DEFENSIBLE SPACE

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The Steering Committee's Work Plan includes Defensible Space as a policy topic, specifically, the development of policies supportive of defensible space in fire hazard areas for both removal and replanting. This report defines key terms, including "Responsibility Areas" and "Hazard Severity Zones". It also examines the relevant Government Code Section regarding Defensible Space and then concludes with possible policy options for discussion regarding what policies should be incorporated into a revised Tree Protection Ordinance.

Definitions

An understanding of the Defensible Space requirements starts with defining three important terms:

> "Wildfire" - is any uncontrolled fire occurring on undeveloped land that requires fire suppression. Wildfires can be ignited by lightning or by human activity such as smoking, campfires, equipment use, and arson.
>
> "WUI" - Wildland-urban interface (WUI) refers to areas where development is adjacent to densely vegetated lands. WUI fires occur where combustible vegetation meets combustible structures, combining the hazards associated with wildfires and structure fires.
>
> Fire Hazards - Wildland or structural fires that occur in areas that are remote, have difficult access for fire vehicles, and/or contain potentially flammable vegetative communities. (County General Plan)

Wildfire Protection Responsibility in California

Hundreds of agencies have fire protection responsibility for wildland and WUI fires in California. In many instances, two fire organizations have overlapping primary responsibility on the same parcel of land —one for wildfire protection, and the other for structural or "improvement" fire protection. To address wildfire jurisdictional responsibilities, the California state legislature in 1981 adopted Public Resource Code Section 4291.5 and Health and Safety Code Section 13108.5 establishing the following responsibility areas:

1. **Federal Responsibility Areas (FRAs)—**FRAs are fire-prone wildland areas that are owned or managed by a federal agency such as the U.S. Forest Service, National Park Service, Bureau of Land Management, U.S. Fish and Wildlife Service, or U.S. Department of Defense. Primary financial and rule-making jurisdictional authority rests with the federal land agency. In many instances, FRAs are interspersed with private land ownership or leases. Fire protection for developed private property is usually not the responsibility of the federal land

management agency; structural protection responsibility is that of a local government agency.

2. **State Responsibility Areas (SRAs)**—SRAs are lands in California where CAL FIRE has legal and financial responsibility for wildfire protection and where CAL FIRE administers fire hazard classifications and building standard regulations. SRAs are defined as lands that meet the following criteria:

    - Are county unincorporated areas
    - Are not federally owned
    - Have wildland vegetation cover rather than agricultural or ornamental plants
    - Have watershed or range/forage value
    - Have housing densities not exceeding three units per acre.

    Where SRAs contain built environment or development, the responsibility for fire protection of those improvements (non-wildland) is that of a local government agency.

3. **Local Responsibility Areas (LRAs)—**LRAs include land in cities, cultivated agriculture lands, and non-flammable areas in unincorporated areas, and lands that do not meet the criteria for SRA or FRA. LRA fire protection is typically provided by city fire departments, fire protection districts, and counties, or by CAL FIRE under contract to local governments. LRAs may include flammable vegetation and WUI areas where the financial and jurisdictional responsibility for improvement and wildfire protection is that of a local government agency.

<u>Fire Hazard Severity Zone mapping</u>

CAL FIRE maps areas of significant fire hazards based on factors such as the following:

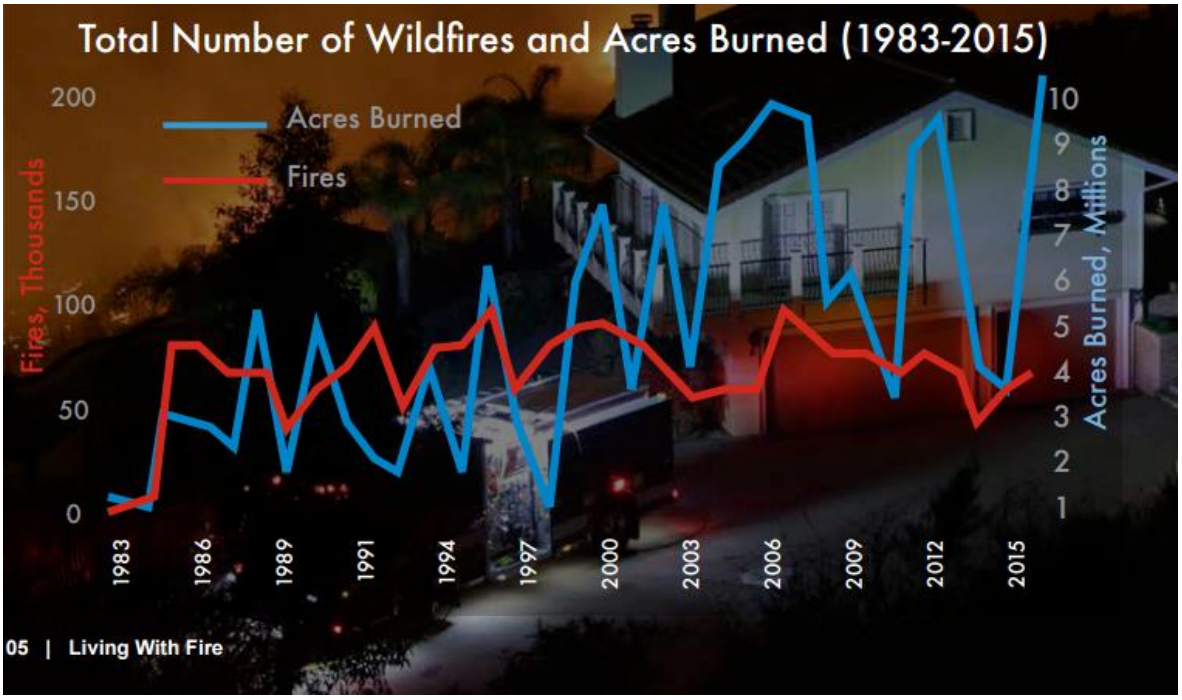
1. **Fuel**—Fuel may include living and dead vegetation on the ground, along the surface as brush and small trees, and above the ground in tree canopies. Lighter fuels such as grasses, leaves, and needles quickly expel moisture and burn rapidly, while heavier fuels such as tree branches, logs, and trunks take longer to warm and ignite. Trees killed or defoliated by forest insects and diseases are more susceptible to wildfire.

2. **Weather**—Relevant weather conditions include temperature, relative humidity, wind speed and direction, cloud cover, precipitation amount and duration, and the stability of the atmosphere. Of particular importance for wildfire activity are wind and thunderstorms:

- Strong, dry winds produce extreme fire conditions. Such winds generally reach peak velocities during the night and early morning hours.

- The thunderstorm season typically begins in June with wet storms and turns dry with little or no precipitation reaching the ground as the season progresses into July and August.

3. **Terrain**—Topography includes slope and elevation. The topography of a region influences the amount and moisture of fuel; the impact of weather conditions such as temperature and wind; potential barriers to fire spread, such as highways and lakes; and elevation and slope of land forms (fire spreads more easily uphill than downhill).



National Interagency Fire Center- National Annual Wildfire Acreage

A fire hazard severity scale has been devised taking these factors into consideration that characterizes zones by the number of days of moderate, high and extreme fire hazard. These zones, referred to as Fire Hazard Severity Zones (FHSZ), define the application of various mitigation strategies to reduce risk associated with wildfires. The Fire Hazard Severity Zones map for San Mateo County is attached at the end of this report. It shows that areas subject to tree regulations that lie in a very high fire hazard zone include Emerald Lake Hills, San Mateo Highlands, Skyline, and La Honda. The entire “urban” MidCoast adjoins high fire hazard areas

With an understanding of the difference between SRA’s and LRA’s and the different fire severity zones, we can turn our attention to the State Regulation that empower local fire officials to require defensible space around buildings and structures:

Government Code Section 51182

(a) A person who owns, leases, controls, operates, or maintains an occupied dwelling or occupied structure in, upon, or adjoining a mountainous area, forest-covered land, brush-covered land, grass-covered land, or land that is covered with flammable material, which area or land is within a **very high fire hazard** (emphasis added) severity zone designated by the local agency pursuant to Section 51179, shall at all times do all of the following:

(1) Maintain defensible space of 100 feet from each side and from the front and rear of the structure, but not beyond the property line except as provided in paragraph (2). The amount of fuel modification necessary shall take into account the flammability of the structure as affected by building material, building standards, location, and type of vegetation. Fuels shall be maintained in a condition so that a wildfire burning under average weather conditions would be unlikely to ignite the structure. This paragraph does not apply to single specimens of trees or other vegetation that are well-pruned and maintained so as to effectively manage fuels and not form a means of rapidly transmitting fire from other nearby vegetation to a structure or from a structure to other nearby vegetation. The intensity of fuels management may vary within the 100-foot perimeter of the structure, the most intense being within the first 30 feet around the structure. Consistent with fuels management objectives, steps should be taken to minimize erosion.

(2) A greater distance than that required under paragraph (1) may be required by state law, local ordinance, rule, or regulation. Clearance beyond the property line may only be required if the state law, local ordinance, rule, or regulation includes findings that the clearing is necessary to significantly reduce the risk of transmission of flame or heat sufficient to ignite the structure, and there is no other feasible mitigation measure possible to reduce the risk of ignition or spread of wildfire to the structure. Clearance on adjacent property shall only be conducted following written consent by the adjacent landowner.

(3) An insurance company that insures an occupied dwelling or occupied structure may require a greater distance than that required under paragraph (1) if a fire expert, designated by the fire chief or fire official from the authority having jurisdiction, provides findings that the clearing is necessary to significantly reduce the risk of transmission of flame or heat sufficient to ignite the structure, and there is no other feasible mitigation measure possible to reduce the risk of ignition or spread of wildfire to the structure. The greater distance may not be beyond the property line unless allowed by state law, local ordinance, rule, or regulation.

(4) Remove that portion of a tree that extends within 10 feet of the outlet of a chimney or stovepipe.

(5) Maintain a tree, shrub, or other plant adjacent to or overhanging a building free of dead or dying wood.

(6) Maintain the roof of a structure free of leaves, needles, or other vegetative materials.

In addition to the State's regulations, the County has also adopted policies in the General Plan and Local Hazard Mitigation Plan that address defensible space and vegetation management to reduce the damage caused by wildfires:

County General Plan

15.34 Vegetative Clearance Around Structures

a. Require clearance of flammable vegetation around structure as a condition of approval to new development in accordance with the requirements of the agency responsible for fire protection.
b. Conduct periodic inspections to ensure maintenance of required clearances.

County Local Hazard Mitigation Plan

- Action SMC-62—Utilize the updated Fire Hazard Severity Zone map prepared by the California Division of Forestry and Fire Protection (Cal Fire) to target high priority areas for vegetation management, code inspections, and other fire mitigation activities.

- Action SMC-63—Carry out a public education program to increase awareness of fire risks and promote implementation of fire safe practices by the owners of new and existing residences in wildland fire areas, such as, but not limited to, vegetation management, fire resistant construction, onsite water storage, adequate access and other fire prevention measures.

Policy Questions and Options

Within the context of the federal, state and local policies and regulations summarized above, Staff has a few policy options for the working group to consider:

1. Should the County create an expedited process for tree removal when a fire official requests trees be removed to meet defensible space regulations? Should public noticing and replacement planting be required? OR, if fire-safe replanting is infeasible, should payment into a tree-planting mitigation fund be required?

2. For trees with greater fire risk, such as pines and eucalypts, should the County tree ordinances expedite removal of such trees located within 30 feet of a structure in a very high fire hazard area?

3. Should the County limit tree planting in very high fire hazard areas to fire-resistant plants, as listed in the San Mateo County publication “Living with Fire”?

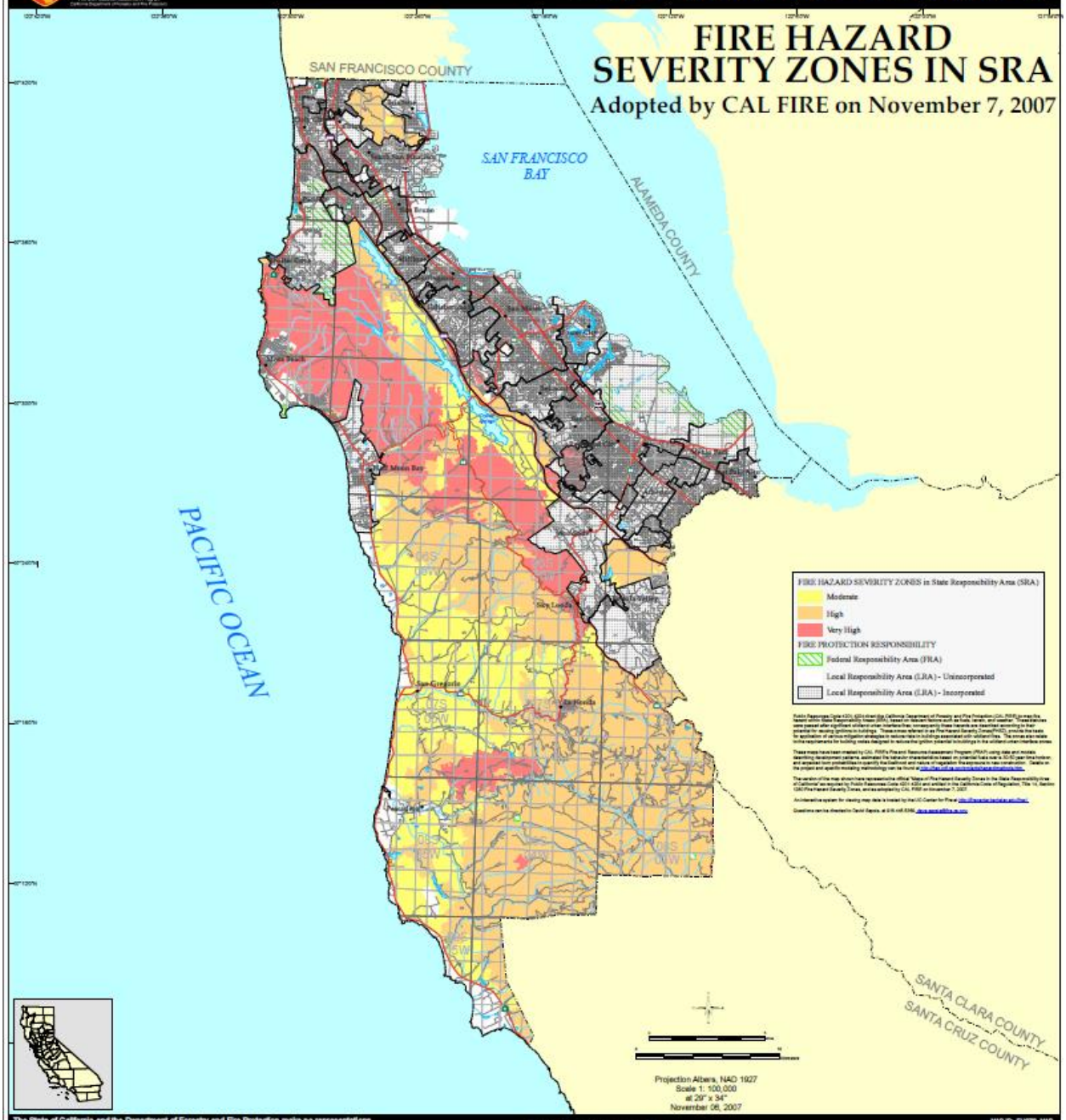
NATIVE TREES	
Coast live oak	*Quercus agrifolia*
Black oak	*Quercus kelloggii*
Canyon live oak	*Quercus chrysolepsis*
California buckeye	*Aesculus californica*
Madrone	*Arbutus menziesii*
Catalina ironwood	*Lyonothamnus floribundus*
NATIVE TREES (RIPARIAN OR IRRIGATED AREAS)	
Coast redwood	*Sequoia sempervirens*
Western sycamore	*Platanus racemosa*
Valley oak	*Quercus lobata*
Willows	*Salix spp.*
Big-leaf maple	*Acer macrophyllum*

4. How should the County balance the interests of providing defensible space with objectives to protect tree canopy habitat and species, green infrastructure, and homeowners’ preferences for landscaping, especially trees?

SAN MATEO COUNTY

FIRE HAZARD SEVERITY ZONES IN SRA

Adopted by CAL FIRE on November 7, 2007



Obtain FRAP maps, data, metadata and publications on the Internet at http://frap.cdf.ca.gov
For more information, contact CAL FIRE-FRAP, PO Box 944246, Sacramento, CA 94244-2460, (916) 327-3699.

Arnold Schwarzenegger, Governor,
State of California
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Department of Forestry and Fire Protection

MAP ID: FHSZS_MAP
DATA SOURCES
CAL FIRE Fire Hazard Severity Zones (FHSZS06_3)
CAL FIRE State Responsibility Areas (SRA05_5)
CAL FIRE Incorporated Cities (Incorp07_3)
PLSS (1:100,000 USGS, Land Grants with CAL FIRE grid)