians, paramedics, and by laypersons who have received BLS training. BLS is generally used in the pre-hospital setting, and can be provided without medical equipment.

**Basins:** *See Watershed.*

**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.

**Benefit Assessment:** Benefit Assessments are used by local governments to pay the costs of providing fire suppression, flood control and other services to a particular community. These charges are based on the concept of assessing only those properties that directly benefit from the services or improvements financed. Because these charges are based on specific benefit, they are not subject to Proposition 13 limitations.

**Big Red Truck Program:** A community fire-safe education program where representatives from fire departments visit local residences and help landowners identify priority areas for hazard mitigation attention, such as high fuel loads and one-way-in, one-way-out roads. This program can help identify locations that are difficult for a fire truck to access.

**Biochar:** Organic matter that is burned slowly with limited oxygen until it becomes charcoal, which is then used as a soil amendment; *biochar* helps retain moisture in the soil, and it replenishes exhausted or marginal soils with organic carbon and fosters the growth of soil microbes essential for nutrient absorption. *Biochar* also has promise as a means of carbon sequestration.

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

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

**Biomass Utilization/Recovery:** The harvest, sale, offer, trade, or utilization of woody biomass to produce bioenergy and the full range of bio-based products including lumber, composites, paper and pulp, furniture, housing components, round wood, ethanol and other liquids, chemicals, and energy feedstocks.

**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.

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

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

**Blue Dot Program:** A community fire-safety program which identifies the location of firefighting water sources by marking them with a blue reflective dot. This program also ensures that tanks and water systems are outfitted with fittings compatible with firefighting equipment and in some cases maps the location of these water sources.

**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, as a resource management treatment, or both.

**Brush**: A collective term that refers to stands of vegetation dominated by shrubby, woody plants, or low-growing trees.

**Brushing:** Clearing or "cleaning up" such vegetation in an area.

**Brushfire:** A fire burning in vegetation that is predominantly shrubs, brush, and scrub growth.

**Bucket Dipping:** A method of delivering water for aerial firefighting in which a specialized bucket is suspended on a cable from a helicopter, which dips the bucket into an open water source and carries water to the site of the fire.

**Buffer Zone:** An area of reduced vegetation that creates a barrier separating wildlands from vulnerable residential or business developments; this barrier is similar to a greenbelt in that it is usually used for another purpose, such as agriculture, recreation areas, parks, or golf courses.

**Building Code:** The building or construction code adopted by the jurisdiction.

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

**Burn:** (1) An area burned over by wildland fire. (2) A reference to a working fire. (3) To be on fire. (4) To consume fuel during rapid combustion. (5) A fire in progress or under investigation.

**Burning Conditions:** The state of the combined factors of the environment—such as winds, temperature, fuel moistures, and humidity—that affect fire behavior in a specified fuel type.

**Burning Period:** That part of each 24-hour period when fires spread most rapidly, typically from 10:00a.m to sundown.

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

**Call Downs:** Community telephone networks, such as phone trees, used to dispatch help and distribute or relay information in emergency situations.

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

**Candle or Candling:** A single tree or a very small clump of trees burning from the bottom up.

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

**Canopy Density:** A term used to describe the amount of vegetative cover in the top layer of a forest; among other things, the canopy density influences the amount of light penetration, understory composition, surface reflectance, and rainfall interception in a forest landscape.

**Catastrophic Fire:** Wildland or wildland-urban interface fire with a fast-moving front, extending over a large area (300+ acres) and/or highly destructive to lives, property, or natural resources.

**CEQA: The California Environmental Quality Act** (Chapters 1 through 6 of Division 13 of the Public Resources Code). A state statute that requires state and local agencies to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible.

**Chaparral:** A shrubland or heathland plant community associated with Mediterranean climates consisting primarily of highly flammable, drought-tolerant plants with hard, evergreen leaves. These communities tend to provide habitat for many different species.

**Chimney:** (1) Steep narrow draw or small canyons that draw fire up them in the same manner a flue draws heat from a fireplace. (2) A home containing one or more vertical or nearly vertical passageways for conveying flue gases to the outside atmosphere.

**Chipping Program/Chipping Days:** 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.

**Climax:** A theoretical, ecological notion intended to describe a relatively stable community that is in equilibrium with environmental conditions, and occurring as the terminal, end-point of succession.

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

**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.

**Combustible:** Any material that, in the form in which it is used and under the conditions anticipated, will ignite and burn.

**Combustion:** The rapid oxidation of fuel in which heat and usually flame are produced. Combustion can be divided into four phases: pre-igntion, flaming, smoldering, and glowing.

**Community:** A body of people living in one place or district and considered a whole; a neighborhood, subdivision, small town, village or township with boundaries defined by the residents or by regulatory jurisdiction.

**Community at Risk (CAR):** Wildland interface (see definition below) communities in the vicinity of Federal lands that are at high risk from wildfire. (See list in Federal Register, January 4, 2001).

**Community Emergency Response Team (CERT) Program:** This program educates people about disaster preparedness for hazards that may impact their area and trains them in basic disaster response skills, such as fire safety, light search and rescue, team organization and disaster medical operations. Using the training learned in the classroom and during exercises, CERT members can assist others in their neighborhood or workplace following an event when professional responders are not immediately available to help. CERT members also are encouraged to support emergency response agencies by taking a more active role in emergency preparedness projects in their community.

**Community Services District (CSD):** Sometimes called "junior districts," authorized under §61000 et seq. of the Government Code. CSDs can provide a broad range of municipal services (primarily to unincorporated areas), including fire protection. CSDs are normally governed by a five-member elected Board of Directors and can receive revenue from taxes and fees. In cases where a CSD is responsible for fire protection in Humboldt County, services are provided by a volunteer fire department with facilities and funding provided by the CSD.

**Community Wildfire Protection Plan (CWPP):** As defined by the Healthy Forests Restoration Act, a plan for a community at risk to wildfire that fulfills the following criteria:

A) The plan was developed within the context of the collaborative agreements and the guidance established by the Wildland Fire Leadership Council and agreed to by the applicable local government, local fire department, and State agency responsible for forest management, in consultation with interested parties and the Federal land management agencies managing land in the vicinity of the at-risk community.

B) The plan identifies and prioritizes areas for hazardous fuels reduction treatments and recommends the types and methods of treatment on Federal and non-Federal land that will protect one or more at-risk communities and essential infrastructure.

C) The plan recommends measures to reduce structural ignitability throughout the at risk community.

**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 biota 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.

**Conduction:** Heat transfer through a material from a region of higher temperature to a region of lower temperature.

**Conflagration:** A raging, destructive fire. Often used to connote such a fire with a moving front as distinguished from a firestorm.

**Conifer Forest:** A stand of trees that are usually evergreen, cone-bearing, and with needle, awl, or scale-like leaves, such as pine, spruce, fir and cedar; often referred to as "softwood."

**Contain a fire:** A situation where a fuel break around the fire has been completed. This break may include natural barriers and/or manually built fireline and/or mechanically constructed line.

**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 a fire:** To complete a control line around a fire, any spot fires, and any interior islands to be saved; burn out any unburned area adjacent to the fire side of the control lines; and cool down all hotspots that are immediate threats to the control line, until the lines can reasonably be expected to hold.

**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, such as obtaining a special permit, must be met before commencing burning.

**Convection:** (1) The transfer of heat by the movement of a gas or liquid; convection, conduction, and radiation are the principal means of energy transfer. (2) As specialized in meteorology, atmospheric motions that are predominantly vertical in the absence of wind (which distinguishes this process from advection), resulting in vertical transport and mixing of atmospheric properties.

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

**County Service Area (CSA):** Authorized under §25210.1 of the Government Code, CSAs are generally single purpose, dependent special districts governed by the County Board of Supervisors. CSAs are means of providing expanded service levels to unincorporated areas where residents are willing to pay for the extra services; services may include extended police protection, fire protection, park and recreation facilities, libraries, low power television and translation facilities and services. CSAs also may provide other basic services such as water and garbage collection if they are not already performed on a countywide basis.

**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.

**Critical Habitat:** A specific geographic area, designated by the U.S. Fish and Wildlife Service, which is essential for the conservation of a threatened or endangered species, and may require special management and protection. Critical habitat may include an area that is not currently occupied by the species but that will be needed for its recovery.

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

**Crown Fire (Crowning):** A fire that spreads through the top of the vegetative canopy and is characteristic of hot fires and dry conditions. Crown fires become more or less independent from the surface fire and 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.

**County Service Area (CSA);** CSAs are single purpose dependent special districts (governed by the County Board of Supervisors) authorized under §25210.1 of the Government Code as a means to "extend" services to growth areas within the unincorporated area, as well as provide funding for that extended service.

**Dead Fuels /Dead Plant Matter:** Fuels with no living tissue in which moisture content is governed almost entirely by atmospheric moisture (relative humidity and precipitation), dry-bulb temperature, and solar radiation.

**Debris Burning**: Any fire originally set for the purpose of clearing land or for burning rubbish, garbage, range, stubble, or meadow burning.

**Decision Point:** Established prior to tactical engagement and, once reached, forces or "triggers" firefighters to re-evaluate their situational awareness and tactical progress and effectiveness and to, ultimately, help them make critical decisions regarding their safety.

**Defensible Space (i.e. Survivable Space):** An area, either natural or manmade, where material capable of causing a fire to spread has been treated, cleared, reduced, or changed in order to provide a barrier between an advancing wildland fire and the loss to life, property, or resources. In practice, defensible space is defined as an area with a minimum of 100 feet around a structure that is cleared of flammable brush or vegetation. Distance from the structure and the degree of fuels treatment vary with vegetation type, slope, density, and other factors.

**Detection**: The act or system of discovering and locating fires.

**Direct Attack:** Any treatment of burning fuel, such as by wetting, smothering, or chemically quenching the fire or by physically separating burning from unburned fuel.

**Direct Protection Area (DPA):** That area for which a particular fire protection organization has the primary responsibility for attacking an uncontrolled fire and for directing the suppression action. Such responsibility may develop through law, contract, or personal interest of the firefighting agent.

**Dispatch:** The implementation of a command decision to move a resource or resources from one place to another.

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

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

**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 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 (for fire protection, for example).

**Drafting Site:** A location, such as a pond, river, or swimming pool, from which water may be drawn with a suction pump to be used for the purposes of fire protection.

**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.

**Duff**: The layer of decomposing organic materials located below the litter layer of freshly fallen twigs, needles, and leaves and immediately above the mineral soil.

**Drainage(s):** *See Watershed.*

**Draw-Down Level:** The level where the success of extinguishing a fire with initial attack forces is compromised.

**Downed Fuel**: *See Fuel Description table.*

**Eave(s):** The projecting overhang(s) at the lower edge of a roof.

**Ecosystem:** A community of organisms 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:** The area where two or more ecosystems meet. The change in ecosystems may be due to elevation, soil type, disturbance, or other factors.

**Egress:** A means of exiting an area.

**Embers:** Burning (or glowing) particles of vegetation from tree branches, parts of shrubs or chaparral, or other combustible materials that ignite and burn during a wildfire and are carried in wind currents to locations in front of the wildfire (also known as *firebrands*).

**Emergency Dispatch:** *See Dispatch.*

**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.

**Environmental Compliance:** Conforming to environmental laws, regulations, standards, or other requirements imposed by local, state, or federal jurisdictions.

**Environmentally Significant 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.

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

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

**Estuary:** A partly enclosed coastal body of water with one or more rivers or streams flowing into it, and with a free connection to the open sea. The inflow of both seawater and freshwater provide high levels of nutrients in both the water column and sediment, making estuaries among the most productive natural habitats in the world.

**Evacuation:** An organized, phased, and supervised withdrawal, dispersal, or removal of citizens from dangerous or potentially dangerous areas, and their reception and care in safe areas.

**Evacuation 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.

**Evacuation Center/Site:** A safety zone located within a community--usually on a large, flat, open area--where community members can go in cases of emergency evacuation; oftentimes, temporary shelters are established, and food, water, and medical supplies are distributed at these locations.

**Exotic Species:** Plant or animal species that have been introduced into an area where they do not occur naturally; non-native species.

**Exposure:** (1) Property that may be endangered by a fire burning in another home or by a wildfire; (2) Direction in which a slop faces, usually with respect to cardinal directions; (3) The general surroundings of a site with special reference to its openness to winds.

**Extreme Fire Behavior**: "Extreme" implies a level of fire behavior characteristics that ordinarily precludes methods of direct control action. One or more of the following is usually involved: high rate of spread, prolific crowning and/or spotting, presence of fire whirls, strong convection column. Predictability is difficult because such fires often exercise some degree of influence on their environment and behave erratically and/or dangerously.

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

**Feather Out Treatment:** When reducing hazardous fuels, thinning heavily near the structure or area in need of protection and thinning less as you move out away from it.

**Federal Responsibility Area (FRA):** Areas within which a federal government agency has the financial responsibility of preventing and suppressing fires. These lands are generally protected by the Department of Agriculture, Forest Service, and the Department of the Interior: Bureau of Land Management, National Park Service, US Fish and Wildlife Service, and the Bureau of Indian Affairs (see also State Responsibility Area and Local Responsibility Area).

**Fee:** Also termed "exaction." A direct charge or dedication collected on a one-time basis as a condition of an approval being granted by the local government. The purpose of the fee or exaction must directly relate to the need created by the development. In addition, its amount must be proportional to the cost of improvement. Includes development impact fees, permit and application fees which cover the cost of processing permits and development plans, and regulatory fees.

**Felling:** The process of downing individual trees; in hand felling, an axe, saw, or chainsaw is used to drop a tree, followed up by limbing, hewing, and cutting the tree into logs.

**Fine (Light, Flash) Fuels**: Fast-drying fuels, generally with a comparatively high surface area-to-volume ratio, which are less than ¼-inch in diameter and have a time-lag constant of one hour or less. These fuels readily ignite and are rapidly consumed by fire when dry.

**Fire:** Rapid oxidation, usually with the evolution of heat and light. Requires interaction of heat, fuel, oxygen.

**Fire-adapted Ecosystem:** Where plant species have, over time, assumed certain traits or characteristics that enable them to respond favorably to reoccurring fire events specific to the part of the ecosystem in which they inhabit and allows them to survive and/or regenerate.

**Fire Behavior**: The manner in which a fire reacts to the influences of fuel, weather, and topography. Common terms used to describe behavior include: smoldering, creeping, running, spotting, torching, and crowning.

**Firebrand:** A piece of wood or 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 burnable material; a stream may also serve as a firebreak. *See Fuelbreak for the difference between the two.*

**Fire Company:** *See Volunteer Fire Company.*

**Fire Department:** *See Volunteer Fire Department.*

**Fire-dependent:** Plants, vegetation communities, and specific habitat types that have evolved to rely on fire in order to exist and/or thrive.

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

**Fire-evolved Landscapes:** *See fire-adapted ecosystem.*

**Fire Flow:** The flow rate of a water supply expressed in gallons per minute (gpm), measured at 20 pounds per square inch (psi) residual pressure, that is available for fire fighting.

**Fire Flow Requirement:** A measure comparing the amount of heat a fire is capable of generating (based on building construction and occupancy) versus the amount of water required for cooling the fuels below their ignition temperature.

**Fire Frequency:** General term referring to the recurrence of fire in a given area over time.

**Fire Front:** The part of a fire within which continuous flaming combustion is taking place. Unless otherwise specified, the fire front is assumed to be the leading edge of the fire perimeter. In ground fires, the fire front may be mainly smoldering combustion.

**Fire Hazard:** A fuel complex, defined by volume, type, condition, arrangement, and location, that determines the degree of ease of ignition and of resistance to control.

**Fire Hazard Mitigation:** Various methods by which existing fire hazard can be reduced in a certain area, such as fuel breaks, non-combustible roofing, spark arrestors, etc.

**Fire Hazard Severity Zone (FHSZ):** Any geographical area designated pursuant to California Public Resource Code Section 4201 to contain the type and condition of vegetation, topography, weather, and structure density to increase the possibility of conflagration fires. (Bates Bill AB 337 in 1992 modified Government Code for the purpose of identifying and mitigating hazards in areas prone to wildfire conflagration.) Areas are zoned as Very High, High, or Moderate by evaluating applicable risks and hazard.

**Fire History:** The known frequency and intensity of fires that have occurred in a given area over a period of time.

**Fire Intensity**: Amount of heat released by a fire in an area in any given time period. Fire intensity is usually related to the flame lengths of a fire.

**Fire Interval:** Number of years between two successive fire events for a given area. Also referred to as fire-free interval or fire-return interval.

**Fire Ladders:** *See "Fuel Ladders".*

**Fireline:** The forefront of the fire.

**Fire Management:** Activities required for the protection of burnable wildland values from fire and the use of prescribed fire to meet land management objectives.

**Fire Management Plan (FMP)**: A strategic plan that defines a program to manage wildland and prescribed fires. The plan is supplemented by operational plans such as preparedness plans, preplanned dispatch plans, prescribed fire plans, and prevention plans.

**Fire Occurrence Interval:** *See "Fire Interval".*

**Fire Perimeter:** The entire outer edge or boundary of a fire. Note that while acreage of a fire is determined or estimated by the fire's perimeter, it is possible that some substantially smaller acreage may have actually been burned within that perimeter.

**Fire Planning:** Systematic technological and administrative management process of design, organization, facilities, and procedures, including fire use, to protect wildland from fire.

**Fire Prevention:** Activities such as public education, community outreach, law enforcement, and reduction of fuel hazards that are intended to reduce wildland fire and the risks it poses to life and property.

**Fire Protection:** Firefighting tactics used to suppress wildfires. Firefighting efforts in wildland areas require different techniques, equipment and training from the more common structure firefighting tactics used in populated areas.

**Fire Protection Districts (FPD):**Formal jurisdictional areas with some type of tax support authorized under §13800 et seq. of the California Health and Safety Code to provide fire protection and emergency medical services.

**Fire Protection Water:** Water stored, designated, or used specifically for the purposes of fire suppression and protecting people, structures, and natural resources from fire damage.

**Fire Regime:** Description of the patterns of fire occurrences, frequency, size, severity, and sometimes vegetation and fire effects as well, in a given area or ecosystem.

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

**Fire Resistant:** Construction designed to provide reasonable protection against fire.

**Fire Resistive:** Refers to properties or designs to resist the effects of any fire to which a material or structure can be expected to be subjected.

**Fire Retardant:** Any substance except plain water that, by chemical or physical action, reduces flammability of fuels or slows their rate of combustion.

**Fire-Return Interval:** *See "Fire Interval.*"

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

**Fire-Safe:** For the purposes of the Humboldt County Master Fire Protection Plan this term is defined as: Action(s) that moderate the severity of a fire hazard to a level of "acceptable risk," as discussed in the Safety Element of the County General Plan. In a broader context this term describes the state of lessened severity or action(s) that moderate the severity of a fire hazard or risk, while protecting structures and surrounding property from fire, whether fire is inside the structure or is threatening the structure from exterior sources.

**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 Standards:** Standards adopted by ordinance for the purpose of establishing a set of standards that will result in fire safe development within a specified area.

**Fire Season:** 1) Period(s) of the year during which wildland fires are likely to occur, spread, and affect resource values sufficient to warrant organized fire management activities. 2) A legally enacted time during which burning activities are regulated by state or local authority.

**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 Service:** Organized fire protection service; its members, individually and collectively; allied organizations assisting protection agencies.

**Fire Severity:** Degree to which a site has been altered or disrupted by fire; loosely, a product of fire intensity and residence time.

**Fire Spread:** The movement of fire from one place to another.

**Fire Storm:** Violent convection caused by a large continuous area of intense fire. Often characterized by destructively violent surface indrafts, near and beyond the perimeter, and sometimes by tornado-like whirlse. Also known as blowup or extreme fire behavior.

**Fire Suppression:** All the work and activities connected with control and fire-extinguishing operations, beginning with discovery and continuing until the fire is completely extinguished.

**Fire Weather:** Weather conditions that influence fire ignition, behavior, and suppression, such as high temperature, low precipitation/humidity, and high winds.

**Firewise:** (1) A national, multi-agency effort designed to reach beyond the fire service by involving homeowners, community leaders, planners, developers, and others in the effort to protect people, property, and natural resources from the risk of wildland fire before a fire starts. (2) Firewise offers a series of practical steps that individuals and commuities can take to minimize wildfire risks to people, property, and natural resources. It emphasizes community responsibility for planning in the design of a safe community as well as effective emergency response, and individual responsibility for safer home evacuation and design, landscaping and maintenance.

**Firewise Construction:** The use of materials and systems in the design and construction of a home to safeguard against the ignition from a wildfire.

**Firewise Landscaping:** Vegetative management that removes flammable fuels from around a home to reduce ignition exposure from radiant heat. The flammable fuels may be replaced wtih green lawn, gardens, certain invidually spaced green, ornamental shrubs, individually spaced and pruned trees, decorative stone or other non-flammable or flame-resistant materials.

**Flame Height**: The average maximum vertical extension of flames at the leading edge of the fire front. Occasional flashes that rise above the general level of flames are not considered. If flames are tilted due to wind or slope, this distance is less than the flame length.

**Flame Length**: The distance between the flame tip and the midpoint of the flame depth at the base of the flame (generally the ground surface); an indicator of fire intensity.

**Flame Resistant:** A material or surface that does not propagate flame once the external source of flame is removed.

**Flaming Front:** The zone of a moving fire where the combustion is primarily flaming. Behind this flaming zone combustion is primarily glowing. Light fuels typically have a shallow flaming front, whereas heavy fuels have a deeper front. Also called *fire front.*

**Flammability:** The degree to which a substance is likely to catch fire, be easily ignited, burn quickly and/or have a fast rate of spreading flames.

**Flash/Flashy Fuels:** Fine fuels, such as grass, leaves, pine needles, ferns, mosses, and some kinds of slash, which ignite readily and are consumed rapidly by fire when dry.

**FLASH** (**Fire-adapted Landscapes and Safe Homes) Program**: a rebate program that reimburses property owners for hazardous vegetation management completed around their homes, along access routes, and in particularly hazardous areas.

**Foëhn (Events/Winds):** A wind that blows warm, dry, and generally strong, creating extremely dry fuel and dangerous fire potential.

**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.

**Free Burning:** The condition of a fire or part of a fire that has not been slowed by natural barriers or by control measures.

**Fuel(s)**: Combustible structures and vegetative materials. Includes dead plants, parts of living plants, duff, and other accumulations of flammable vegetation, such as grass, leaves, ground litter, shrubs, and trees that feed a fire. *(See "Surface Fuels.")*

**Fuel Bed**: An array of fuels usually constructed with specific loading, depth and particle size to meet experimental requirements; also commonly used to describe the fuel composition in natural settings.

**Fuel Bed Depth:** Average distance from the bottom of the litter layer to the top of the layer of fuel, usually the surface fuel.

**Fuelbreak**: A natural or constructed barrier used to stop or check fires that may occur, or to provide a control line from which to work.

**Fuel Characteristics:** Factors that make up fuels such as compactness, loading, horizontal continuity, vertical arrangement, chemical content, size and shape, and moisture content.

**Fuel Class:** Part of the National Fire Danger Rating System (NFDRS). Group of fuels possessing common characteristics. Dead fuels are grouped according to one-, ten-, one hundred-, and one thousand-hour timelag, and living fuels are grouped as herbaceous (annual or perennial) or woody. *(See "Fuel Description."*

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

**Fuel Compositions:** The makeup of combustible materials, such as grass, leaves, plants, shrubs and trees, in a collective area; the mixture of these materials, how they interact, and their respective percentages within the whole influence the area's flammability.

**Fuel Description:** Designation of fuel materials into categories based on size and drying times. Fuel descriptions in use are described below:

| Description | Material | Diameter |
|---|---|---|
| Fine | Needles, leaves, etc... | |
| 1 Hour | Woody material, generally drying out within 1 hour. | <1/4" |
| 10 Hour | Woody material, generally drying out within 10 hours. | 1/4"-1" |
| 100 Hour | Woody material, generally drying out within 4 days. | 1-3" |
| 1000 Hour | Woody material, generally drying out within 40 days. | 3"+ |
| Downed | Fuel on the ground | |
| Heavy | Large logs and snags | |

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

**Fuel Load:** The amount of available and potentially combustible material, usually expressed as tons/acre.

**Fuel Loading**: The volume of fuel present expressed quantitatively in terms of weight of fuel per unit area.

**Fuel Management:** Act or practice of controlling flammability and reducing resistance to control of wildland fuels through mechanical, chemical, biological, or manual means, or by fire in support of land management objectives.

**Fuel Model:** (1) A standardized description of fuels available to a fire, based on the amount, distribution and continuity of vegetation and wood. (2) Simulated fuel complex (or combination of vegetation types) for which all fuel descriptors required for the solution of a mathematical rate of spread model have been specified.

**Fuel Modification:** Manipulation or removal of fuels to reduce likelihood of ignition and/or lessen potential damage and resistance to control (e.g. lopping, chipping, crushing, piling, and burning). Also known as fuel treatment.

**Fuel Moisture (Fuel Moisture Content)**: The amount of water in a material divided by its oven-dry mass, expressed as a percentage. Moisture content is a key factor in determining how a fuel will burn, along with such factors as density and surface-to-volume ratio.

**Fuel Reduction:** Manipulation (including combustion and/or removal of fuels) to reduce the likelihood of ignition and/or to lessen potential damage and resistance to control.

**Fuel Treatment:** *See "Fuel Modification."*

**Fuel Type**: An identifiable association of fuel elements of a distinctive plant species, form, size, arrangement; or other characteristics that will cause a predictable rate of fire spread or difficulty of control under specified weather conditions.

**Geographic Information Systems (GIS):** A technology used for viewing, storing, analyzing and manipulating geographical information on a computer. Layers of information can create a better understanding of how data is interrelated. This technology is very useful for landscape-level planning efforts.

**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.

**Global Positioning System (GPS):** A system of navigational satellites operated by the U.S. Department of Defense and available for civilian use. The system can track objects anywhere in the world with an accuracy of approximately 40 feet (12 meters).

**Goodwill Service:** Fire protection services provided by a fire district to a location that is outside of the district's jurisdictional boundaries and for which no compensation is provided neither through direct payment nor a tax base.

**Greenbelt:** Landscaped and regularly maintained fuelbreak, usually put to some additional use (e.g. golf course, park, playground). Also known as fuelbreak.

**Ground Disturbing:** An action that interrupts the natural condition of the ground, such as digging and compaction from heavy equipment.

**Ground Fire:** Fire that consumes organic material beneath surface ground litter, such as a peat fire.

**Ground Fuel**: All combustible materials below the surface litter (including duff, tree or shrub roots, punchy wood, peat, and sawdust) that normally support a glowing combustion without flame.

**Habitat:** An ecological or environmental area that is inhabited by a particular species of animal, plant, or other types of organisms.

**Hand Crews:** Diverse teams of career and temporary wildland firefighters.

**Hardened 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 a fire.

**Hazard:** Any real or potential condition that can cause injury, illness, or death of personnel, or damage to or loss of equipment or property.

**Hazard Assessment:** Assessment hazards to determine risks. Assess the impact of each hazard in terms of potential loss, cost, or strategic degradation based on probability and severity.

**Hazard Reduction/Mitigation**: Any treatment of living or dead fuels that reduces the threat of ignition and fire intensity or rate of spread.

**Hazardous Fuels/Fuel Loads:** Accumulations of burnable materials including but not limited to living or dead vegetation, structures, and chemicals that can feed a fire.

**Hazardous Fuels Reduction:** Any treatment that reduces the amount of hazardous fuels.

**Hazardous Materials (HazMat):** Materials (such as those that are flammable or poisonous) that present a danger to life and the environment if not managed properly or released without precaution.

**Hazardous Vegetation Management:** Any treatment that reduces the amount of hazardous fuels.

**Healthy Forests Restoration Act (HFRA):** A portion of the 2003 President's Healthy Forests Initiative intended to reduce hazardous fuels on public and private lands. Establishes CommunityWildfire Protection Plans and sets standards for those plans.

**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.

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

**Heat Transfer:** Process by which heat is imparted from one body to another, through conduction, convection, and radiation.

**Heavy Fuels**: Fuels of large diameter (such as snags, logs, and large limb wood) that ignite and are consumed more slowly than flash (fine, light) fuels.

**Helibase**: The main location within the general incident area for parking, fueling, maintaining, and loading helicopters. The helibase is usually at or near the incident base.

**Herbaceous Fuels:** Non-woody plants that die back in the winter.

**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 Assessment:** Evaluation of a dwelling and its immediate surroundings to determine its potential to escape damage by an approaching wildland fire. Includes the fuels and vegetation in the yard and adjacent to the home, roof environment, decking and siding materials, prevailing winds, topography, fire history, etc, with the intent of mitigating fire hazards and risks.

**Home Density:** The density of homes is determined by lot size, home arrangement, and number of homes per lot. This density affects the overall exposure, spread and intensity of wildfire.

**Home Ignition Zone:** the home and area out to approximately 100 feet, where local conditions affect the potential ignitability of a home during a wildfire.

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

**Humboldt County Fire Chiefs Association (HCFCA):**An independent organization comprised of fire chiefs from each of the County's fire departments. The HCFCA serves as a sounding board for local fire service issues and contains several subgroups that carry out specific functions, such as fire prevention, training, and arson investigation.

**Humboldt County Fire Dispatch Co-op:** A Joint Powers Authority that includes 31 fire and EMS related service providers who have pooled resources in order to contract with CDF for dispatch services.

**Humboldt County Operational Area Hazard Mitigation Plan (HMP):** A multi-jurisdictional, multi-hazard local hazard mitigation plan. The plan includes a risk assessment and recommended mitigation actions to reduce vulnerability to damage from natural hazards. It is set up in two volumes so that elements that are jurisdiction-specific can easily be distinguished from those that apply to the whole planning area.

**Hydrology:** The science that describes the waters of the Earth, including movement, distribution, seasonal patterns, and conservation.

**Hydrophobic soils:** Literally meaning "water-fearing;" refers to soil that will no longer absorb water.

**Ignitability:** The susceptibility to ignite or catch on fire.

**Ignition:** The event of combustion initiation that creates fire.

**Ignition Factor:** The conditions, subsequent actions, and sequence of events that bring a competent ignition source into contact with the materials first ignited. Also referred to as the "cause of fire."

**Ignition Management:** A program that includes fire prevention program activities that are aimed at preventing the ignition of wildland fires and/or reducing damage from fires. Components include law enforcement, public education, engineering, fuels modification, and fire-safe planning.

**Ignition Potential:** Chance that a firebrand will cause an ignition when it lands on receptive fuels.

**Ignition-Resistant:** (1) Possessing properties that serve to slow or prevent possible ignition in order to slow the rate of fire spread. Can apply to vegetation or structural components. (2) The California Building Code defines *ignition resistant* in a specific way that is based on meeting a minimum flame-spread rating after the material has been subjected to a specified weathering procedure. A material that is *ignition resistant* has passed this test. The California Building Code is based on the International Code Council requirement for exterior fire-retardant wood (lumber and plywood).

**Ignition Sources:** Combustible elements that create the potential for fire starts, such as vehicle sparks near roadside fuels or downed power lines.

**Immediate Threat Evacuation:** An evacuation announcement made during an immediate or immanent fire situation and residents are in danger of life-threatening events.

**Impact Fees:** Fees (often called "developer fees" or “development impact fees”) that are levied on new development to cover the cost of infrastructure or facilities necessitated by that development.

**Impingement:** This occurs when flames from a fire touch an objects (e.g. a plant, deck, or building).

**Incident**: A human-caused or natural occurrence, such as wildland fire, that requires emergency service action to prevent or reduce the loss of life or damage to property or natural resources. Incident management teams also handle other non-fire emergency response, including tornadoes, floods, hurricanes, earthquakes, and other disasters or large events.

**Incident Commander:** The person within the Incident Command System who is responsible for overall management of the incident and reports to the Agency Administrator for the agency having incident jurisdiction.

**Incident Command System:** A standardized on-scene emergency management concept specifically designed to allow its user(s) to adopt an integrated organizational structure equal to the complexity and demands of single or multiple incidents, without being hindered by jurisdictional boundaries.

**Indirect Attack:** A method of fire suppression in which suppression activities takes place some distances from the fire perimeter, and often advantage of fire barriers.

**Ingres-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).

**Infrastructure:** Roadways, utilities, and other basic elements serving developed areas.

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

**Initial Attack**: The actions taken by the first resources to arrive at a wildfire in order to protect lives and property and prevent further extension of the fire.

**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.

**Interface Community.** (Defined in the Federal Register, January 4, 2001) The Interface Community exists where structures directly abut wildland fuels. There is a clear line of demarcation between residential, business, and public structures and wildland fuels. Wildland fuels do not generally continue into the developed area. The development density for an interface

community is usually 3 or more structures per acre, with shared municipal services. Fire protection is generally provided by a local government fire department with the responsibility to protect the structure from both an interior fire and an advancing wildland fire. An alternative definition of the interface community emphasizes a population density of 250 or more people per square mile.

**Interface Fuels:** Refers to anything related to human development that can burn. Interface fuels are grouped into three categories: (1) urban structures; (2) landscaping; (3) urban "debris." Also known as "urban fuels."

**Intermix Community: (**Defined in the Federal Register, January 4, 2001) The Intermix Community exists where structures are scattered throughout a wildland area. There is no clear line of demarcation; wildland fuels are continuous outside of and within the developed area. The development density in the intermix ranges from structures very close together to one structure per 40 acres. Fire protection districts funded by various taxing authorities normally provide life and property fire protection and may also have wildland fire protection responsibilities. An alternative definition of intermix community emphasizes a population density of between 28–250 people per square mile.

**Insurance Services Office (ISO):**Private organization that formulates fire safety ratings based on fire threat and responsible agency's ability to respond to the threat. ISO ratings from one (excellent) to ten (no fire protection). Many insurance companies use ISO ratings to set insurance premiums. ISO may establish multiple ratings within a community, such as a rating of 5 in the hydrated areas and one of 8 in the non-hydrated areas.

**Invasive Plants/Weeds/Species:** 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.

**Jurisdictional Agency:** The agency having land and resource management responsibility for a specific geographical or functional area as provided by federal, state, or local law.

**Jurisdictional Area/Boundaries:** *See Response Area.*

**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 Fuels**: Fuels that provide vertical continuity between strata and allow fire to carry from surface fuels into the crowns of trees or shrubs with relative ease. They help initiate and assure the continuation of crowning.

**LAFCO--The Local Agency Formation Commission**: Created by the State Legislature in 1963 to discourage urban sprawl and encourage the orderly formation and development of local government agencies. LAFCOs review proposals for the formation of new local governmental agencies and for changes in the organization of existing agencies. There is a LAFCO in each

county in California except San Francisco. LAFCO is a seven-member Commission comprised of two city council members (chosen by the Council of Mayors), two county supervisor members (chosen by the Board of Supervisors), two special district members (chosen by Independent Special District election), and one public member (chosen by the members of the Commission).

**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.

**Land use Plan(ning):** A set of decisions that establish management direction for land within an administrative area; an assimilation of land-use-plan-level decisions developed through the planning process regardless of the scale at which the decisions were developed.

**Large Fire**: 1) CDF defines a fire burning more than 300 acres as a large fire. 2) A fire burning with a size and intensity such that its behavior is determined by interaction between its own convection column and weather conditions above the surface.

**Late Seral/Succession Forest:** A forest that has evolved, through successional processes, near to the end of the successional line, or climax forest. Only through disturbance (fire or clear-cutting, for example) will the forest return to an earlier seral (successional) stage.

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

**Leaf Drop:** A normal condition of growth for many plants, whose lower leaves gradually die and fall off.

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

**Level-of-Service Standard (LOS Standard):** Quantifiable measures against which services being delivered by a service provider can be compared. Standards based upon recognized and accepted professional and county standards, while reflecting the local situation within which services are being delivered. Levels-of-service standards for fire protection may include response times, personnel per given population, and emergency water supply. LOS standards can be used to evaluate the way in which fire protection services are being delivered, for use in countywide fire planning efforts.

**Light Fuels:** *See "Fine Fuels."*

**Lightning Activity Level (LAL)**: A number, on a scale of 1 to 6, that reflects frequency and character of cloud-to-ground lightning. The scale is exponential, based on powers of 2 (e.g., LAL 3 indicates twice the lightning of LAL 2).

**Limbing/Limb Up:** Removing selected branches of a standing or fallen tree or shrub.

**Litter**: Top layer of the forest, scrubland, or grassland floor, directly above the fermentation layer, composed of loose debris of dead sticks, branches, twigs, and recently fallen leaves or needles, little altered in structure by decomposition.

**Live Fuels**: Living plants, such as trees, grasses, and shrubs, in which the seasonal moisture content cycle is controlled largely by internal physiological mechanisms, rather than by external weather influences.

**Local Agency:** Pursuant to Government Code §56054 means a city, county, or district. For the purposes of the Fire Plan, a Local Agency refers to a city or special district that provides fire protection.

**Local Responsibility Area (LRA):** Lands in which the financial responsibility of preventing and suppressing fires is primarily the responsibility of the local jurisdiction.

**Local Agency Boundary:** A specific land area that has been approved by LAFCO, within which a local agency (either a special district or a city) is obligated to provide services and from which the local agency generates tax revenue.

**Manual Treatment/Fuel Reduction:** Methods of modifying wildfire fuel complexes without the use of machinery; such treatments may include fire use applications, chemical treatments and livestock grazing.

**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.

**Mechanical Treatments/Fuel Reduction:** Methods of modifying fuel complexes with machinery; these treatments include: biomass removal, biomass thinning, rearrangement, chipping, piling, felling and piling, crushing, and mastication.

**Merchantable Timber:** 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.

**Mitigation:** Those activities implemented prior to, during, or after an incident which are designed to reduce or eliminate risks to persons or property that lessen the actual or potential effects or consequences of an incident. Mitigation measures can include efforts to educate governments, businesses, and the general public on measures they can take to reduce loss and injury and area often informed by lessons learned from prior incidents.

**Moisture Content/Levels:** 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 are composed of montane plants and animals.

**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.

**Mutual Aid Agreement:** A reciprocal aid agreement between two or more agencies that defines what resources each will provide to the other in response to certain predetermined types of emergencies. Mutual aid response is provided upon request.

**National Environmental Policy Act (NEPA)**: The basic national law for protection of the environment, passed by Congress in 1969. NEPA sets policy and procedures for environmental protection, and authorizes Environmental Impact Statements and Environmental Assessments to be used as analytical tools to help federal managers make decisions on management of federal lands.

**National Fire Danger Rating System (NFDRS)**: A uniform fire danger rating system that focuses on the environmental factors that control the moisture content of fuels.

**National Fire Plan:** "A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment: 10-Year Comprehensive Strategy Implementation Plan." Prepared by the Secretaries of the Interior and Agriculture and Western Governors. May 2002.

**National Fire Incident Reporting System (NFIRS):** A database of fire incident reports compiled at the local fire department level. NFIRS was an outgrowth of the 1974 National Fire Prevention and Control Act, Public Law 93–498. The U.S. Fire Administration (USFA), an entity of the Department of Homeland Security, developed NFIRS as a means of assessing the nature and scope of the fire problem in the United States.

**National Fire Protection Association (NFPA):** An international non-profit organization whose mission is to reduce the worldwide burden of fire and other hazards on the quality of life by providing and advocating scientifically-based consensus codes and standards, research, training and education.

**National Wildfire Coordinating Group (NWCG):** An organization formed under the direction of the Secretaries of Agriculture and the Interior that includes representatives of the U.S. Forest Service, Bureau of Land Management, Bureau of Indian Affairs, National Park Service, U.S. Fish and Wildlife Service and National Association of State Foresters. The group's purpose is to facilitate coordination and effectiveness of wildland fire activities and provide a forum to discuss, recommend action, or resolve issues and problems of substantive nature. NWCG is the certifying body for all courses in the National Fire Curriculum.

**Natural Barriers:** Naturally existing breaks in fuel continuity within a landscape, which can help block the spread of fire in the direction of their location; natural barriers include: lakes, streams, ponds, roads, cultivated fields, and pastures.

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

**Natural Fire Regime:** (1) A natural fire regime is a classification of the role fire would play across a landscape in the absence of modern human mechanical intervention, but including the influence of aboriginal burning (Agee 1993, Brown 1995). Five natural (historical) fire regimes are classified based on average number of years between fires (fire frequency) combined with the severity (amount of replacement) of the fire on the dominant overstory vegetation.

**Natural Resources:** A necessary or beneficial material source (such as timber, minerals, water, and grazing area) occurring in nature that has a value in human commerce.

**Niche:** A species of 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.

**Open Burning:** the use of outdoor fires for disposing of natural vegetation around homes.

**One-Way-In, One-Way-Out Roads:** Non-continuous and non-connecting roads that constitute the sole ingress/egress route into/away from a particular location; oftentimes, these roads lead to residences or small neighborhoods, and are typically located in remote or semi-remote areas. These roads can become hazardous in emergency incidences when simultaneous home evacuations and emergency response are necessary.

**Organic Matter:** The fraction of soil that includes plant and animal residues at various stages of decomposition, cells and tissues of soil organisms, and substances synthesized by the soil population.

**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 the treetops.

**Patch Burning:** A method of prescribed burning 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.

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

**Peak Fire Season:** That period of the fire season during which fires are expected to ignite most readily, to burn with greater than average intensity, and to create damage at an unacceptable level.

**Perennial:** (1) Plants that live for more than two growing seasons. For fire danger rating purposes, biennial plants (alive for two growing seasons) are classed with perennials. (2) In reference to water, a stream that flows year-round during a typical year.

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

**Personal Protective Equipment (PPE)**: Equipment and clothing used and worn by all firefighting personnel in order to mitigate the risk of injury from, or exposure to, hazardous conditions encountered while working.

- Structure PPE, or Bunker Gear, includes NFPA/OSHA compliant helmet, goggles, hood, coat, pants, boots, gloves, pocket tools, and Self Contained Breathing Apparatus.
- Wildland PPE, includes 8-inch laced leather boots with lug soles, fire shelter, hard hat with chin strap, goggles, ear plugs, aramid shirts and trousers, leather gloves, and individual first aid kits.

**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.

**Pile Burning:** *See Debris Burning.*

**Planning Unit (Planning Compartment ):** Geographic subdivisions of Humboldt County developed to support the Master Fire Protection Plan risk and capabilities assessment. The boundaries of the Planning Compartments were developed using existing Humboldt County planning tools, taking into consideration watershed boundaries, established community planning areas, fire department/district protection boundaries, tribal land boundaries, and State and federal agency administrative boundaries.

**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.

**Point of Attack:** That part of the fire on which work is started when suppression crews arrive.

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

**Post-fire Effects:** Lingering or residual impacts following a wildfire fire that create hazardous conditions for people and the environment. These may include soil erosion and slope instability, which can cause sedimentation in watersheds, negatively impact drinking water, and create flood risks; invasive species may also take hold and alter natural vegetation compositions and create additional fire hazards.

**Pre-Fire Mitigation:** Prior to fire ignition, a systematic application of risk assessment, safety, prevention, and hazard reduction techniques to reduce wildland fires, damages, and cost of suppression.

**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 an detail such items as evacuation routes, fuelbreaks, and firefighting strategies.

**Preparedness:** (1) Activities that lead to a safe, efficient, and cost-effective fire management program in support of land and resource management objectives through appropriate planning and coordination. (2) Mental readiness to recognize changes in fire danger and act promptly when action is appropriate. (3) The range of deliberate, critical tasks and activities necessary to build, sustain, and improve the capability to protect against, respond to, and recover from domestic incidents.

**Prescribed Fire (Controlled Burning):** A fire that burns within a range of predetermined conditions (such as fuel moisture content, weather conditions, etc.) that will keep it controllable, at low intensity, and able to achieve its stated objectives. A written, approved prescribed fire plan must exist, and environmental requirements (where applicable) must be met, prior to ignition.

**Precautionary Evacuation:** An evacuation of the public away from an area which seems to be in the path of an oncoming, uncontained wildfire. Precautionary evacuations are especially likely in areas with limited ingress and egress in order to ensure that residents get out while they can and clear the road for emergency response vehicles.

**Prevention:** Activities directed at reducing the incidence of fires. Include public education, law enforcement, personal contact, and reduction of fuel hazards.

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

**Protection Resources:** Assets that are available to support fire protection efforts and public safety; protection resources include firefighting facilities, personnel and equipment, fire protection water storage and areas from which water may be drafted, open areas that can act as fuelbreaks or evacuation safe zones, and access roads.

**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.

**Radiant Heat:** Heat energy carried by electromagnetic waves longer than light waves and shorter than radio waves. Radiant heat (electromagnetic radiation) increases the sensible temperature of any substance capable of absorbing the radiation, especially solid and opaque objects.

**Radiation:** Transfer of heat in straight lines through a gas or vacuum other than by heating of the intervening space.

**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.

**Residence Time:** Time, in seconds, require for the flaming front of a fire to pass a stationary point at the surface of the fuel. The total length of time that one flaming front of the fire occupies one point.

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

**Resistance to Control:** The relative difficulty of constructing and holding a control line as affected by resistance to line construction and by fire behavior. Also known as difficulty of control.

**Response:** (1) Movement of an individual firefighting resource from its assigned standby location to another location or to an incident in reaction to dispatch orders or to a reported alarm. (2)

Activities that address the short-term, direct effect of an incident, including immediate actions to save lives, protect property, and meet basic human needs. Also includes the execution of emergency operations plans as well as mitigation activities designed to limit the loss of life, personal injury, property damage, and other unfavorable outcomes.

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

**Resort Improvement Districts (RID):**Districts authorized under §13000 of the Public Resources Code to provide a broad range of services (similar to CSDs), including fire protection, in unincorporated areas that are occupied seasonally for recreation and/or resort purposes.

**Resource Management Plan (RMP)**: A document prepared by field office staff with public participation and approved by field office managers that provides general guidance and direction for land management activities at a field office. The RMP identifies the need for fire in a particular area and for a specific benefit.

**Response Area:** The Humboldt County Master Fire Protection Plan defines two types of response areas, District Response Areas and Non-District Response Areas.

- District Response Areas are areas outside the local agency boundaries of the special district or city within which the fire department associated with local agency provides fire protection.
- Non-District Response Areasare areas within which a volunteer fire company (see definition of VFC) provides fire protection. The primary difference between a response area (district or non-district) and a local agency boundary is that there is no legislated obligation for a fire department to provide structural fire protection within a response area.

**Response Time:** For the purposes of the Master Fire Protection Plan, response time is the time that elapses between the moment a 911 call is placed to the emergency dispatch center and the time that a first-responder arrives on scene. Response time includes dispatch time, turnout time (the time it takes firefighters to travel to the fire station, don their PPE, and prepare the apparatus), and travel time.

**Restoration Activity/Efforts:** Activities designed to help repair damage or disturbance caused by wildfire, or the wildfire suppression activity, that are intended to restore the landscape back to its original state.

**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:** (1) The chance of a fire starting as determined by the presence and activity of causative agents; (2) A chance of suffering harm or loss; (3) A number related to the potential of firebrands to which a given area will be exposed during the rating day.

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

**Risk Factors:** Factors can be either natural (weather i.e. wind, temperature) or human-associated. Human-associated risk factors are those we have control of such as building materials (roofs, chimneys, siding, windows, etc.), design, and location of the home, that can influence whether a

home or structure can easily ignite, and if so, whether fire can be sustained to the extent that the structure would be lost.

**Roof Assembly:** The component(s) above the roof structural framing including the roof deck, vapor barrier, insulation, roof cover, coatings, toppings, or any combination thereof.

**Roof Classification:** Roof classification is determined by tests that expose the top surface of roof decks to both gas flames and burning wood brands. Tests are arranged to provide three levels of severity by adjusting the temperature and duration of the gas flame and the sizes of the burning wood brands. Successful coverings are rated Class A, Class B, or Class C, with Class A withstanding the most severe exposure, Class B withstanding intermediate exposure, and Class C withstanding the least severe exposure.

**Roof Covering:** The membrane, which may also be the roof assembly, that resists fire and provides weather protection to the building against water infiltration, wind, and impact.

**Safety Zone**: An area cleared of flammable materials used for escape in the event the line is outflanked or in case a spot fire causes fuels outside the line to render the line unsafe. In firing operations, crews progress so as to maintain a safety zone close at hand, allowing the fuels inside the control line to be consumed before going ahead. Safety zones may also be constructed as integral parts of fuel breaks; they are greatly enlarged areas which can be used with relative safety by firefighters and their equipment in the event of a blowup in the vicinity.

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

**Sawlogs:** A lot that meets minimum standards of diameter, length, and defect for sawing nto lumber.

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

**Sediment/Sedimentation:** 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 harm fish and wildlife habitat.

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

**Sensitive Habitat/Environmentally Sensitive Habitat:** Any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments. Sensitive habitat areas include, but are not limited to, riparian corridors, wetlands, marine habitats, sand dunes, sea cliffs, and habitats supporting rare, endangered, and unique species.

**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.

**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.

**Setback:** The minimum distance by which any building or structure must be separated from a street or property line.

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

**Shaded Fuelbreak:** A fuelbreak built in a timbered area where the trees on the break are thinned and pruned to reduce the fire potential yet retain enough crown canopy to make a less favorable microclimate for surface fires.

**Shelter-In-Place:** During a wildfire, sheltering in place means to stay inside a home or structure that is fire-resistive and air tight, and remain there until the emergency is over.

**Shrublands:** Plant communities characterized by vegetation dominated by shrubs (woody plants with many branches, usually growing less than 8 meters high), often also including grasses, herbs, and geophytes. Mediterranean shrublands in the California North Coast contain northern coastal shrub and coastal sage scrub.

**Signage:** Address markers, road postings and street signs that designate the location of residences and help orient people within a community or area. Highly visible signage is important for helping emergency responders locate incident sites.

**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**: Debris left after logging, pruning, thinning, or brush cutting; includes logs, chips, bark, branches, stumps, and broken understory trees or brush.

**Slope:** Upward or downward incline or slant, usually calculated as a percentage. One percent of slope means a rise or fall of one foot of elevation within a distance of 100 feet. Thus, 45 percent would equal 45 feet of rise in 100 feet.

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

**Small-diameter Wood Products:** Logs generally less than 10-inches in diameter at the large end.

**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.

**Soffit:** The underside of an architectural element such as a cantilever, an arch, a staircase, or a cornice.

**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.

**Special District:** As government organizations**, s**pecial districts are a type of local agency that delivers specific public services within defined boundaries. The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (the state law that governs the activities of LAFCO) more narrowly defines a special district and excludes school related districts, financing districts and numerous other districts.

**Special Status Species:** Animal or plant species that are officially listed, proposed for listing, or are a candidate for possible listing under the State and/or Federal Endangered Species Act. Also includes species that are biologically rare, very restricted in distribution, declining throughout their range, or have a critical, vulnerable stage in their life cycle that warrants monitoring.

**Special Tax:** Any tax imposed for specific purposes, including a tax imposed for special purposes, which is placed into a general fund. (Subdivision (d), Section 1, Article XIII C of the California Constitution). All taxes imposed by any local government shall be deemed to be either general taxes or special taxes. Special purpose districts or agencies, including school districts, shall have no power to levy general taxes (Subdivision (a), Section 2, Article XIII C of the California Constitution)

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

**Spot Fire**: A fire ignited outside the perimeter of the main fire by flying sparks or embers.

**Stacking Functions:** Achieving several goals at once 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.

**Standard:** A criterion; the ideal in terms of which something can be judged. An acknowledged measure of comparison for quantitative or qualitative value.

**Standardized Emergency Management System (SEMS):**(Government Code § 8607). The group of principles developed for coordinating state and local emergency response in California. SEMS provides for organization of a multiple-level emergency response, and is intended to structure and facilitate the flow of emergency information and resources within and between the organizational levels--the field response, local government, operational areas, regions and the state management level. SEMS incorporates by reference: the Incident Command System (ICS); multi-agency or inter-agency coordination; the State's Mutual Aid Program; and Operational Areas.

**Standard Operating Procedure:** (1) A written organizational directive that establishes or prescribes specific operational or administrative methods to be followed routinely for the performance of designated operations or actions. (2) An organizational directive that establishes a standard course of action.

**Stand-Replacing Fire:** A fire that kills most or all of the trees in a section of forest.

**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):** Defined in California Public Resources Code § 4125 – 4127 as lands in which the financial responsibility of preventing and suppressing fires is primarily the responsibility of the state. State Responsibility Areas are defined by code:

> § 4126. The Board of Forestry shall include within state responsibility areas all of the following lands: (a) Lands covered wholly or in part by forests or by trees producing or capable of producing forest products. (b) Lands covered wholly or in part by timber, brush, undergrowth, or grass, whether of commercial value or not, which protect the soil from excessive erosion, retard runoff of water or accelerate water percolation, if such lands are sources of water which is available for irrigation or for domestic or industrial use. (c) Lands in areas which are principally used or useful for range or forage purposes, which are contiguous to the lands described in subdivisions (a) and (b). § 4127. The Board of Forestry shall not include within state responsibility areas any of the following lands: (a) Lands owned or controlled by the federal government or any agency of the federal government. (b) Lands within the exterior boundaries of any city, except a city and county with a population of less than 25,000 if, at the time the city and county government is established, the county contains no municipal corporations. (c) Any other lands within the state which do not come within any of the classes which are described in Section 4126.

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

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

**Streamside Management Areas (SMA):** Wet areas within the natural environment, such as: natural ponds, springs, vernal pools, marshes, and wet meadows (exhibiting standing water year-long or riparian vegetation). The use of, or proposed development within or affecting these areas requires compliance with Humboldt County standards and regulations designed to protect the ecological health and integrity of the ecosystems they support.

**Structure:** Any building or structure used for support or shelter of any use or occupancy.

**Structural Fire Protection:** The protection of a structure from interior and exterior fire ignition sources. This fire protection service is normally provided by municipal fire departments with trained and equipped personnel. After life safety, the agency's priority is to keep the fire from leaving the structure of origin and to protect the structure from an advancing wildland fire. (The equipment and training required to conduct structural fire protection is not normally provided by the wildland firefighter.)

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

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

**Structure Fire**: Fire originating in and burning any part or all of any building.

**Sudden Oak Death (SOD):** A disease in oak trees that is a caused by *Phytophthora ramorum*, an invasive forest pathogen introduced to California in the mid-1990s through the horticultural plant trade. Affected areas can have a significantly higher fire hazard due to higher proportions of dead fuels of all sizes and prevalence of snags.

**Suppression**: All the work of extinguishing or containing a fire, beginning with its discovery.

**Surface Fire:** Fire that burns loose debris on the surface, which includes dead branches, leaves, and low vegetation. This type of fire kills many seedlings and can be damaging to young stands of spruce, fir, and hemlock, but usually causes minimal damange to mature ponderosa pine, Douglas fir, and western larch.

**Surface Fuels**: Loose surface litter on the soil surface, normally consisting of fallen leaves or needles, twigs, bark, cones, and small branches that have not yet decayed enough to lose their identity; also grasses, forbs, low and medium shrubs, tree seedlings, heavier branchwood, downed logs, and stumps interspersed with or partially replacing the litter.

**Surface Mineral Soil:** The top layer of the earth's surface, consisting of rock and mineral particles mixed with organic matter. Surface mineral soil is not flammable.

**Survivable Space:** The area between a noncombustible home and an oncoming wildfire where vegetation has been modified and maintained to reduce the potential for the home to burn. *Also see Defensible Space.*

**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 making of dead needles, foliage, twigs, branches, stems, bark, vines, moss, and high brush. In general, these fuels easily try 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.

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

**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.

**Torch/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 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.

**Topographic Breaks:** Natural formations within the topography of a landscape that can help break up fuel continuity and reduce the spread of fire. *Also see Natural Barriers.*

**Topography:** Geographic elements of an area, such as slope steepness, aspect, existence of hills, canyons, and rough terrain.

**Treatment:** An action or controlled technique that is applied in a specific process. *See "Fuel Treatment."*

**Tributaries:** A stream, creek, or river that flows into a main stem (or parent) river or lake. Tributaries do not flow directly into a sea or ocean.

**Turn-Around Space:** A portion of a roadway, unobstructed by parking, that allows for a safe reversal of direction for emergency apparatuses.

**Turn-Outs:** Open spaces along roadways, unobstructed by regular parking, that allow for the safe passage of vehicles and can provide emergency parking for firefighting apparatuses.

**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 so that the fire consumes surface fuels but not trees or shrubs. Also known as understory burning.

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

**Unit Fire Weather Plan:** A Unit Fire Weather Plan, otherwise known as a Fire Danger Operating Plan, is used to allow for a sound scientific based emergency dispatch system to be implemented. The plan facilitates a methodology to assure wildland fire dispatch levels are appropriate.

**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.

**Values at Risk:** *See Assets at Risk.*

**Variable-Density Treatment:** Silvacultural 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."

**Vegetation Composition:** *See Plant Composition and/or Stand Composition.*

**Vegetation Management:** The use of fire, timber harvest, tree thinning, rangeland, and wildlife habitat activities, practices, and projects that alter the vegetation to meet vegetation resource management objectives.

**Vegetation Type:** A standardized description of vegetation. The type is based on the dominant plant species and the age of the forest. It also indicates how moist a site may be and how much fuel is likely to be present.

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

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

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

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

**Volunteer Fire Department:** A fire department associated with a local agency (either a city of a special district authorized to provide fire protection) that is comprised almost entirely of volunteer, unpaid, firefighters, whose primary objective is community fire protection.

**Volunteer Fire Company:** A fire department not associated with a local agency (either a city of a special district authorized to provide fire protection) that is comprised almost entirely of volunteer, unpaid, firefighters. Volunteer Fire Companies also include volunteer firefighting organizations associated with Indian Tribes whose primary objective is community fire protection rather than wildland fire suppression, and volunteer firefighting organizations associated with timber/lumber companies who provide community fire protection.

**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.

**Water Tender**: A ground vehicle capable of transporting specified quantities of water.

**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:** An unplanned, unwanted wildland fire including unauthorized human-caused fires, escaped wildland fire use events, escaped prescribed fire projects, and all other wildland fires where the objective is to put the fire out. *See also: Wildland Fire.*

**Wildfire Risk:** *See Fire Risk.*

**Wildlands:** Areas in which development is essentially nonexistent, except for roads, railroads, power lines, and similar transportation facilities. Structures, if any, are widely scattered. Can also include large cattle ranches and forests managed for timber production.

**Wildland Agency**: Any federal, tribal, state, or county government organization participating in wildland fire protection with jurisdictional responsibilities.

**Wildland Fire**: A non-structure (i.e. non-home) fire that occurs in the wildland. Three distinct types of wildland fire have been defined and include wildfire, wildland fire use, and prescribed fire. *See also: Wildfire.*

**Wildland-Urban Interface (WUI):** The zone where structures and other human developments meet, or intermingle with, undeveloped wildlands.

**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 and become vulnerable to this effect. Also known as "Blowdowns."

**Woody Biomass:** The trees and woody plants, including limbs, tops, needles, leaves, and other woody parts, grown in a forest, woodland, or rangeland environment, that are the by-products of forest management.

**Woody Biomass Utilization:** *See Biomass Utilization.*

# APPENDIX C:
# REFERENCES

## APPENDIX C: REFERENCES

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# APPENDIX D: MAPPING EXERCISE INSTRUCTIONS

# APPENDIX D: MAPPING EXERCISE INSTRUCTIONS

## Community Wildfire Protection Plan
## Community Mapping Exercise[1]

Please take a look at the maps displaying community values at risk, risks and hazards, safety resources, and proposed projects. This information was collected in a variety of ways over the past decade. Use the markers provided to modify, add to, and update the existing information.

**Community Values at Risk (Green Highlighter)**

- Where are the places and things you most value and want to see protected from wildfire?
  Examples include:
  - Hospitals and health care facilities
  - Businesses
  - Schools, Churches, and Stores
  - Community centers
  - Rare and endangered species, habitat, ecologically significant areas
  - Recreation areas
  - Culturally or historically significant areas
- What critical infrastructure needs to be protected from wildfire? Examples include:
  - Power substations & corridors
  - Communication sites and facilities
  - Municipal water supply facilities
  - Transportation corridors
  - Major manufacturing and utilities facilities

**Wildfire Risk, and Hazards (Orange Highlighter, Red Marker, Pink Highlighter, Purple Marker)**

- Where do you think a wildfire would start in your community?
- What are other wildfire hazards in your community?
  - Dead trees (insect or disease)
  - Slash from logging or thinning
  - Fuel storage
  - Abandoned wooden structures
  - Road systems – blocked, brushed over, or dead end roads
- What kind of road or structural conditions might increase fire risk?
  - Road maintenance needs (outages, slides, etc.) (Red marker)
  - Bridges and/or locked gates, especially bridges too small or weak to carry a fire truck (Red marker)
  - Power lines (Purple marker)

[1] This mapping exercise is based on the ongoing work of Tracy Katelman and ForEverGreen Forestry, www.forevergreenforestry.com.

- Where have fuels reduction projects already occurred? Identify defensible space treatments. (Pink highlighter)

- **Safety Resource (Blue Highlighter and Marker, Brown Marker, Black Marker,)** Where are there resources for fighting fires? What information needs updating?
  - Water storage: tanks, ponds, pools (Blue marker dot w/# 1,000 gallons (e.g. 5 =5000)
  - Equipment (**Brown marker**)
  - Access route/evacuation
  - Updated road conditions: roads that do not exist on the maps, or are on the maps and do not exist on the ground. (**Black marker**)

**Proposed Projects Yellow Highlighter)**

- Where do you most want to see fuels treatment occur? What types of treatments?
  - Shaded fuel breaks
  - Roadside brushing
  - Prescribed fire
- What other wildfire protection activities would you like to see implemented?
  - Water storage: tanks, ponds, pools (Blue dot w/yellow circle)
  - Education
  - Equipment
  - Road and address signs

**Priorities: Which projects are your highest priority and why?**
Now think about ownership, cost, effectiveness; what do you want to see happen soonest?

(The prioritization method is to take the total number of identified projects, divide it by 3, and give each participant that many sticky dots. Instruct participants to place one dot (only one vote per item) on each of their priority projects. Tally "votes," and number on flip chart in red. Then ID the top 3-5 vote getters as the top priorities for the group. The result will be a J-curve of the group's prioritization preferences.)

# APPENDIX E:
# HOME RISK ASSESSMENT

## APPENDIX E: HOME RISK ASSESSMENT

HUMBOLDT COUNTY FIRE SAFE COUNCIL

# HOME RISK ASSESSMENT:

### ASSESS YOUR HOME'S ABILITY TO SURVIVE WILDFIRE[1]

Your home's potential for ignition – its chance of catching on fire – is determined by two primary factors:

(1) the presence of combustible materials within 100 feet of your home, and

(2) the ability of your home to resist air-borne embers.

This assessment will reveal your home's vulnerabilities to wildfire, helping you prepare to better protect your home.

Remember that if you don't have adequate defensible space around your home, the specific characteristics of your home may not matter!

For each item below, circle the number across from the description that best describes your home and property, or describe the actual situation and estimate a score. When you're done, you can total your scores and find out how your home rates. Low scores are excellent and indicate a low likelihood that your home would ignite under typical wildfire exposures.

This assessment focuses first on the specific characteristics of your home, then it follows with an assessment of the conditions surrounding your home. However, it's important to remember that if you don't have adequate defensible space around your home, the specific characteristics of your home may not matter! **The scoring used in this guide assumes that you have 100 feet of defensible space**.

While assessing your home and parcel, envision what it would take for your house to survive *without* firefighters present – a common situation during extreme wildfires. This is the premise of the first section of this assessment, which rates whether or not your home could survive on its own.

The second section of this assessment addresses firefighters' ability to protect your home. Low potential for ignition makes firefighters' work easier.

Additional information on protecting your home from wildfire can be found at www.extension.org/surviving_wildfire and www.disastersafety.org. There are also many resources available through University of California Cooperative Extension, including http://ucanr.org/sites/Wildfire/ and http://firecenter.berkeley.edu.

[1] Adapted from the Mendocino County Fire Safe Council's Wildfire Risk Assessment with editorial changes made by Stephen Quarles (UC Cooperative Extension Emeritus and IBHS Senior Scientist) and Yana Valachovic (UC Cooperative Extension), March 2012. The Mendocino Home Risk Assessment was originally created with the assistance of Jack Cohen, a research scientist with the U.S. Forest Service whose work on how homes ignite in wildfires is central to the national Firewise program and is the subject of the DVD called "Wildfire! Preventing Home Ignitions," available free from Firewise (see www.firewise.org).

# PART 1: HELPING YOURSELF AND YOUR HOME

## BUILDING MATERIALS AND CONSTRUCTION

*Your home can survive a wildfire without the fire department's intervention, but only if it is built and maintained to resist ignition from (1) air-borne embers entering your house and/or accumulating on or near it, (2) direct contact with flames from ember-ignited combustible material very close to the home, and (3) radiant heat from nearby flames.*

*The primary cause of home loss to wildfire are the embers that ignite materials adjacent to the home or directly ignite a vulnerable part of the house, such as a wood shake roof.*

**1. ROOFTOP:** *The roof is the most vulnerable part of a house, so it is the top priority!*

| *At my house…* | ***Score*** |
|---|---|
| I have a fire-resistant roof covering in good condition (composition shingles, ceramic tile, metal, slate, etc.) | **0** |
| I have an untreated wood shake roof | **80** |
| Other: | Estimated score: |

***Recommended action if needed:***

- Replace wood shake roof with fire-rated roofing

**2. EDGE OF ROOF VULNERABILITIES**

**2.1 ROOF TRANSITIONS**: *Homes have a roof covering, and gaps can exist between the covering and the roof deck. These gaps can occur at the roof edge, at the ridge, or in valleys. (Rounded Spanish tiles that are not sealed are a common example of this).*

| ***At my house…*** | ***Score*** |
|---|---|
| These gaps are sealed | **0** |
| There are gaps between roof deck and roof covering | **20** |
| Other: | Estimated score: |

***Recommended action if needed:***

- Seal gaps between roof deck and roof covering

**2.2 COMPLEX ROOF OBSERVATIONS**: *The roof has protrusions, such as a chimney chase, dormers, roof offsets, etc.*

| ***At my house…*** | ***Score*** |
|---|---|
| Roof is not complex or siding on protrusion consists of noncombustible materials (e.g., fiber cement, stucco or metal) | **0** |
| Siding on protrusion consists of combustible materials (e.g., wood or vinyl) | **20** |
| Other: | Estimated score: |

***Recommended action if needed:***

- Look for accumulations of pine needles and dead leaves adjacent to these vertical components

- Replace siding on roof protrusions with noncombustible materials

**2.3 GUTTERS**: *A fire can begin in the gutters and enter the house, under the roof into the attic. Maintenance is critical.*

| *At my house…* | *Score* |
|---|---|
| Rain gutters are cleaned regularly and free of dry needles or leaves | **0** |
| Metal angle flashing is present at roof edge | **0** |
| Rain gutters are full of pine needles and/or dead leaves | **10** |
| Vinyl or plastic rain gutter present | **10** |
| Other: | Estimated score: |

***Recommended action if needed***:

- If not already present, add metal angle flashing at roof edge
- Clean gutters regularly to avoid buildups of dry leaves and pine needles

**3. VENTS**: *Hot embers can penetrate vents that are damaged or have screen openings larger than 1/8".*

| *At my house…* | *Score* |
|---|---|
| All vents are covered with metal mesh with openings of 1/8" or less | **0** |
| All vents are covered with metal mesh with openings of 1/4" or greater | **30** |
| Other: | Estimated score: |

***Recommended action if needed:***

- Ensure openings in metal mesh are 1/8" or less; replace metal mesh if needed

**4. SIDING:** *Embers can also penetrate through gaps in siding and at junctions between deck, walls, and fascia boards.*

| *At my house…* | *Score* |
|---|---|
| I have noncombustible (for example, stucco or fiber cement) siding | **0** |
| I have combustible (wood, vinyl, or other plastic) siding | **15** |
| Other: | Estimated score: |

***Recommended action if needed:***

- Replace siding with noncombustible materials

**5. EAVES**: *Embers can also penetrate open eaves*

| *At my house…* | *Score* |
|---|---|
| The eaves are boxed in | **0** |
| The eaves are open (you can see the roof rafters or trusses on part of your roof overhanging the exterior wall) | **10** |
| Other: | Estimated score: |

***Recommended action if needed:***

- Box-in your eaves to reduce vulnerability of your eaves to embers

**6. WINDOWS**: *Aside from the obvious vulnerability of an open window that can let in embers, radiant heat and/or direct flame contact can cause the glass in your window to break. Window screens will absorb radiant energy and can block entry of embers, providing some protection at your windows. Shutters will also provide protection from radiant heat and flames. Tempered glass, a requirement by code for all windows in a new home, provides substantially more protection from radiant heat than non-tempered (annealed) double-paned glass alone.*

| *At my house…* | *Score* |
|---|---|
| All the windows and glass doors have double-paned glass | **0** |
| The windows have single-paned glass | **20** |
| Other: | Estimated score: |

***Recommended action if needed:***

- Replace windows with tempered, double-paned glass
- Install screens or shutters for added protection

**7. DECK AND PORCH:** *Embers often land on or under the deck or porch, igniting combustible vegetation and other items stored on or under the deck.*

| *At my house…* | *Score* |
|---|---|
| The deck or porch is free of leaves and needles, wood planter boxes, combustible decorations and doormats, lawn furniture with cushions, etc. | **0** |
| I have combustible items on my deck/porch all summer and am unlikely to be able to remove them if an evacuation occurs | **20** |
| My deck overhangs a steep slope | **20** |
| Other: | Estimated score: |

***Recommended action if needed:***

- Keep deck/porch free of large accumulations of combustible materials (including areas under deck)

**8. FIRE HAZARDS NEAR THE HOUSE:** *In a wildfire, burning materials will produce embers that can catch buildings on fire. Anything combustible that is attached to the house—fences, decks, boardwalks, outbuildings, etc.—should be considered part of the house and given the same consideration as the house.*

| *At my house…* | *Score* |
|---|---|
| All firewood, lumber, fuel tanks, chemicals, equipment, wood fences, sheds, and other combustible materials are at least 30 feet from my home | **0** |
| There is a wooden fence attached to my house | **5** |
| There are old sheds, barns and other buildings within 30' of my home | **20** |
| Firewood, lumber, tanks or other combustibles are adjacent to or under or on my deck<br>or next to my house | **20** |
| Other: | Estimated score: |

***Recommended action if needed:***

- Maintain defensible space around outbuildings, fuel storage containers, woodsheds, etc.

## COMBUSTIBLE VEGETATION AND OTHER ITEMS NEAR THE HOME

*Homes are frequently ignited by small surface fires in grass, weeds, and brush that are able to reach the house, or from embers that ignite vegetation adjacent to the house. Removing dead grass, weeds, brush, tree branches, and other combustible items near the house is crucial.* ***A fire-safe landscape does not mean you need to cut down mature trees, remove all plants, and create a moonscape!*** *It means reducing the amount of combustible items near your home so that fire will not spread to your home, an attached fence, or a nearby outbuilding. The key concepts are:*

*1. Keep clumps of plants, bushes, and other items horizontally separated from each other so if one clump is on fire, its heat and flames won't catch the next one on fire. For example, canopies of major trees should be separated by 20 feet or more. Canopies of shrubs should be separated by 10 feet or more. Keep your vegetation in separate islands, surrounded by less combustible areas or hardscape.*

*2. Keep fire from burning into tree and shrub canopies by preventing fire from spreading vertically. This can be done by (A) pruning lower branches and (B) removing most combustible vegetation beneath the trees or shrub. Dead vegetation must be removed from shrubs (half-dead junipers are especially combustible).*

### 1. WITHIN 5 FEET OF THE HOUSE:

| ***Within 5 feet of my house…*** | ***Score*** |
|---|---|
| Everything that is combustible is cleared, raked and away from this zone | **0** |
| Un-mowed dead grass, other dead vegetation, and combustible mulch materials surround my house | **40** |
| Other: | Estimated score: |

***Recommended action if needed:***

- Clear dead vegetation and other combustible materials away from your house

### 2. WITHIN 30 FEET OF THE HOUSE:

| ***Within 30 feet of my house…*** | ***Score*** |
|---|---|
| I have removed dead vegetation from this zone. The canopies of trees are well-spaced (e.g., 20 feet separating outside branches) and branches are pruned up to 8 feet. Dead grass has been mowed. | **0** |
| The dead grass is not mowed and dead shrubs are connected vertically and horizontally to other shrub and tree canopies. | **30** |
| Other: | Estimated score: |

***Recommended action if needed:***

- Remove dead vegetation within 30 feet of your house.

### 3. WITHIN 30-100 FEET FROM THE HOUSE:

| ***Within 30-100 feet of my house…*** | ***Score*** |
|---|---|
| Trees have at least 15 feet between canopies and branches pruned up to 8 feet. Dead branches and dead shrubs have been removed. Shrubs have 10 feet between canopies. | **0** |

| | |
|---|---|
| There are continuous shrubs and trees in this zone. | **20** |
| Other: | Estimated score: |

***Recommended action if needed:***

- Prune trees and shrubs up to 8 feet. Remove dead plant material, and separate shrub and tree canopies.

## TOPOGRAPHY/TERRAIN NEAR MY HOME

*Fire burns more intensely uphill than downhill. All else being the same, a steeper slope will burn more intensely. Narrow canyons and gullies can channel the wind, resulting in higher intensity burning and ember generation.*

### 1. My Home's Location Relative to Slopes Covered with Combustible Vegetation (if applicable):

| *My house is…* | *Score* |
|---|---|
| Set back more than 30 ft from a steep upslope | **0** |
| Set back less than 30 ft from a steep upslope | **10** |
| Other: | Estimated score: |

***Recommended action if needed***:

- If you are located on or near a steep slope, vegetation management (outlined above) is even more critical.

## TOTAL POINTS FOR MY HOME:

_____

**INTERPRETING YOUR HOME'S WILDFIRE RISK SCORE**

*These are estimates; a low score does not guarantee that your home will be safe.*

| | | |
|---|---|---|
| Up to 35 points | = | Low Risk |
| 35 to 60 points | = | Moderate Risk |
| 65 to 95 points | = | High Risk |
| 100 points or more | = | Extreme Risk |

Concerned about your score? See where your risk points are highest. Start with your home itself, and work outward. Proper vent screens are perhaps your cheapest and easiest to accomplish. Although more costly, the most crucial step is to improve your roof to meet fire resistant standards. Maintenance and separation of vegetation from the home is essential. Every action you take will increase your safety from wildfire!

# PART 2: HELPING FIREFIGHTERS HELP YOU

*During a wildfire, vehicles will be leaving, and fire engines will be attempting to enter areas on the same road(s).*

- *Will you be able to evacuate safely if necessary?*
- *Will fire engines be able to get to your home?*
- *Do you have room for fire engines to park and set up a save zone for them to work from? Fire engines may be 28' long, 10' wide, and 15' tall.*

*If this assessment results in a score of 20 or greater, understand that your conditions would probably prevent fire engines from getting to your home. Work to improve these conditions. If you face these situations, contact your Fire Safe Council, CALFIRE and your local fire department for advice on what you should do before and during a fire to improve your safety[2].*

*Scores in this section are given to help you understand (1) your ability to evacuate safely and (2) what firefighters need. They do not relate directly to how your home will survive a wildfire unattended and should not be interpreted in the same way as your home score.*

## 1. Number of Access Routes to my Home:

| ***Where I live…*** | ***Score*** |
|---|---|
| There are two or more roads in and out of my area | **0** |
| I live on a long dead-end road | **15** |
| Other: | Estimated score: |

## 2. Width of Roads to my Home:

| ***Where I live…*** | ***Score*** |
|---|---|
| The roads are all two lanes -- 18 or more feet wide | **0** |
| The roads are between 10 and 18 feet wide | **10** |
| Some roads are less than 10 feet wide | **20** |
| Other: | Estimated score: |

***Recommended action if needed:***

## 3. Existence of Turnouts for Passing on Single-lane Roads (if applicable):

| ***Where I live…*** | ***Score*** |
|---|---|
| Turnouts are located every 400 feet and they are at least 10' wide x 80' long | **0** |
| There are some turnouts, but not to the standard above | **10** |

[2] *Some of Humboldt County's remote rural fire departments have adapted to respond to residences located on long, narrow, dead-end, dirt roads and will make every efforts to respond to isolated locations. You can help them by having clear signs that identify roads and addresses; and marking water sources.*

| | |
|---|---|
| The road has long, narrow sections with no turnouts | **20** |
| Other: | Estimated score: |

***Recommended action if needed:***

**4. RADIUS OF TURNS AND CURVES ON ROADS AND DRIVEWAY TO MY HOME:**

| ***Where I live…*** | ***Score*** |
|---|---|
| All turns and curves have at least a 50' radius (gentle curves) | **0** |
| Some turns and curves are too tight for a fire engine to make at all | **20** |
| Other: | Estimated score: |

***Recommended action if needed***:

**5. VERTICAL CLEARANCE ABOVE ROADS AND DRIVEWAYS:**

| ***Where I live…*** | ***Score*** |
|---|---|
| There is at least 15 vertical feet of clearance | **0** |
| There is 13-15 feet of clearance | **10** |
| There is less than 13 feet of clearance | **20** |
| Other: | Estimated score: |

***Recommended action if needed:***

**6. BRIDGES ON ROADS OR DRIVEWAYS:** *A fire engine full of water can weigh 30,000+ pounds. If a bridge collapses, firefighters could be killed and evacuation routes cut off. If you are not sure about your bridge's strength, consult a structural engineer.*

| ***Where I live…*** | ***Score*** |
|---|---|
| All bridges can hold 40,000 pounds and have signs posted that declare weight ratings | **0** |
| One or more bridges cannot hold that much weight | **20** |
| Other: | Estimated score: |

***Recommended action if needed:***

**7. ROOM FOR FIRE ENGINES TO MANEUVER:**

| ***Where I live…*** | ***Score*** |
|---|---|
| There's a circular driveway or large open area (40' x 40') near my home | **0** |
| There's a place to turn around that's at least 40' long and 15' wide | **5** |
| It would be difficult for fire engines to turn around near my home | **20** |
| Other: | Estimated score: |

***Recommended action if needed:***

**8. ROAD AND STREET SIGNS:** *In a large wildfire, firefighters from other counties may arrive. They will not know our neighborhoods. If they are given your address number, will they be able to find you?*

| *Where I live…* | *Score* |
|---|---|
| Signs are present at all road intersections; have reflective letters at least 3" tall, and are clearly visible in the dark in headlights | **0** |
| Signs are hard to read or are missing from some intersections | **15** |
| There are no road or street signs in my area | **20** |
| Other: | Estimated score: |

***Recommended action if needed:***

**9. MY HOUSE NUMBER SIGN:**

| *Where I live…* | *Score* |
|---|---|
| My house number is posted at the road, with reflective numbers at least 3" tall on a contrasting background, visible from 100' away in both directions | **0** |
| My sign is present but doesn't meet the above requirements | **10** |
| The address for my house is not posted on the road | **15** |
| Other: | Estimated score: |

***Recommended action if needed:***

**10. WATER SUPPLY:** *Most wildland fire engines carry only 500 gallons of water. Having water that fire engines – or you— can find and tap into is critical in rural areas. Tanks or hydrants must have a discharge with a* ***male National Hose pipe thread fitting either 1½" or 2½" in diameter****. Your Fire Safe Council has detailed information on this subject.*

| *Where I live…* | *Score* |
|---|---|
| A pressurized fire department hydrant is within 1,000' of my house | **0** |
| There is a fire department fitting on a standpipe (small hydrant) or a water tank with an appropriate pipe thread that can provide at least 500 gallons of water – and a blue reflector dot is posted at the driveway's entrance and a sign pointing firefighters to where that fitting and water supply are located | **0** |
| A pond, pool, or stream is near to the home, where a fire engine could safely park within<br>10 feet of the water's surface and pump from it | **0** |
| No water supply exists for firefighting | **15** |
| Other: | Estimated score: |

***Recommended action if needed:***

## TOTAL POINTS FOR MY HELPING FIREFIGHTERS:

_____

*The higher your points, the more risky and complicated it will be for firefighters to defend your house from wildfire.*

***Other helpful resources can be found at the links below:***

Home Landscaping for Fire (http://anrcatalog.ucdavis.edu/pdf/8228.pdf)

Home Survival in Wildfire Prone Areas: Building Materials and Design Considerations (http://anrcatalog.ucdavis.edu/pdf/8393.pdf)

www.firewise.org

www.firelab.org

www.fire.ca.gov

**NOTES:**

**Home Risk Assessment for: _____**

**Summary of Landowner Goals:**

## General

_____
_____
_____
_____
_____
_____

## Road Access/Escape

_____
_____
_____
_____
_____

## Water Resources

_____
_____
_____
_____
_____

## Structures

_____
_____
_____
_____
_____

## Fire Hazard Priorities

_____
_____
_____
_____
_____

## Other

# APPENDIX F:
# COUNTY FIRE SAFE REGULATIONS

# FIRE SAFE REGULATIONS

TITLE III - LAND USE AND DEVELOPMENT---DIVISION 11

CHAPTER 1

ADMINISTRATION

3111-1. TITLE.

These regulations shall be known as the "SRA Fire Safe Regulations" and shall constitute the basic wildland fire protection standards of the County for lands within State Responsibility Areas (SRA).

3111-2. PURPOSE.

These regulations have been prepared and adopted for the purpose of establishing minimum wildfire protection standards in conjunction with building, construction and development in SRA. These regulations constitute local alternative standards as authorized by Section 4290 of the Public Resources Code. The future design and construction of structures, subdivisions and developments in SRA shall provide for basic emergency access and perimeter wildfire protection measures as specified in the following sections. These measures shall provide for emergency access; signing and building numbering; private water supply reserves for emergency fire use; and vegetation modification. The fire protection standards which follow shall specify the minimums for such measures.

3111-3. SCOPE.

(a) These regulations shall apply as appropriate to all of the following activities which are approved in the SRA after January 1, 1992:

(1) the creation of new parcels, excluding lot line adjustments as specified in Government Code (GC) Section 66412(d);

(2) new construction, not relating to an existing structure, which requires a building permit;

(3) land use or development which requires a use permit;

(4) the siting of manufactured homes; and

(5) new road construction, including construction of a road that does not currently exist, or an extension of an existing road.

(b) Notwithstanding paragraph (a) of this section, these regulations shall not apply to:

(1) enlargement, alteration, repair or improvement of any building or structure existing on the effective date of these regulations;

(2) new construction of accessory structures where the main building exists on the effective date of these regulations;

(3) land use or development which requires a use permit where the Planning Director and CDF determines that no increase in fire risk would result from the use or activity;

(4) roads required as a condition of tentative parcel or final maps prior to the effective date of these regulations; roads for agricultural or mining use solely on one ownership; and roads use solely for the management and harvesting of wood products; and

(5) repair or maintenance of any road, street or private lane existing on the effective date of these regulations.

3111-4. PROVISIONS FOR APPLICATION OF THESE REGULATIONS.

These regulations shall be applied as follows:

(a) The County shall provide the local California Department of Forestry and Fire Protection (CDF) Ranger Unit with notice of applications for building permits (where exceptions are requested), tentative parcel maps, tentative maps, and use permits for construction or development within SRA.

The County need not provide CDF with notice of applications for building permits if the County determines that the permit complies with County ordinance and no exceptions from these regulations are required.

(b) The County shall request CDF to review and make fire protection recommendations on applicable construction or development permits or maps provided by the County. CDF shall respond within thirty (30) days of the referral.

(c) The County shall ensure that the applicable sections of this ordinance become a condition of approval of any applicable construction or development permit or map.

(d) The application of these regulations shall be confined to the real property that is the subject of the building permit or other grant of land use or development approval by the County, unless otherwise stated.

Nothing contained in these regulations shall be considered as abrogating the provisions of any ordinance, rule or regulation of the state or county, including the provisions of the California Environmental Quality Act (CEQA), which may require the evaluation and mitigation of potential impacts of the project beyond the limits of the real property that is the subject of the building permit or other grant of land use or development approval before the County.

3111-5. INSPECTION AUTHORITY.

(a) Inspection shall be made pursuant to Section 6 by:

(1) the Planning Director or his/her designee, or

(2) the Director of the California Department of Forestry and Fire Protection (CDF) of his/her designee.

(b) The County shall report violations of these regulations to the CDF Ranger Unit headquarters with responsibility for SRA fire protection for the County.

3111-6. INSPECTIONS.

(a) The inspection authority may inspect for compliance with these regulations. When conducted, inspections should occur prior to the following events:

(1) issuance of a use permit;

(2) issuance of a Certificate of Occupancy under a building permit;

(3) recordation of a parcel or final map for a subdivision;

(4) filing of a notice of completion (other than for a building permit); or

(5) final inspection of any project or building permit.

(b) It shall be the duty of the holder of the building permit or other permit or map approval issued by the County to notify the County, or CDF, as appropriate, that the construction and/or improvement required under these regulations is ready for inspection and to assure that the premises will be accessible at the time scheduled for inspection. Inspections shall be requested by the applicant at least forty-eight (48) hours in advance of the intended inspection.

(c) The inspection authority shall notify or inform the permit holder of the day during which the inspection is to be conducted and shall attempt to notify the permit holder if the inspection cannot be made as scheduled.

(d) Annual inspection conducted by CDF pursuant to Public Resource Code Section 4290 and 4291 shall to the extent practical include notification as provided in paragraph (c) of this section for inspections which focus on individual parcels and by public notice for area-wide inspections.

3111-7 EXCEPTIONS - INTENT.

The County seeks to protect the intent of the State Fire Safe Regulations while ensuring that no undue hardship occurs at the county level due to conditions peculiar to the County. The exceptions procedure is provided with the intent of ensuring that every individual who is negatively impacted will get a fair hearing before local authorities who are competent to judge the legitimacy of that individual's concerns. The local inspection authority together with the local representative of CDF is therefore directed to deal with requests for exceptions to the provisions of these regulations on a case by case basis, making a comprehensive review of the circumstances in each case, taking special note of such factors as:

(a) community standards as expressed in the County' Alternative Owner Building Ordinance; and

(b) economic factors which may affect the affordability of housing as described in the Housing Element of the County's General Plan.

3111-8. EXCEPTIONS TO STANDARDS.

Upon request by the applicant, exceptions to standards within this ordinance and mitigated practices shall be allowed by the inspection authority, where the exception provides the same overall practical effect as these regulations towards providing defensible space. In evaluating requests for exceptions to standards, the inspection authority shall be guided by Section 3111-7 of these regulations (Intent).

3111-9. REQUESTS FOR EXCEPTIONS.

(a) An applicant may apply to the Planning Director for an exception to the standards within this ordinance. The application for an exception shall be accompanied by such information as the Planning Department requires and by a fee established by the Board of Supervisors. At minimum, the application shall contain the following information:

(1) a description of the specific section(s) for which an exception is requested,

(2) material facts supporting the contention of the applicant,

(3) details of the exception or mitigation measures proposed, and

(4) a map showing the proposed location and siting of the exception or mitigation measure(s).

(b) The Planning Director shall request the California Department of Forestry and Fire Protection (CDF) to review the exception request. CDF shall respond within thirty (30) days of the referral with documentation outlining the effects of the requested exception on wildland fire protection. If CDF does not respond within the time provided, the Planning Director shall assume that CDF supports the exception. The Planning Director shall not approve an exception request of the recommendation from CDF is for denial.

(c) The Planning Director shall give written notice of his/her decision to the applicant. Notice shall also be given to any parties requesting such notice and to CDF.

3111-10. APPEALS.

(a) Any person aggrieved by the decision of the Planning Director may appeal to the Board of Supervisors. The appeal shall be filed with the Planning Department within ten (10) days of the date of the notice and shall be accompanied by a written statement of the reasons why the decision was in error and by a fee established by the Board of Supervisors.

(b) The Board of Supervisors shall consider the appeal at the earliest possible date. The decision of the Board of Supervisors is final and binding.

(c) If an appeal is granted, the Board of Supervisors shall make findings that the decision meets the intent of providing defensible space consistent with these regulations. Such findings shall include reasons for the decision.

(d) A written copy of the findings adopted under paragraph (c) above shall be provided to the CDF Ranger Unit headquarters that administers SRA fire protection in the County.

3111-11. DEFINITIONS.

Unless the context otherwise requires, the definitions set out in this ordinance shall be used in the interpretation and construction of these regulations. Words used in the present tense shall include the future tense, and in the future tense shall include the present tense; the singular number shall include the plural number, and the plural shall include the singular.

Abatement: For the purpose of this ordinance means the restoration of the specific measure(s) or mitigation required as a condition of the permit, parcel or map approval pursuant to these regulations.

Accessory building: Any building used as an accessory to residential, Commercial, recreational, industrial, or educational purposes as defined in the California Building Code, 1989 Amendments, Chapter 11, Group M, Division 1, Occupancy that requires a building permit.

Agriculture: Land used for agricultural uses as defined in Humboldt County Code Section 312-6.

Board: The Humboldt County Board of Supervisors.

Building: Any structure used or intended for supporting or sheltering any use or occupancy that is defined in the California Building Code, 1989 Amendments, Chapter 11, except Group M, Division 1, Occupancy.

For the purpose of the ordinance, building includes mobile homes and manufactured homes, churches, and day care facilities.

California Environmental Quality Act (CEQA): Means the California Environmental Quality Act, California Public Resources Code Section 21000 et seq.

CDF: California Department of Forestry and Fire Protection.

County: The County of Humboldt.

Dead-end road: A road that has only one point of vehicular ingress/egress, including cul-de-sacs and looped roads.

Defensible space: The area within the perimeter of a parcel, development, neighborhood or community where basic wildland fire protection practices and measures are implemented, providing the key point of defense from an approaching wildfire or defense against encroaching wildfires or escaping structure fires. The perimeter used in this regulation is the area encompassing the parcel or parcels proposed for construction and/or development, excluding the physical structure itself. The area is characterized by the establishment and maintenance of emergency vehicle access, emergency water reserves, street names and building identification, and fuel modification measures.

Development: As defined in Section 66418.1 of the California Government Code.

Director of Public Works: The Director of the Department of Public Works or his/her designee.

Driveway: A vehicular access that serves no more than two buildings, with no more than three dwelling units on a single parcel, and any number of accessory buildings.

Dwelling unit: Any building or portion thereof which contains living facilities, including provisions for sleeping, eating, cooking and/or sanitation for not more than one family.

Exception: An alternative to the specified standard requested by the applicant that may be necessary due to health, safety, environmental conditions, physical site limitations or other limiting conditions such as recorded historical sites, that provides mitigation of the problem.

Fire valve: See hydrant.

Fuel modification area: An area where the volume of flammable vegetation has been reduced, providing reduced fire intensity and duration.

Greenbelts: A facility or land-use, designed for a use other than fire protection, which will slow or resist the spread of a wildfire. Includes parking lots, irrigated or landscaped areas, golf courses, parks, playgrounds, maintained vineyards, orchards or annual crops that do not cure in the field.

Hammerhead/T: A roadway that provides a "T" shaped, three-point turnaround space for emergency equipment, being no narrower than the road that serves it.

Hydrant: A valved connection on a water supply/storage system, having at least one 2-1/2 inch outlet, with male American National Fire Hose Screw Threads (NH) used to supply fire apparatus and hose with water.

Local fire agency: A local fire organization recognized by the County Local Agency Formation Commission (LAFCO) which has shared responsibility on SRA lands.

Manufactured home: As defined in California Health and Safety Code Sections 18007, 18008, and 199791.

Occupancy: The purpose for which a building, or part thereof, is used or intended to be used.

One-way road: A minimum of one traffic land width designed for traffic flow in one direction only.

Planning Director: Director of the Planning and Building Department or his/her designee.

Roads, streets, private lanes: Vehicular access to more than one parcel; access to any industrial or commercial occupancy; or vehicular access to a single parcel with more than two buildings or four or more dwellings units.

Roadway: Any surface designed, improved, or ordinarily used for vehicle travel.

Roadway structures: Bridges, culverts, and other appurtenant structures which supplement the roadway bed or shoulders.

Same practical effect: As used in this ordinance, means an exception or alternative with the capability of applying accepted wildland fire suppression strategies and tactics, and provisions for firefighter safety, including:

(a) access for emergency wildland fire equipment,

(b) safe civilian evacuation,

(c) signing that avoids delays in emergency equipment response,

(d) available and accessible water to effectively attack wildfire or defend a structure from wildfire, and

(e) fuel modification sufficient for civilian and firefighter safety.

Shoulder: Roadbed or surface adjacent to the traffic lane.

State Board of Forestry (SBOF): A nine member board, appointed by the Governor, which is responsible for developing the general forest policy of the state, for determining the guidance policies of the Department of Forestry and Fire Protection, and for representing the state's interest in federal land in California.

State Responsibility Area (SRA): As defined in Public Resources Code Sections 4126-4127; and the California Code of Regulations, Title 14, Division 1.5, Chapter 7, Article 1, Sections 1220-1220.5.

Structure: That which is built or constructed, an edifice or building of any kind, or any piece of work artificially built up or composed or parts joined together in some definite manner.

Subdivision: As defined in Section 66424 of the California Government Code.

Traffic lane: The portion of the roadway that provides a single line of vehicle travel.

Turnaround: A roadway, unobstructed by parking, which allows for a safe opposite change of direction for emergency equipment. Design of such area may be a hammerhead/T or terminus bulb.

Turnouts: A widening in a roadway to allow vehicles to pass.

Vertical clearance: The minimum specified height of a bridge or overhead projection above the roadway.

Wildfire: As defined in California Public Resources Code Sections 4103 and 4104.

3111-12. DISTANCE MEASUREMENTS.

All specified or referenced distances are measured along the ground surface, unless otherwise stated.

3111-13. MAINTENANCE OF DEFENSIBLE SPACE MEASURES.

(a) To ensure continued maintenance of properties in conformance with these standards and measures and to assure continued availability, access, and utilization of the defensible space provided for in these standards during a wildfire, provisions for annual maintenance shall be included in the development plans and/or shall be provided as a condition of approving any activity subject to these regulations. Provisions deemed to satisfy this requirement include but are not limited to:

(1) establishment of a County Service Area (CSA) for the subdivision prior to map recordation;

(2) development of a binding maintenance association or similar agreement between affected property owners formed for the subdivision prior to map recordation;

(3) recordation of binding Covenants, Conditions, and Restrictions (CC&R) for maintenance of individual measures which are enforceable against the property; or

(4) recordation of a Notice of Requirement for Maintenance against the real property by the County prior to issuance of a building permit or as a condition of a initiating a use authorized under a use permit.

(b) The inspection authority may conduct inspections to ensure compliance with the standards as set forth in the development plans and/or conditions of permit, parcel or map approval. Inspections should be conducted in accordance with Section 3111-6, paragraph (d) of these regulations. Violation of these regulations shall be subject to the penalties as set forth in Section 3116-1 of this ordinance.

## CHAPTER 2

## EMERGENCY ACCESS

3112-1. ROAD AND DRIVEWAY ACCESS - INTENT.

Road and street networks, whether public or private, unless exempted under Section 3111-3(b), shall provide for safe access for emergency wildland fire equipment and civilian evacuation concurrently, and shall provide unobstructed traffic circulation during a wildfire emergency consistent with Section 3112-2 through 3112-13.

3112-2. APPLICATION OF DESIGN STANDARDS.

The design and improvement standards as referenced in these regulations shall be those as set forth in the Appendix to Title III, Division 2, of the Humboldt County Code, and in the County Roadway Design Manual. Application of these design and improvement standards shall be consistent with the intent as prescribed in Section 3112-1, and shall be based upon:

(a) legal requirements,

(b) sound engineering principles and practices and engineering geological evaluation of necessary,

(c) traffic safety considerations,

(d) economy of design and maintenance, and

(e) allowance for the special nature of Humboldt County roads and traffic problems.

Interpretation of these standards shall be provided by the Director of Public Works.

3112-3.ROAD WIDTH.

All roads shall be constructed to a minimum Road Category 4 road standard for traveled way (18-20 feet), except as provided herein.

(a) A traveled way meeting the standard for Road Category 2 (12 feet) shall be considered as meeting the requirements of this section for a single lot division into two (2) parcels, where all the following conditions are met:

(1) The subdivision is conditioned so as to limit site development as follows:

For a parcel or parcels having a minimum parcel size of less than 20 acres, not more than one (1) dwelling unit shall be permitted for each parcel.

For a parcel or parcels having a minimum parcel size of 20 acres or more, not more than two (2) dwelling units shall be permitted for each parcel.

(2) Rights to further subdivide the parcels created by the land division would be conveyed to the county until such time as the full road segment was improved to a minimum of Road Category 3 or 4 for traveled way, as appropriate.

(3) Inter-visible turnouts are installed in conformance Section 3112-8 of these regulations.

(b) A traveled way meeting the standard for Road Category 3 (16 feet) shall be considered as meeting the requirements of this section for subdivisions of three (3) to eight (8) parcels, where all the following conditions are met:

(1) The subdivision is conditioned so as to limit site development as follows:

For a parcel or parcels having a minimum parcel size of less than 20 acres, not more than one (1) dwelling unit shall be permitted for each parcel.

For a parcel or parcels having minimum parcel size of 20 acres, not more than two (2) dwelling units shall be permitted for each parcel.

(2) Rights to further subdivide the parcels created by the subdivision would be conveyed to the County until such time as the full road segment was improved to a minimum of Road Category 4 for traveled way.

(3) The roadbed width shall include a minimum of two-foot (2') wide bladed shoulders on each side of the traveled way.

(c) A traveled way meeting the standard for Road Category 3 (16 feet) shall be considered as meeting the requirements of this section for subdivisions of not more than nineteen (19) parcels, where all the following conditions are met:

(1) The requirements of Section 3112-3(b) are satisfied.

(2) The minimum parcel size for the subdivision is forty (40) acres or larger.

3112-4. ROADWAY SURFACE.

The surface of all roadways shall provide unobstructed access to conventional drive vehicles, including sedans and fire engines. The surface shall conform to the standards of a Road Category 4 roadway. Where Road Category 2 or 3 has been approved pursuant to Section 312-3, the surface shall conform to the standards for these categories, as appropriate.

3112-5. ROADWAY GRADES.

The grade for all roads, streets, and private lanes shall conform to the standards for Road Category 4. The grade for driveways shall conform to the standards for Road Category 1. No roadway grade in excess of 16 percent shall be permitted unless it has been demonstrated to be in conformance with the County Roadway Design Manual.

3112-6. ROADWAY RADIUS.

(a) The roadway radius for all roads, and private lanes shall conform to the standards for Road Category 4. The minimum roadway radius for driveways shall conform to the standards for Road Category 1. No roadway shall have a horizontal inside radius of curvature of less than 50 feet unless it has been demonstrated to be in conformance with the County Roadway Design Manual.

(b) Curve alignments shall provide for curve widening on low radius curves to compensate for off tracking characteristics or trucks and trailers. Additional surface width of four (4) feet shall be added to curves of 50-100 feet radius; two (2) feet to those from 100-200 feet. Design of curve alignments shall be in conformance with the County Design Manual.

(c) The length of vertical curves in roadways, exclusive of gutters, ditches, and drainage structures designed to hold or divert water, shall not be less than 100 feet. Design of vertical curves shall be in conformance with the County Roadway Design Manual.

3112-7. ROADWAY TURNAROUNDS.

Turnarounds are required on driveways and dead-end roads as specified in these regulations. The minimum turning radius for a turnaround shall be 40 feet from the center line of the road. If a hammerhead/T is used, the top of the "T" shall be a minimum of 60 feet in length.

3112-8. ROADWAY TURNOUTS.

Turnouts shall be designed in conformance with the County Roadway Design Manual. Turnouts shall be required on roadways constructed to the standard of Road Category 2 and at locations as specified in these regulations. Turnouts shall be a minimum of 10 feet wide and 80 feet long with a minimum of 25 foot taper on each end.

3112-9. ROADWAY STRUCTURES.

(a) All driveway, road, street, and private lane roadway structures shall be constructed to carry at least the maximum load and provide the minimum vertical clearance as required in California Vehicle Code Sections 35550, 35750, and 35250. All roadway structures shall be designed in conformance with the County Roadway Design Manual. The minimum vertical clearance shall be 15 feet at all points on the surface of the roadway.

(b) Appropriate signing, including but not limited to weight or vertical clearance limitations, one-way road or single lane conditions, shall reflect the capability of each bridge. This requirement may be omitted for bridges on private roads and driveways where compliance with paragraph (a) of this section has been demonstrated to the satisfaction of the Director of Public Works.

(c) A bridge with only one traffic lane may be authorized by the County; however, the bridge shall provide for unobstructed visibility from one end to the other and shall have intervisible turnouts at both ends.

(d) The County may allow a flatcar bridge having a width of not less than nine (9) feet to be used as a roadway structure on a private lane or driveway provided the requirements of Section 3112-9(c) are satisfied. No exception request shall be required for the reduced roadway width.

3112-10. ONE-WAY ROADS.

All one-way roads shall be constructed to provide a minimum of one 10-foot traffic lane. The County may approve one-way roads. All one-way roads shall connect to a two-lane roadway at both ends, and shall provide access to an area currently zoned for no more than 10 dwelling units. In no case shall it exceed 2640 feet in length. A turnout shall be placed approximately at the midpoint of each one-way road.

3112-11. DEAD-END ROADS.

(a) The maximum length of a dead-end road, including all dead-end roads accessed from that dead-end road, shall not exceed the following cumulative lengths, regardless of the number of parcels served:

| | |
|---|---|
| parcels zoned for less than one acre | 800 feet |
| parcels zoned for 1 acre to 4.99 acres | 1350 feet |
| parcels zoned for 5 acres to 19.99 acres | 2640 feet |
| parcels zoned for 20 acres to 39.99 acres | 5280 feet |
| parcels zoned for 40 acres to 159.99 acres | 7500 feet |
| parcels zoned for 160 acres or larger | Unlimited |

All lengths shall be measured from the edge of the roadway surface at the intersection that begins the road to the end of the road surface at its farthest point. Where a dead-end road crosses areas of differing zoned parcel sizes, requiring different length limits, the shortest allowable length shall apply.

(b) Where parcels are zoned 5 acres or larger, turnarounds shall be provided at a maximum of 1320 foot intervals.

(c) Each dead-end road shall have a turnaround constructed at its terminus.

3112-12. DRIVEWAYS.

(a) All driveways shall be constructed to a minimum Road Category 1 standard. Driveways shall have a minimum 10 foot traffic lane and an unobstructed vertical clearance of 15 feet along its entire length. Driveways in excess of 1320 feet in length shall be constructed to the standard for Road Category 2.

(b) Driveways exceeding 150 feet in length, but less than 800 feet in length, shall provide a turnout near the midpoint of the driveway. Where a driveway exceeds 800 feet, turnouts shall be spaced at intervisible points at approximately 400 foot intervals. The location and spacing of turnouts shall be in conformance with the County Roadway Design Manual.

(c) A turnaround shall be provided at all building sites on driveways over 300 feet in length, or 200 feet if required by the local fire agency, and shall be within 50 feet of the building.

3112-13. GATE ENTRANCES.

(a) Gate entrances shall be at least two feet wider than the width of the traffic lane(s) serving the gate.

(b) All gates providing access from a road to a driveway shall either:

(1) be located a minimum of thirty (30) feet from the roadway, or

(2) if located closer than thirty (30) feet from the roadway, turnout(s) shall be constructed near the gate entrance to allow parking next to the traffic lane(s) for use from each direction of travel. The location of the turnouts shall permit safe turning movements and maintain adequate sight visibility.

(c) All gates providing access from a road to a driveway shall open to allow a vehicle to stop without obstructing traffic on that road.

(d) Where a one-way road with a single traffic lane provides access to a gated entrance, a 40 foot turning radius shall be used.

## CHAPTER 3

## SIGNING AND BUILDING NUMBERING

3113-1. SIGNING AND BUILDING NUMBERING - INTENT.

To facilitate locating a fire and to avoid delays in response, all newly constructed or approved roads, streets, and building shall be designated by names or numbers, posted on signs clearly visible and legible from the roadway. This section shall not restrict the size of letters or numbers appearing on street signs for other purposes.

3113-2. SIZE OF LETTERS, NUMBERS AND SYMBOLS FOR STREET AND ROAD SIGNS.

Notwithstanding any other provisions of the Code, the size of letter, numbers, and symbols for street and road signs shall be a minimum 3 inch letter height, 3/8 inch stroke, contrasting with the background color of the sign. Street and road signs located at an intersection with a County maintained roadway, or on roads where the traveled speed is greater than 30 miles per hour, shall be reflectorized. Wooden street and road signs meeting the standards for letter height, stroke, and contrast shall be permitted in all locations where reflectorized signs are not required by these regulations.

3113-3. VISIBILITY AND LEGIBILITY OF STREET AND ROAD SIGNS.

Street and road signs shall be visible from both directions of vehicle travel for a distance of at least 100 feet.

3113-4. HEIGHT OF STREET AND ROAD SIGNS.

Height of street and road signs shall be uniform county wide, and meet the visibility and legibility standards of these regulations.

3113-5. NAMES AND NUMBERS ON STREET AND ROAD SIGNS.

Newly constructed or approved public and private roads and streets must be identified by a name or number consistent with the Uniform Numbering System as set forth in Humboldt County Code Sections 442-1 through 441-11. All signs shall be mounted and oriented in a uniform manner.

3113-6. INTERSECTING ROADS, STREETS AND PRIVATE LANES.

Signs required by these regulations identifying intersecting roads, streets and private lanes shall be placed at the intersection of those roads, streets, and/or private lanes.

3113-7. SIGNS IDENTIFYING TRAFFIC ACCESS LIMITATIONS.

A sign identifying access flow limitation, including but not limited to weight or vertical clearance limitations, dead-end road, one way road or single lane conditions, shall be placed:

(a) at the intersection preceding the traffic access limitation, and

(b) no more than 100 feet before such traffic access limitation.

3113-8. INSTALLATION OF ROAD, STREET AND PRIVATE LANE SIGNS.

Road, street and private lanes signs required by these regulations shall be installed prior to final acceptance by the County of road improvements.

3113-9. ADDRESSES FOR BUILDINGS.

All buildings shall be issued an address in accordance with the County Uniform Numbering System, Humboldt County Code Section 442 et seq. Accessory buildings will not be required to have a separate address; however, each dwelling unit within a building shall be separately identified.

3113-10. SIZE OF LETTERS, NUMBERS AND SYMBOLS.

Notwithstanding Humboldt County Code Section 442-1, the size of letters numbers and symbols for addresses shall be a minimum 3 inch letter height, 3/8 inch stroke, contrasting with the background color of the sign. Address for buildings located at the driveway entrance onto a County maintained roadway, or on roads where the traveled speed is greater than 30 miles per hour, shall be reflectorized. Wooden address signs meeting the standards for letter height, stroke, and contrast shall be permitted in all locations where reflectorized signs are not required by this section.

3113-11. INSTALLATION, LOCATION AND VISIBILITY OF ADDRESSES.

(a) All buildings shall have a permanently posted address, which shall be placed at each driveway entrance and visible from both directions of travel along the road. In all cases, the address shall be posted at the beginning of construction and shall be maintained thereafter, and the address shall be visible and legible from the road on which the address is located.

(b) Address signs along one-way roads shall be visible from both the intended direction of travel and the opposite direction.

(c) Where multiple addresses are required at a single driveway, they shall be mounted on a single post.

(d) Where a roadway provides access and to a single commercial or industrial business, the address sign shall be placed at the nearest road intersection providing access to that site.

## CHAPTER 4

## EMERGENCY WATER STANDARDS

3114-1. WATER STANDARDS - INTENT.

Emergency water for wildfire protection shall be available and accessible in quantities and locations specified in statute and these regulations, in order to attack a wildfire and defend property from a wildfire. Such emergency water may be provided in a fire agency mobile water tender, or naturally occurring or manmade containment structure, as long as the specified quantity is immediately available.

3114-2. APPLICATION.

The provisions of this chapter shall apply when new parcels are approved by the County. The emergency water system shall be available on-site prior to or prior to the completion of building construction, where and individual system is approved. A water source on an adjacent parcel for which the subject property has access by means of a recorded easement shall be accepted as meeting the intent of this section.

3114-3. GENERAL STANDARDS.

A water system that meets or exceeds any of the following standards shall be accepted as meeting the requirements of these regulations:

(a) Public Utilities Commission of California (PUC) revised General Order #103, adopted June 12, 1956 (Corrected September 7, 1983, Decision 83-09-001), Section VIII Fire Protection Standards and other applicable sections relating to fire protection water delivery systems,

(b) Static water systems equaling or exceeding the National Fire Protection Association (NFPA) Standard 1231, "Standard on Water Supplies for Suburban and Rural Fire Fighting", 1981 Edition, or

(c) Mobile water systems that meet the Insurance Services Office (ISO) Rural Class 8, 2nd Edition 3-80, standard.

(d) Notwithstanding the above water system standards, a water system serving an individual residential dwelling which meets the 2.500 gallon emergency water supply requirements of the County's Alternative Owner Builder Ordinance, Humboldt County Code Section 331.5-13(h), and which conforms to the minimum pipe size and valving requirements set forth in these regulations, shall be accepted as meeting the requirements of this section.

Nothing in these regulations prohibits the combined storage of emergency wildfire and structural firefighting water supplies unless so prohibited by local ordinance or specified by the local fire agency.

Where freeze protection is required by the County, such measures shall be provided.

3114-4. HYDRANT/FIRE VALVE.

(a) The hydrant or fire valve shall be 18 inches above grade, eight (8) feet from flammable vegetation, no closer than four (4) feet nor farther than 12 feet from a roadway, and in a location where fire apparatus using it will not block the roadway.

The hydrant serving any building shall:

(1) be not less than 50 feet nor more than 1/2 mile from the building it is to serve, except that a hydrant serving any building on a lot less than ten (10) acres in acre shall be located within 500 feet of the building; provided that the local fire agency may allow a hydrant to be located up to 1000 feet from the building when site conditions warrant.

(2) be located at a turnout or turnaround, along the driveway to that building or along the road that intersects with that driveway.

(b) The hydrant head shall be brass or other corrosion resistent material with 2-1/2 inch National Hose male thread with a cap for pressure and gravity flow systems, and for draft systems, where applicable. Crash protection meeting the requirements of the Uniform Mechanical Code shall be installed when required by the County.

(c) All pipes supplying water to hydrants must be at least 3 inches in diameter; however, a pipe having a diameter of less than 3 inches may be used provided it can demonstrate the capability of supplying a minimum 200 gallon per minute (gpm) flow from the hydrant connection.

3114-5. SIGNING OF WATER SOURCES.

Each hydrant/fire valve or access to water shall be identified as follows:

(a) if located along a driveway, except where the residence is served with an individual water supply, a wooden sign with a minimum 3 inch letter height, 3/8 inch stroke, contrasting with the background color of the sign, with the wording "FIRE WATER" mounted on a wooden post or compliance with section (a) above shall be acceptable, or

(c) if located along a street or road,

(1) a reflectorized blue marker, with a minimum dimension of 3 inches, shall be mounted on a fire retardant post. The sign post shall be within 3 feet of said hydrant/fire valve, with the sign no less than 3 feet nor greater than 5 feet above the ground, in a horizontal position and visible from the roadway, or

(2) as specified in the State Fire Marshall's Guidelines for Hydrant Markings Along State Highways and Freeways, May 1988.

## CHAPTER 5

## FUEL MODIFICATION STANDARDS

### 3115-1. FUEL MODIFICATION - INTENT.

To reduce the intensity of wildfire by reducing the volume and density of flammable vegetation, the strategic siting of fuel modification and greenbelts shall provide (1) increased safety for emergency fire equipment and evacuating civilians; and (2) a point of attack or defense from a wildfire.

### 3115-2. SETBACK FOR STRUCTURE DEFENSIBLE SPACE.

(a) Notwithstanding other provisions of this Code, all parcels one (1) acre and larger shall provide a minimum 30 foot setback for buildings and accessory buildings from all property lines and/or the center of a road, except as provided herein:

(1) a building or accessory building may be located closer than 30 foot to a property line where a maintenance and open space easement for the benefit of the subject parcel has been recorded over the adjoining lot. The extent of the adjustment shall be no greater than the width of the easement, and no exception from minimum setbacks as specified in other provisions of this Code are granted pursuant to this section.

(2) a detached accessory building may be located within the 30 foot setback when it is constructed using non-combustible or fire resistive materials, and is located not closer than 20 feet to another building.

The required specific distance between buildings or structures and property lines or the centerline of the road shall be measured perpendicularly in a horizontal plane extending across the complete length of said property line or lines and/or roadway.

(b) For parcels less than one (1) acre, the County shall provide for the same practical effect

Methods of achieving the "same practical effect" include but are not limited to:

(1) development of a community water system meeting the specifications as set forth in Section 3114-3 (a-c);

(2) establishment of a County Service Area or other acceptable form of district or association to provide maintenance of defensible space measures, including vegetation modification;

(3) use of non-combustible or fire-resistive materials in construction of buildings or installation of sprinklers within buildings;

(4) development of greenbelts in strategic locations around the subdivision or parcels; or

(5) road development which provides for travel lanes and parking lanes that exceed the minimum requirements of these regulations.

3115-3. DISPOSAL OF FLAMMABLE VEGETATION AND FUELS.

Disposal, including chipping, burying, burning or removal to a landfill site approved by the County, of flammable vegetation and fuels caused by site development and construction, road and driveway construction, and fuel modification shall be completed prior to completion of road construction or final inspection of a building permit or initiation of a use under a use permit.

3115-4. GREENBELTS.

Subdivisions and other developments, which propose greenbelts as a part of the development plan, shall locate said greenbelts strategically, as a separation between wildland fuels and structures. The locations shall be approved by the inspection authority.

CHAPTER 6

ENFORCEMENT

3116-1. VIOLATION.

The following provisions shall apply to violations of the regulations as contained in this ordinance. All of the remedies provided for in this section shall be cumulative and no inclusive.

(a) Penalty. Any person, whether principal, agent, employee or otherwise, violating or causing or permitting the violation of any of the provisions of this Code shall be guilty of a misdemeanor and shall be subject to the penalties provided for in Section 112-5 of the Humboldt County Code.

(b) Public Nuisance. Any new development operated or maintained contrary to the provisions of this Code shall be the same hereby is declared to be a public nuisance and shall be subject to injunction and abatement as such.

# APPENDIX G:
# DESCRIPTIVE CHARACTERISTICS FOR COMMUNITY-IDENTIFIED PROJECTS MATRIX

# APPENDIX G: DESCRIPTIVE CHARACTERISTICS FOR COMMUNITY-IDENTIFIED PROJECTS MATRIX

*This document acts as a key for interpreting data portrayed within the "Community-Identified Projects" maps and matrices included in most of the thirteen Planning Unit Action Plans in Part IV of this CWPP. The data in these maps and matrices was procured through mapping exercises involving local residents attending community workshops held within each Planning Unit for the purposes of this CWPP. The information was then catalogued and mapped within the aforementioned matrices and maps by Humboldt County Planning and Building staff.*

*The following descriptions help decipher the meaning of each data column displayed in the Community-Identified Projects Matrices:*

**Map ID #** - This identification number is the number that was assigned to the feature. The number corresponds to the mapped illustration of the proposed fuels treatment or mitigation action.

**Location** – The location identifies the community, access route, neighborhood, structure, or area at risk to wildfire.

**Description** – This is where a longer description of the proposed activity or past accomplishment is included.

**Type** – Areas in need of treatment or mitigation action are identified as one of the following four types:

- Roadside Clearance – Involve treating vegetation along driveways and roads and other key transportation corridors.
- Defensible Space – Involve treating vegetation in the 100 foot zone around homes and structures.
- Landscape - Involve treating vegetation in wildland areas beyond the immediate vicinity of structures.
- Other – Some action other than vegetation treatment. Often this designation would be accompanied by a descriptive word or words such as "Water" or "Access Improvement".

**Status** - The status of the proposed treatment or action is identified as one of the following:

- Treatment needed –Medium priority (Treat-Med)
- Treatment needed - High priority (Treat-High)
- Action needed (Action Need)
- Funded
- Initiated
-
- Treated

**Year** – Identifies what year the treatment or action was proposed, funded, initiated, or treated

**Number of Acres** – The acreage is estimated, calculated, or, in some cases, unavailable. If the proposed treatment specified, for example, a certain number of miles of road clearance with vegetation treatment to take place 50 feet on either side of the road, then the acres could be calculated. Sometimes the proponent of the proposed action provided the acreage. There are even instances in which the GIS tool auto calculated the acreage based on the polygon created to illustrate the general area. In these cases the acreage is higher than what will likely be treated and will be sorted out during future updates.

**Vegetation Type** - The vegetation type was identified as one or more of the following:

| | |
|---|---|
| Brush | Oaks |
| Douglas-fir | Redwood |
| Grassland | Tanoak |
| Mixed Conifer | Other |

**Recommended Maintenance Schedule** – Where possible, details are identified to explain how the identified treatment has been or will be maintained, such as frequency of maintenance, type of maintenance treatment, purpose of treatment, and so on.

**Funding Source(s)** – This field identifies the actual or possible funding source.