

*Appendix B*

**Glossary**

## Appendix B

### GLOSSARY

---

**Abatement:** Actions to avoid, minimize, reduce, eliminate, or rectify the adverse impacts of a fire protection management practice.

**Abatement Measure:** Measures proposed that would eliminate, avoid, rectify, compensate for, or reduce environmental effects.

**Anchor Point:** An advantageous location, generally a fixed location, from which to start constructing a fuelbreak, fuel modification area or “defensible space.”

**Basin:** The entire land area tributary to a District reservoir, including both District-owned and non-District-owned lands

**Brush Management:** The act of reducing brush or woody vegetation by removal, burning, thinning, pruning up, or mowing. Techniques include: goat grazing, mowing (tractor and hand), prescribed burning, brush rake, bulldozer tomahawk, chipping, or manual hand labor. This is an effective treatment in brush fuels along transportation corridors or key fire access roads. This treatment can also be utilized as a preparedness action for prescribed fire.

**Burned Area or Acres :** Size of fire in acres.

**Conflagration:** A raging, destructive fire. Often used to describe a fire burning under extreme fire weather. The term is also used when a wildland fire burns into a wildland/urban interface, destroying many structures.

**Dead Fuel Moisture:** The moisture content in fuel material that is dead and measured in the percentage of moisture to total weight. Dead fuel moisture is changed by the moisture content of air and usually described in four specific different time lag periods. Time lag is the time it takes for the moisture content of fuels and the surrounding air to equalize. These time lag periods are 1-hr, 10-hr, 100-hr and 1000-hr:

**1-Hour** One-hour fuels will react to atmospheric changes in one hour. They are pieces of vegetation ¼-inch in diameter and smaller (grasses, needles and twigs).

**10-Hour** Ten-hour fuels will react to atmospheric changes in ten hours. They are pieces of vegetation ¼-inch to 1-inch in diameter (leaves, stems, large twigs).

**100-Hour** 100-hour fuels are larger and react to atmospheric changes in 100 hours. They are classified as fuels in the one-inch to three-inch diameter size (large limbs and small logs usually found in riparian and small tree areas).

**1000-Hour** 1000-hour fuels are dead and down logs and limbs in the three-inches to 12-inches in diameter category. These fuels will take 1000 hours of exposure to change the dead fuel moisture content either upward or downward.

**“Defensible Space”:** The area between a structure and an oncoming wildland fire where the native vegetation has been modified to reduce the wildland fire threat. This area is designed to provide an opportunity for firefighters to safely maneuver hoselines and defend the structure. Building setbacks and site location can significantly reduce the radiant heat and convection properties of a wildland fire around a structure.

**District Management Lands :** All District watershed lands, with the exception of Anthony Chabot Park. East Bay Regional Parks District is responsible for watershed and fire management within the Anthony Chabot Park. The District is responsible for fire and watershed management on all other District watershed lands, including the Chabot watershed east of Redwood Road.

**District Perimeter :** Perimeter of District watershed lands.

**District Watershed Lands :** All District-owned lands, specifically Briones Reservoir watershed, Lafayette Reservoir watershed, San Pablo Reservoir watershed, Upper San Leandro Reservoir watershed, Pinole watershed, and Chabot Reservoir watershed.

**Edge:** Area where plant communities meet or where successional stages or vegetation conditions within plant communities come together.

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

**Extreme Fire Weather (Foehn):** Hot and dry weather typified by high intensity northeasterly to easterly winds and associated with very low relative humidity. Winds often produce strong down-canyon winds that lead to erratic fire behavior, including fire whirls and intense spotting.

**Fire Behavior:** The manner in which a fire reacts to the variables of fuel, weather, and topography. Usually expressed in fire intensity (BTU's per square foot), rate of spread (feet per minute), and flame length (in feet).

**Fire Brands:** Pieces of burning building or vegetation that can be potential source of forward fire ignition (spotting) after transport by wind.

**Fire Hazard:** A fuel complex defined by kind, arrangement, volume, condition, and location that determines the degree of both ease and difficulty to suppress a wildland fire.

**Fireline Intensity (BTU/ft/sec):** Amount of heat released (BTU's) per foot of fire front per second.

**Fire Management Unit (FMU):** A fire planning unit in which preparedness strategies are designed to meet watershed or resource management objectives, designated by logical fire control or containment criteria such as watershed basins, sub-basins, ridgetops, topographic features, roads, or vegetation changes.

**Fire Prevention:** Activities directed at reducing the number of fires that start, including public education, law enforcement, and engineering methods to reduce fire risk.

**Fire Resistant Roofing:** The classification of roofing assemblies A, B, or C as defined in the Uniform Building Code (UBC) Standard 32.7.

**Fire Risk:** The chance of a fire starting as affected by the nature and incidence of causative agents (smoking, children with matches, equipment, electrical transmission lines, vehicle, or arson).

**Fire-Resistive Construction:** Construction to resist the spread of fire, details of which may be specified in the Building Code of the jurisdiction. Usually described in 2-hour and 4-hour time increments.

**Fire Response Time:** The time for a fire apparatus and crew to arrive at a fire, pull hose, and begin squirting water.

**Fire Weather:** Weather conditions which influence fire starts, fire behavior, or fire suppression.

**Flame Length (feet) :** Average length of the flame at the head of the fire. (An alternative, observable measure of fireline intensity.)

**Flammability:** How easily vegetation can be ignited, based upon the amount of dead fine fuel, moisture content, and relative size of fuel.

**Foehn Wind:** (A German word pronounced “Fern”) Winds created by a well established high pressure system over the Great Basin states and a low-pressure system off Baja, California. Often referred to as Santa Anas, Devil Winds, Diablo Winds, or north eastern.

**Fuelbreak:** A strategically placed fuel modification or fuel reduction area or zone to defend from anticipated wildland fires. Fuelbreaks are usually 100 feet or more in width. Hazardous fuels are replaced with less fire intensive fuels (like grass or thinned less fire intensive vegetation). A fuelbreak divides fire-prone areas into smaller parcels for easier fire control and to provide both access and a safety zone for fire suppression personnel.

**Fuel Ladder:** An arrangement of surface vegetation from ground level to the canopy that provides for fire spread within the vegetation.

**Fuel Load:** The total amount (measured in tons per acre) of fuel available to burn. The more fuel per acre, the greater the heat output or burning intensity. Higher fuel loads also represent higher resistance to control.

**Fuels (Vegetation) Management:** Modification of natural vegetation to a less fire intensity fuel bed. In wildland/urban interface or intermix areas, fuel management is implemented to enhance protection for structures and sensitive areas from wildland fires. This modification consists of selected techniques to reduce fuel loading, fuel bed continuity, and dead and decadent vegetation. Techniques include: limbing up of larger shrubs or trees to remove the fuel ladder, pruning out all dead vegetation, and thinning of selected and/or undesirable vegetation. Strategic placement and implementation are utilized to maximize fire protection and minimize environmental impacts.

**Fuel Model:** A quantitative basis for rating fire danger and predicting fire behavior through established mathematical models.

## *Appendix B*

### **GLOSSARY**

---

**Fuel Moisture:** The quantity of water in a fuel particle expressed as a percent of the oven dry weight (212 degrees Fahrenheit) of the fuel particle.

**Fuel Treatment Area:** A wildland fire protection zone that has common, vegetation, topographic features, expected fire behavior, and values at risk to wildland fire.

**Habitat:** The sum of environmental conditions of a specific place occupied by an organism, a population, or a community.

**Heat/Unit Area (BTU/hr):** Amount of heat released per unit area during the time that the unit area is within the flaming front. (Used with rate of spread to approximate fireline intensity).

**Horizontal Continuity:** An evaluation of the location of high hazard fuels to each other. Large continuous areas of high hazard fuels reduce fire suppression effectiveness unless strategic containment and control features are available.

**Hydrologic Watershed :** The entire land area tributary to a District reservoir, including both District-owned and non-District-owned lands

**Ignition Component :** A measure of the probability of spot fires resulting from firebrands (estimate spotting).

**Impacts:** The environmental change or consequences of an activity.

**Intermix:** A term used to describe a wildland/urban setting where structures are intermixed throughout the wildland, rather than in a subdivision layout, where there is a clear delineation between structures and the wildland.

**Late Season :** The seasonal weather classification used in this Fire Management Plan for Foehn (northeastly to easterly) wind conditions occurring late in the fire season when live fuel moisture cycles are at their annual minimum.

**Mid-Flame Wind Speed:** Adjusted wind speed to reflect fuel model type. The standard height for wind measurements used by land management agencies is 25-feet above the ground surface, adjusted for vegetation depth. Most fires in surface fuels burn below the 20-foot height. Since wind is slowed significantly by friction near the surface, the 20-foot wind speed must be adjusted downward. Research has shown that a 30 percent to 60 percent adjustment depending on the fuel model type will be required, and this adjusted wind speed is called the mid-flame wind speed.

**Non-District Watershed Lands :** Lands tributary to District reservoirs and lands but not owned by the District.

**Rate of Spread (Ch/hr):** Forward rate of spread of the head of fire in chains per hour. (Estimates speed at which head of fire progresses.)

**Riparian Area:** Land situated along the bank of a stream or other body of water. Land directly influenced by the presence of water, e.g., dry stream beds, stream sides, lake shores, etc. Strategic mosaic “firesafe” design incorporates riparian areas in their natural state to maintain a low fire intensity profile, while maintaining as much of their natural state as possible.

**Setback:** A minimum distance (usually 30 to 50 feet) required by local zoning to be maintained between two structures or between a structure and property lines.

**Shaded Fuelbreak:** Woodland, riparian, partial canopy tree cover vegetation areas after hazardous fuel reduction treatments are made to selected ground and aerial ladder fuels. They are usually 100 feet or more in width. Treatment consists of the removal of dead vegetation, limbing up of trees and large shrubs to 8 feet from the ground level, and selective removal of understory shrubs and ground covers. Special attention should be given to maintaining this area in its natural state or appearance, minimizing soil erosion, and preserving wildlife habitats and corridors.

**Spread Distance (chains) :** Estimate of probable forward movement of the head of a fire during a specified time period. (Estimate position of fire front at some future time.)

**Stubble Management:** The act of reducing grass and forbs to a 4 inch stubble height or lower. Techniques include: animal grazing, mowing (tractor and hand), weed-whipping, discing, retardants, chemicals, and/or strip burning. This is an effective treatment in grassland fuels near interface areas, along transportation corridors, or in high use recreational areas.

**Understory Management :** The act of reducing the vertical fuel ladder or understory vegetation in woodland habitat to create a “shaded fuelbreak” by under burning, thinning, pruning, limbing up, multi-cutting, axe lopping, chipping, or mowing. Techniques include: goat grazing, mowing (tractor and hand), prescribed burning, or manual. This is an effective treatment in woodland fuels near interface areas, along transportation corridors or key fire access roads, and in high use recreational areas.

## *Appendix B*

### **GLOSSARY**

---

**Vertical continuity:** Represents the separation (ladder effect) between ground, surface, aerial, and canopy fuels.

#### **Vegetation Management Technique Descriptions**

**Chipping:** Chipping of designated fuel reduction (dead and live) biomass. Chips can be scattered on site. This technique allows absorption of raindrop energy prior to impacting soil; absorption and holding of promoting growth of desirable vegetation; minimization of fire intensity and spread, and reduction of landfill green-waste.

**Limbing:** Removal of all dead and live vegetative growth up to eight (8) feet from the ground on mature shrubs or trees, usually to separate the aerial array of fuels from ground and/or “ladder fuels.”

**Mosaic Design:** During vegetation management activities the creation of islands, interlinking wildlife corridors, and irregular boundaries to create more “edge” for fauna while softening the visual impact of management activities.

**Multicutting (MLCTG):** Cutting biomass into pieces less than 4 inches in diameter to 4 to 6 inches in length and dropping on site. Advantages are similar to chipping.

**Thinning:** Cutting of vegetation to provide desired separation of continuous fuels. Clusters of vegetation are allowed, provided that the diameter of the cluster does not exceed fifty (50) feet. Separation of individual or clusters of vegetation should be one-and-a-half times the crown height. Thinning also includes the selective removal of pyrophytes (plants high in oils or resins, such as pines, junipers, and eucalyptus globulus).

**Watershed Management:** The act of using periodic fire or prescribed fire to address remote areas of the watershed where fire has been excluded over time, resulting in single-age plant communities and fuel accumulations susceptible to high intensity wildland fire. The primary objective is the minimization of high intensity wildfire while favoring low to moderate fire (prescribed or wildland fire) intensity for long-term management of the plant community.

**Watershed Planning Zones:** (As defined in EBWMP)

- **Developed Reservoir Watershed Interface Zone** - buffer zone designated to protect District property in watershed areas that are bounded by urban development, where that development occurs within the reservoir basin boundary.
- **Developed Non-reservoir Watershed Interface Zone** - buffer zone designated to protect District property in watershed areas that are bounded by urban development, where that development occurs outside the reservoir basin boundary.
- **Reservoir Watershed Refugium Zone** - consists of all land owned by the District within the physical basin boundary of a District reservoir, except for areas identified as interface zones or developed District watershed lands.
- **Non-reservoir Watershed Refugium Zone** - consists of District property, primarily in Pinole Valley and small portions of the Upper San Leandro, San Pablo, and Chabot Reservoir watersheds, that is located outside the basin boundary of existing reservoirs and adjacent to undeveloped land.
- **Developed Watershed** - consists of property that is developed or designated for recreation or water service operations.

**Wildland/Urban Intermix:** Where rural development and wildland fuels meet and intermix, with no clearly defined separation or interface.