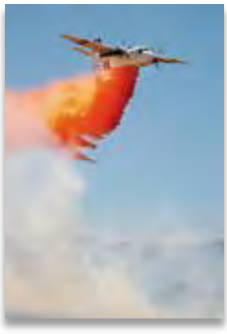

Unit Strategic Fire Plan

CAL FIRE/San Luis Obispo County Fire

June 2014

PLAN AMENDMENTS

Date	Section Updated	Page Numbers Updated	Description of Update	Updated By
11/12/2013	7 References	53	New Supplement	G.Alex
2/1/2014	Appendix D	64	Fire Danger Operating Plan	G. Alex
2/28/2014	SECTION V: PRE-FIRE MANAGEMENT TACTICS	40	Unit Terra Torch	G. Alex
5/7/2014	Appendix A	54	2014 Fuel Project update	G. Alex
5/7/2014	3 Value at Risk	24	Addition Battalion 5	G. Alex
5/7/2014	5 Pre-Fire Management Tactics	41	Law Enforcement Update	G. Alex
5/7/2014	Plan Recommendation	52	5. Law Enforcement	G Alex

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SIGNATURES

Unit Strategic Fire Plan:

This Plan:

- Was collaboratively developed. Interested parties, State, City, and County agencies within the County have been consulted and are listed in the plan.
- Identifies and prioritizes pre fire and post fire management strategies and tactics meant to reduce the loss of values at risk within CAL FIRE and County jurisdiction.
- Is intended for use as a planning and assessment tool only. It is the responsibility of those implementing the projects to ensure that all environmental compliance and permitting processes are met as necessary.
- This plan recommends measures to reduce the ignitability of structures throughout the area addressed by the Plan.

5-9-14

San Luis Obispo Unit Chief, *CAL FIRE* **Date**

Fire Chief, San Luis Obispo County Fire Department

Robert Lewin

5.9.14

San Luis Unit / Pre Fire Engineer, *CAL FIRE* **Date**

Greg Alex

EXECUTIVE SUMMARY

This CAL FIRE / San Luis Obispo County Unit Strategic Fire Plan is developed to collaboratively address fire protection planning efforts occurring in the County, to minimize wildfire risk to our County watershed lands, communities, assets, firefighters, and the public. It is developed to work cohesively with the CAL FIRE/ San Luis Obispo County Fire Department's Service Level Analysis of 2012, and the California Fire Plan. This Plan presents the County's physical and social characteristics, identifies and evaluates landscape-scale fire hazard variables, utilizes Priority Landscape data sets for evaluating wildfire risk, identifies measures for reducing structural ignitability, and identifies potential fuel reduction projects and techniques for minimizing wildfire risk. This Plan is a living document managed and updated routinely by the CAL FIRE / San Luis Obispo County Fire Department with community and stakeholder input and involvement.

The goal of this Plan is to provide a planning level framework for hazardous fuel assessment and reduction within San Luis Obispo County so that structures and assets are provided additional protection, reducing the potential for wildfire originated ignitions. With consistent goals of improving fire prevention and suppression efforts, reducing hazardous fuels, restoring fire-adapted ecosystems, and promoting community assistance. The goals of this Plan include: improving the availability and use of information regarding hazard and risk assessment; providing guidance for land use planning efforts; promoting a shared vision among communities and multiple fire jurisdictions; establishing fire resistance in communities; prioritizing protection of communities and other high-priority watersheds; promoting collaboration between government agencies and a broad representation of stakeholders; improving fire suppression and prevention capabilities; promoting post fire recovery efforts; and maintaining accountability through performance based monitoring.

The development strategies of this Plan are to create a County that is more resistant and resilient to the damaging effects of catastrophic wildfire, while recognizing fire's beneficial aspects. This Plan utilizes the following strategies to accomplish its goals:

- Collaborate with stakeholders and multiple fire jurisdictions
- Conduct and refine risk assessments for wildland urban interface (WUI) areas
- Develop high hazard wildfire community pre-attack plans
- Foster community involvement in pre-fire planning efforts
- Monitor the effectiveness of programs, projects and initial attack success.

This Plan, with the cooperation of key stakeholders, has been developed with the purpose of meeting the goals set by community stakeholders and the California Fire Plan while integrating a community input-focused approach. This Plan prioritizes protection of communities, natural resources, and the lives of the public and firefighters. This priority is shared among state and local governments, and other community stakeholders. Collaboration, priority setting, and accountability provide the framework for the guiding tactical principles of this Plan, which include:

- Increase the safety to residents and firefighters during wildland fires
- Reduce the costs and losses associated with wildland fires
- Support implementation of WUI building standards through coordination and cooperation with local government planning departments
- Support the implementation and maintenance of defensible space around structures
- Support project work and planning efforts that encourage the development and/or maintenance of safe ingress and egress routes for emergency incidents
- Promote cooperation between fire agencies in the County to minimize wildland fire damage through strategic fuel treatment projects
- Utilize fire prevention efforts to reduce ignitions within the County
- Conduct post-incident analysis to evaluate success in achieving the 95% threshold of keeping fires less than 10 acres in size
- Promote public education efforts about wildland fire through the support of the San Luis Obispo County Community Fire Safe Council (SLOCCFSC) and Firewise community activities.

This Plan provides planning information at a County-wide scale and recognizes the variation in fuels, weather, topography, and community/agency priorities present in the County. It is intended to be a dynamic planning tool for promoting wildfire protection efforts in the County while recognizing that localized planning efforts being carried out at the City or Community level shall have priority and authority over the County-level recommendations included in this Plan. Additionally, this Plan is not intended to satisfy the California Environmental Quality Act (CEQA) or regulatory permitting requirements and any recommended projects or actions contained herein shall be subject to the appropriate permitting and environmental review for the jurisdiction in which they are proposed.

*Note: All text in BLUE is hyperlinked to external websites.

SECTION I: COUNTY OVERVIEW

This Plan covers San Luis Obispo County, California. This section presents more detailed information about San Luis Obispo County, specifically, a description of factors affecting wildfire risk within the County.

LOCATION

San Luis Obispo County is situated on the Central Coast of California, approximately halfway between San Francisco and Los Angeles. San Luis Obispo County is bordered by Monterey County on the north, Kern County on the east, and Santa Barbara County on the south. San Luis Obispo County encompasses approximately 3,615 square miles, supports a population of approximately 270,000, and includes seven incorporated cities. Fire protection in the County is provided by numerous agencies, including the California Department of Forestry and Fire Protection (CAL FIRE), the San Luis Obispo County Fire Department, and eighteen local fire departments/districts providing fire protection for incorporated cities, communities, and facilities.

LAND OWNERSHIP

Over 73 percent of the land within San Luis Obispo County is privately owned. Other significant ownership includes United States Forest Service (USFS) and Bureau of Land Management (BLM) lands. The Los Padres National Forest (LPF) covers a large land area in the central and southern portions of the County associated with the La Panza, Garcia, and Santa Lucia Ranges. BLM lands are concentrated primarily in the southeast portion of the County in the Carrizo Plains area. The current distribution of land ownership within San Luis Obispo County is presented in Table 1. Also in map display Figure 1.

Table 1. Land Ownership Distribution in San Luis Obispo County

Ownership Agency/Type*	Approximate Acreage	Percentage
California Dept. of Fish and Game	40,706	1.92%
California Dept. of Parks and Recreation	20,085	0.95%
California State Lands Commission	2,238	0.11%
Local Government	22,247	1.05%
Non-Profit Conservancies and Trusts	2,653	0.12%
Other State Lands	4,129	0.19%
Private	1,570,746	73.95%
U.S. Bureau of Land Management	244,202	11.49%
U.S. Dept. of Defense	25,643	1.21%
U.S. Fish and Wildlife Service	2,610	0.12%
U.S. Forest Service	189,039	8.89%

*Source: CalMapper 2013

POPULATION AND HOUSING

The estimated population of San Luis Obispo County is 269,637 people within 7 incorporated cities and unincorporated County lands. The County includes approximately 117,315 housing units. The largest population center is the City of San Luis Obispo, with approximately 45,119 people, followed by the cities of Paso Robles (29,793 people) and Atascadero (28,310 people). Table 2 and Figure 2 presents the population distribution in the County within incorporated cities, unincorporated Census-designated places (CDP's), and unincorporated rural portions of the County. TIGERweb 2010 (beta) is a web based application for viewing census based information.

Table 2. Communities and Population Distribution in San Luis Obispo County *Source: U.S. Census Bureau 2010

Community*	Population	Percentage
Incorporated Cities		
Arroyo Grande	17,252	6.40%
Atascadero	28,310	10.50%
Paso Robles	29,793	11.05%
Grover Beach	13,156	4.88%
Morro Bay	10,234	3.80%
Pismo Beach	7,655	2.84%
San Luis Obispo	45,119	16.73%
Unincorporated Areas (Census-designated Places)		
Avila Beach	1,627	0.60%
Callender (includes Woodlands)	1,838	0.68%
Cambria	6,032	2.24%
Cayucos	2,592	0.96%
Creston	94	0.03%
Edna (includes Los Ranchos)	1,670	0.62%
Garden Farms	386	0.14%
Lake Nacimiento (includes Oak Shores)	2,748	1.01%
Los Berros	641	0.24%
Los Osos (includes Baywood Park)	14,276	5.29%
Nipomo (includes Blacklake)	17,644	6.54%
Oceano	7,286	2.70%
San Miguel	2,336	0.87%
San Simeon	462	0.17%
Santa Margarita	1,259	0.47%
Shandon	1,295	0.48%
Templeton	7,674	2.85%
Whitley Gardens	285	0.11%
Unincorporated Communities (not Census-designated Places)	47,973	17.79%

The distribution of the population in San Luis Obispo County creates several different conditions, each of which is unique to pre-fire planning. Urban areas are predominantly built-up environments with little or no exposure to wildland vegetation (fuels). The area where urban development abuts non-maintained wildland fuels is known as the wildland-urban interface (WUI). Rural areas, as defined in the NWCG Glossary of Wildland Fire Terminology are "Any area wherein residences and other developments are scattered and intermingled with forest, range, or farm land and native vegetation or cultivated crops", More recently, "wildland-urban intermix" is a term being used to describe WUI areas where the density of housing units and structures is relatively low and the space between consists of wildland fuels capable of propagating fire. While often used interchangeably when discussing WUI issues, the difference between the terms "interface" and "intermix", generally speaking, is that the boundary between rural and urban areas is typically much more distinct when referred to as an "interface". The "interface" boundary is relatively easy to decipher and map, whereas the "intermix" boundary can be several miles wide and is often difficult to map precisely.

Wildland-Urban Interface

Wildland-urban interface areas are those within the "vicinity" of wildland vegetation, typically with housing density exceeding 1 house per 40 acres, but with vegetation covering less than 50% of the parcel. In addition WUI areas must be within 1.5 miles of an area that has vegetative cover exceeding 75% to ensure that small urban parks are not classified as WUI. The California Fire Alliance (2001) defined "vicinity" as all areas within 1.5 miles (2.4 km) of wildland vegetation, the anticipated distance that firebrands can be carried from a wildland fire to the roof of a house.

The Healthy Forests Restoration Act of 2003 (HFRA) defines the term "Wildland-Urban Interface" to mean:

- An area within or adjacent to an at-risk community that is identified in recommendations to the Secretary in a community wildfire protection plan; or in the case of any area for which a community wildfire protection plan is not in effect—
    - An area extending ½-mile from the boundary of an at-risk community;
    - An area within 1½ miles of the boundary of an at-risk community, including any land that:
        - Has a sustained steep slope that creates the potential for wildfire behavior endangering the at-risk community;
        - Has a geographic feature that aids in creating an effective fire break, such as a road or ridge top; or
        - Is in condition class 3, as documented by the Secretary in the project-specific environmental analysis; and
        - An area that is adjacent to an evacuation route for an at-risk community that the Secretary determines, in cooperation with the at-risk community, requires hazardous fuel reduction to provide safer evacuation from the at-risk community.

The wildland fire risk associated with WUI areas includes propagation of fire throughout WUI communities via house-to-house fire spread, landscaping-to-house fire spread, or ember intrusion. Advantages and disadvantages associated with WUI areas include:

WUI Advantages:

- WUI areas often have community water supply systems
- Many homes can be accessed by a single road
- Emergency equipment can protect multiple assets at once
- Houses usually only exposed to flammable fuels on one side

WUI Disadvantages:

- High housing density
- Roads can become congested during emergencies
- Limited options if the community water systems fail

Wildland-Urban Intermix

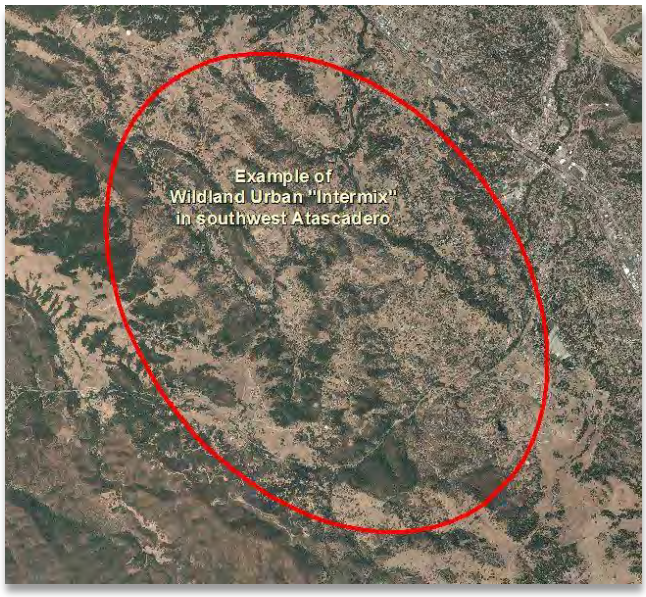
Wildland-urban intermix areas are those where housing and vegetation intermingle. In the Intermix, wildland vegetation is continuous and greater than 50% of the land area is vegetated with combustible fuels. The wildland fire risk associated with Intermix areas includes vegetation-to-house fire spread or ember intrusion. Advantages and disadvantages associated with Intermix areas include:

Intermix Advantages:

- Low housing density
- Diversity in water supply systems

Intermix Disadvantages:

- Increased risk to firefighters
- Emergency equipment can only protect single assets
- Emergency equipment response times can be delayed due to:
    - Rural Roads (single lane, windy, heavy fuel loading)
    - Long Driveways
- Roads can become congested during emergencies
- Diversity in water supply systems
- Houses are surrounded by vegetation



Intermix areas identified within San Luis Obispo County include portions of Cambria, Suey Creek, West Atascadero, and Parkhill.

Population Flux

Another important factor in evaluating the population in San Luis Obispo County is the temporal shift in population density, which has implications for firefighter or emergency response and fire risk reduction project planning. Temporal shifts in population can occur across multiple scales, including daily, weekly, seasonally, or annually. For example, the population at California Polytechnic State University, San Luis Obispo (Cal Poly) fluctuates on a daily basis during the academic year with an increased population of students, faculty, and staff during daytime hours. Additionally, the population at Cal Poly fluctuates on an annual basis, with peak populations occurring during the academic year between September and June and reduced populations during the summer months.

Other areas of the County are subject to population fluctuations at various scales, including an influx of tourists to coastal communities during summer months, increased populations during daytime/work hours in larger urban areas, and increased human presence in wildland areas during the summer months for recreation purposes. Millions of visitors from around the world are drawn to the County due to the combination of consistently mild weather and the variety of recreational opportunities provided by coastal areas and the numerous local, county, state, and federal parks.

Consideration of these temporal effects is important for planning strategic fuels treatment projects intended to protect communities or resources, allocating emergency response personnel, and reducing potential ignition sources.

FIRE ENVIRONMENT

The fire environment is defined as the "surrounding conditions, influences, and modifying forces that determine fire behavior". The four components that affect fire behavior in this County are fuels, weather, topography, and human behavior. Understanding the relationship between these factors and their influence on fire behavior must be considered in order to plan the most effective strategies for reducing the threat of unwanted fire.

Of the factors listed above, fuels (vegetation, buildings, etc.) are the component that is targeted most often since this factor is the most easily affected. For example, vegetation can be removed or manipulated in ways that will dramatically reduce the fire risk. Homes can be "hardened", i.e. built with non-combustible or fire-resistant materials and maintained with adequate defensible space.

While the weather cannot be controlled, it is important to understand what types of weather can occur that increase the fire hazard and what options there are for reducing this hazard. An example of this is limiting certain activities including open burning, welding, or mowing when weather conditions are hot and dry.

As with the weather, topography, the terrain or lay of the land, cannot be significantly altered to reduce the fire hazard. Terrain, however, has a strong influence within the fire environment and should be carefully assessed when designing fire hazard reduction treatments. Aspect has a strong bearing on the type of vegetation present and the temperature and moisture regime of the soil and vegetation. Slope steepness (gradient) is important since fire behavior usually increases with steepness. Slope position (ridge, valley, saddle, draw, etc.) should be considered when planning fire prevention measures. For example, additional defensible space may be warranted where slopes are steep and if positioned on a warm southerly aspect and/or within a "chimney" (draw, saddle).

"Full alignment" is a term used to describe the fire environment when all the conditions are conducive for increased fire activity. This occurs when fires burn in heavy fuels, during hot, dry weather with strong winds blowing up steep slopes and draws. Highest priority for fire prevention measures should be focused on areas where these types of conditions are known to occur or are considered likely. Additional discussion on fuels, weather and topography is below.

VEGETATION / FUELS

Due to the county's varied climate and geography, there is a diverse population of plants. In fact, the Central Coast Bioregion is considered one of the most biologically diverse areas in North America and many species are found nowhere else in the world. Plants are categorized as native (naturally-occurring prior to European settlement, (endemic) or non-native (introduced) which have been transported into San Luis Obispo County from other regions or ecosystems. All plants and vegetation types have a range of environmental conditions within which they can grow known as "limits of tolerance". For plants, the limiting factors that determine the range of a species or plant community are precipitation, temperature, solar radiation, soil structure, elevation, and disturbance regime.

The California Wildlife Habitat Relationships System (CWHR) provides a classification system of existing vegetation types and hardwood habitats important to wildlife. The CWHR system was developed to recognize and categorize major vegetation types in California at a scale sufficient to predict wildlife-habitat relationships. Table 3 presents the CWHR vegetation types identified for San Luis Obispo County and includes acreages and percentage cover for the County.

As discussed above, vegetation (or fuel) plays a major role in affecting fire behavior and shaping fire hazard potential. Vegetation distribution (Figure 3) throughout the County varies by location and topography, with dramatic differences observed between the eastern, agricultural and ranching portions of the County and the more mountainous central and southern regions. Current land cover/surface fuels distribution within the County is characterized by 32 different vegetation types which have been classified into 14 different fuel models (Figure 4), as presented in Table 4. The most abundant vegetative cover within San Luis Obispo County is herbaceous (46.9%), or annual grassland, distributed primarily in the inland valley and plain areas east of the La Panza, Garcia, and Santa Lucia Ranges. While this fuel type can burn quickly under strong, dry wind patterns, it does not produce the high heat intensity and high flame lengths associated with scrub, chaparral, and forest fuel types. Other significant vegetative cover types include light brush (16.5%), pine/grass (12.1%), and hardwood/conifer litter (8.3%). These vegetation types are primarily associated with the steeper, upland areas in the La Panza, Garcia, and Santa Lucia Ranges throughout the central portion of the County. Fire behavior in brush fuel types produces higher flame lengths than that in grassland, although spread rates are typically slower. Fire behavior in forests is variable, depending on surface fuel conditions and the presence of ladder fuels.

Variations in vegetative cover type and species composition have a direct effect on fire behavior. Some vegetation types and their associated plant species have increased flammability based on plant physiology (resin content), biological function (flowering, retention of dead plant material), physical structure (leaf size, branching patterns), and overall fuel loading. For example, the native shrub species that compose chaparral vegetation types present a high potential hazard based on such criteria.

Table 3. Vegetation Types in San Luis Obispo County

Vegetation Type*	Approximate Acreage	Percentage
Agriculture	120,908	5.69%
Alkali Desert Scrub	32,415	1.53%
Annual Grassland	991,331	46.66%
Barren	6,160	0.29%
Blue Oak Woodland	185,966	8.75%
Blue Oak-Foothill Pine	36,302	1.71%
Chamise-Redshank Chaparral	130,021	6.12%
Closed-Cone Pine-Cypress	3,121	0.15%
Coastal Oak Woodland	188,229	8.86%
Coastal Scrub	88,528	4.17%
Desert Scrub	670	0.03%
Desert Succulent Shrub	245	0.01%
Desert Wash	469	0.02%
Eucalyptus	10	0.00%
Freshwater Emergent Wetland	25	0.00%
Juniper	5,538	0.26%
Lacustrine	59	0.00%
Mixed Chaparral	158,147	7.44%
Montane Hardwood	28,521	1.34%
Montane Hardwood-Conifer	12,528	0.59%
Montane Riparian	252	0.01%
Pinyon-Juniper	5	0.00%
Ponderosa Pine	684	0.03%
Sagebrush	4,747	0.22%
Saline Emergent Wetland	294	0.01%
Unknown Conifer Type	1,240	0.06%
Unknown Shrub Type	44,753	2.11%
Urban	53,659	2.53%
Valley Foothill Riparian	3,264	0.15%
Valley Oak Woodland	11,120	0.52%
Water	15,170	0.71%
Wet Meadow	17	0.00%

*Source: FRAP 2012

As described, vegetation plays a significant role in fire behavior. A critical factor to consider is the dynamic nature of vegetation types. Fire presence and absence at varying cycles or regimes affects vegetation type succession. Succession of vegetation types, most notably the gradual conversion of shrublands to grasslands with high fire frequency and grasslands to shrub lands with fire exclusion, is highly dependent on fire regime. Biomass and associated fuel loading will increase over time, assuming that disturbance or fuel reduction efforts are not implemented.

Wildfire disturbances can also have dramatic impacts on plants and plant composition. Heat shock, accumulation of post-fire charred wood, and change in photoperiods due to removal of shrub canopies may all stimulate seed germination. The post-fire response for most species is vegetative reproduction and stimulation of flowering and fruiting. The combustion of aboveground biomass alters seedbeds and temporarily eliminates competition for moisture, nutrients, heat, and light. Species that can rapidly take advantage of the available resources will flourish. It is possible to alter successional pathways for different vegetation types through manual alteration. This concept is a key component in the overall establishment and maintenance of fuel reduction projects.

Table 4. Fuel Model Types in San Luis Obispo County

Fuel Model Number*	Description	Approximate Acreage	Percent Cover
1	Grass	997,984	46.98%
2	Pine/Grass	256,610	12.08%
4	Tall Chaparral	88,290	4.16%
5	Light Brush	349,780	16.46%
6	Intermediate Brush	3,103	0.15%
8	Hardwood/Conifer Litter	176,008	8.29%
9	Medium Conifer	242	0.01%
10	HeavyConifer Litter w/ Understory	9,630	0.45%
12	Medium Slash	228	0.01%
15	Desert	545	0.03%
28	Urban	19,687	0.93%
97	Agriculture	220,097	10.36%
98	Water	1,726	0.08%
99	Barren	458	0.02%

*Source: FRAP 2012

Figure 3: Fuels Distribution

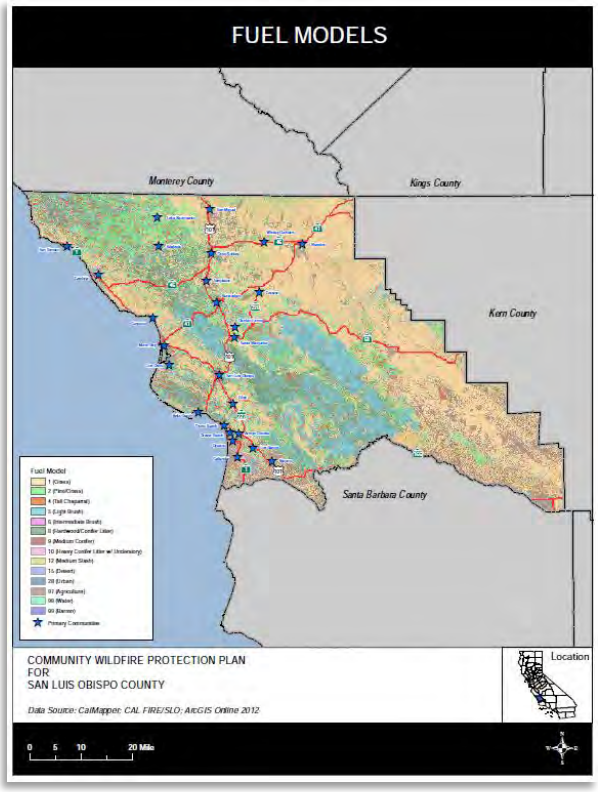


Figure 4: Fuel Models.

Sudden Oak Death

The moist climate in the Central Coast Region supports the Sudden Oak Death (SOD) pathogen. Although not currently documented as far south as San Luis Obispo County, many scientists agree that it is likely only a matter of time before this occurs. The SOD Map is a useful application that produces a kmz file for viewing SOD locations and sample sites in Google Earth software. If this fungus spreads into this County, significant numbers of oaks and other susceptible species may be damaged or killed. This poses a potentially significant increase in the fire hazard within infected areas due to the increase in the amount of dead fuel available, the loss of tree canopy for shade and wind sheltering, and the likely increase in ground fuels, primarily shrub species that will follow. Aerial monitoring is conducted annually by agencies and universities to monitor the spread of the disease, and research is being conducted to determine potential abatement methods.

Pine Pitch Canker

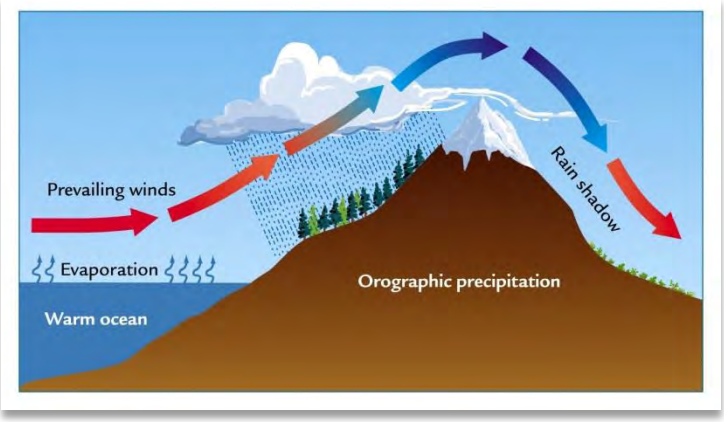
Primarily affecting Monterey pines (*Pinus radiata*), the disease-causing fungus (*Fusarium subglutinans* f. sp. *Pini*) affects a number of other pine species in the County including Bishop pine (*Pinus muricata*). Pine pitch canker occurs in response to a fungal infection and is characterized by resinous cankers on the trunk, branches or roots accompanied by needle wilt, limb dieback and eventual tree mortality. The fungus is spread through distribution of the fungal spores by contact with infected material and by insect vectors including several species of bark, twig and cone beetles. The Pitch Canker Action Plan was approved in 1995 under the direction of the Pitch Canker Task Force and is intended to identify management, research and educational priorities to limit the spread of pine pitch canker in California.

The short-term implication of these forest diseases and other insect infestations in relation to fire prevention and protection is the relatively rapid mortality that occurs, resulting in increased dead fuel loads. Standing dead fuels contribute to increased wildfire hazard and require treatment and/or removal, especially within wildland urban interface areas. Further, care must be taken to avoid transportation of infected tools, chips, and trimmings/plant material into non-infected regions.

WEATHER

San Luis Obispo County is characterized by a Mediterranean climate with the majority of annual rainfall occurring during the cooler part of the year. However, the County experiences a great diversity in weather conditions ranging from a typically cool, damp condition along the coast in the northern portion of the County to an intensely hot and arid Cuyama Valley in the southeast portion of the County. Primary factors affecting the climate for San Luis Obispo County are the Pacific Ocean along the western edge of the County and the location and alignment of the La Panza, Garcia, Santa Lucia, and Caliente Ranges situated in the central portion of the County.

Terrain contributes significantly to the weather in the County. For example, the terrain in the southern portion of the County can affect intensity of north and east wind events resulting in a light Sundowner effect on the coast side of the range. The area east of Nipomo is known by firefighters as an area of unpredictable wind changes, as the influence of the Pacific Ocean and the inland valleys converge. This area was the location of the tragic Spanish Ranch Fire, which killed 4 CAL FIRE firefighters in 1979, and where two near-tragedies occurred during the 1997 Logan Fire. A contributing factor on both these fires was "a sudden wind shift".
Although sundowners occur infrequently and usually only in the Nipomo area, the same high pressure inland conditions that produce Santa Ana winds in southern California often produce katabatic winds in this County that result in northeasterly off-shore wind conditions which are usually accompanied by warm temperatures, high wind speeds, and low humidity's. These periods often produce the most "fire days" along the coast when the fire risk is elevated to the highest point of the entire year.



The La Panza, Garcia, Santa Lucia, and Caliente Ranges intercept a large portion of the rain bearing clouds moving eastward from the Pacific Ocean and therefore have the heaviest precipitation in the County. These ranges also separate the cooler, moister marine-influenced areas from the arid inland areas during much of the summer. Strong, onshore sea breezes are common in the western portions of the County during the summer months as marine air is drawn inland by thermal low pressure. The entire area east of these ranges can be described as arid, with the driest areas in the southeast portion of the County receiving only 5 to 8 inches of rain annually. Another locally important characteristic affecting weather in the County is the frequency of summer fog along the coast and winter fog in the inland valleys. These two fog conditions augment rainfall and provide moisture for plant growth and affect live and dead fuel moistures.

San Luis Obispo County is broken into two weather zones. Using weather factors such as wind, humidity, and temperature, the two zones are ranked by their frequency of severe fire weather. These areas are ranked as moderate (severe fire weather occurring fewer than 26 days per year), high (severe fire weather occurring between 26 and 46 days per year), and very high (severe fire weather occurring more than 46 days per year). Some areas ranked as 'very high' can experience severe fire weather up to 88 days per year. Although weather conditions can reduce the number of days that a devastating fire can occur, all areas of the County regularly are subject to days or "windows" when severe burning conditions exist.

The California National Fuel Moisture Database (NFMD) is a web-based query system that enables users to view sampled and measured live and dead-fuel moisture information. The database is routinely updated by fuels specialists who monitor, sample and calculate live fuel moisture data.

Remote Automated Weather Stations

A system of Remote Automated Weather Stations (RAWS) is used to acquire site specific weather data. The RAWS are self-contained weather stations which sample weather on a periodic basis and then transfer this information via satellite to a federal server. This weather data can then be used for emergency responses and project planning. There are currently five stations located within San Luis Obispo County. Three of these stations are owned and maintained by CAL FIRE/SLO and two are owned and maintained by the U.S. Forest Service. These stations have been strategically placed to provide maximum coverage for the most critical areas in the County. Station information and real-time weather data such as the current weather summary for the Los Angeles/Oxnard CWA is available from MesoWest and ROMAN.

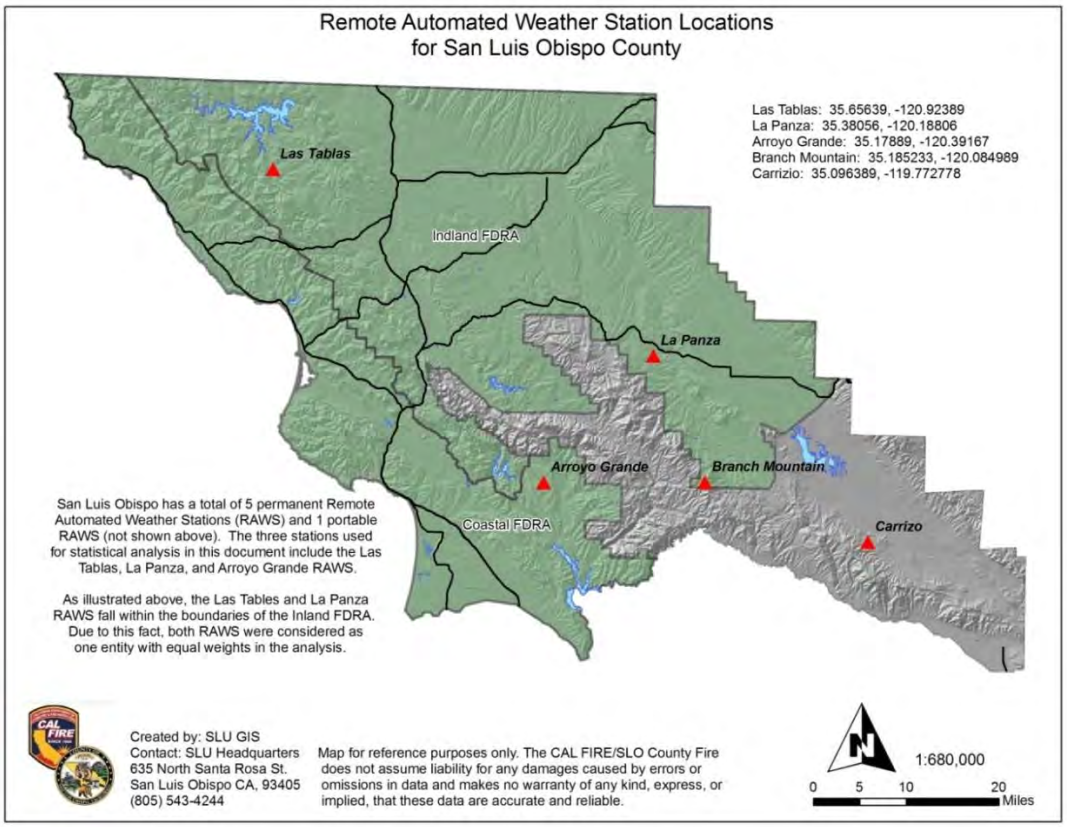


Figure 5: RAWS

TOPOGRAPHY

Topography is essentially the lay of the land and is commonly characterized by measurements of slope, elevation, and aspect. The topography (Figure 6) of San Luis Obispo County is extremely variable and greatly affected by the La Panza, Garcia, and Santa Lucia Ranges situated in the central portion of the County and the Caliente Range in the southeastern portion of the County. Elevations in the County range from sea level along the western boundary of the County up to 5,106 feet above mean sea level (amsl) atop Caliente Peak in the Caliente Range in the southeast corner of the County. The Santa Lucia Range is a dominant topographic feature which extends almost the entire length of the western portion of the County. In the northern portion of the County, the Santa Lucia Range rises sharply up from the Pacific Ocean, while in the southern portion of the County it rises more gradually from the coastline. Another notable topographic feature is the Irish Hills, situated along the coastline between the communities of Los Osos to the north and Avila Beach to the south.

Elevation affects temperature, humidity, wind speed, and the growing season of vegetation. Aspect affects the amount of solar radiation absorbed by plants. Southern aspects normally receive maximum solar radiation while northern aspects receive the least. Soil and plant moisture contents are the primary factor influenced by solar radiation. As southern aspects receive the most solar radiation, plants on south-facing slopes tend to be more drought tolerant than those adapted to northern aspects. Slope is the steepness of the land, calculated as the product of the change in elevation (rise) divided by the horizontal distance covered (run). Slope is typically presented in units of percent or degrees. Steeper slopes can have a significant effect on fire behavior as a fire moving uphill can preheat vegetation uphill from it and accelerate the rate of fire spread. The regional topographic conditions within San Luis Obispo County can have considerable effect on wildland fire behavior, as well as on the ability of firefighters to suppress those fires. Steep slopes and canyon alignments are conducive to channeling, deflecting, concentrating, or dispersing winds, and creating extremely erratic wildfire conditions, especially during wind-driven fire events.

FIRE HISTORY

Fire history, is an important component in understanding fire frequency, fire type, significant ignition sources, and vulnerable areas/communities, (Figure 7). The topography, vegetation, and climatic condition associated with San Luis Obispo County combine to create a unique situation capable of supporting wildfires. A number of large, damaging wildfires have occurred in the County, notably the Weferling Fire (1960), the Las Pilitas Fire (1985), the Chispa Fire (1989), the Highway 41 (1994), the Highway 58 Fire (1996), and the Logan Fire (1997). The aforementioned fires burned approximately 350,000 acres, destroyed numerous structures, and cost millions of dollars to suppress. The fire with the most significant impact on the County was the Highway 41 Fire, which destroyed 42 residences, caused massive power outages, shut down two major highways for over 24 hours, and destroyed public radio, television and communication transmission facilities.

Based on historical fire perimeter data (CalMAPPER 2012), repeated burning is observed within the County primarily in the Santa Lucia Range. Land ownership (US Forest Service) and fuel type (chaparral) appear to be significant factors affecting the geographic distribution of fires in San Luis Obispo County. Grass-dominated lands in the eastern portion of the County exhibit small, well dispersed burn perimeters, while the heavier chaparral fuels in the central-southern portion of the County (Santa Lucia Range) exhibit a repeated burn pattern, larger fire perimeters, and a more concentrated distribution of fire perimeters. The average interval between large wildfires in excess of 20,000 acres burning within San Luis Obispo County is 7.3 years, with intervals as short as 1 year and as long as 17 years. Table 5 presents notable fires burning over 20,000 acres in San Luis Obispo County.

Figure 1

Fire occurrence summary: For the period of record in this analysis (2002-2012), 68 vegetation fires a year on average either threatened or occurred in San Luis Obispo. The largest number of fires occurred in 2007 at 127 fires, with a low of 11 in 2012. Lightening caused a very small proportion of the fire occurrence at 2%. Most fires occurred in July.

Table 5. Large Fire History in San Luis Obispo County
(Fires Greater than 20,000 acres)

Fire Name*	Year	Approximate Acreage Burned
Avenales Fire	1917	21,242
Un-named Fire	1921	63,909
Un-named Fire	1922	25,637
Machesna Fire	1939	28,313
Pilitas #1 Fire	1950	22,844
Sam Jones Fire	1953	35,455
Big Dalton Fire	1953	67,701
Weferling Fire	1960	51,451
Buckeye Fire	1970	42,307
Las Pilitas Fire	1985	84,271
Highway 41 Fire	1994	50,729
Highway 58 Fire	1996	106,969
Logan Fire	1997	49,490

*Source: CalMapper 2012

IGNITION HISTORY

Ignition data for San Luis Obispo County was analyzed for a 5-year period (2005-2010) to evaluate ignition trends and problems within the County. This data set includes 1,694 ignition points and includes an identification of fire cause. Table 6 and Figure 8 presents the ignition history for San Luis Obispo County between 2009 and 2013, classified by fire cause.

Table 6. Ignition History for San Luis Obispo County (2005-2010)

Ignition Cause*	Number	Percentage
Arson	62	3.7%
Campfire	11	0.6%
Debris Burning	64	3.8%
Equipment Use	275	16.2%
Lightning	10	0.6%
Miscellaneous	417	24.6%
Playing with Fire	123	7.3%
Powerline	38	2.2%
Railroad	1	0.1%
Smoking	21	1.2%
Undetermined	229	13.5%
Unknown	246	14.5%
Vehicle	197	11.6%

*Source: CAL FIRE/SLO 2012

The 5-year ignition history for San Luis Obispo County identifies trends in ignition type, with the majority of ignition causes classified as miscellaneous, undetermined, or unknown. Vehicle and equipment use also emerge as significant ignition sources in the County. Spatial analysis of ignition locations reveals a direct correlation between ignitions and roads/transportation corridors. Specifically, out of the 1,694 ignition points included in the data set, 761 (approximately 45%) are located within 20 feet of a road. Nearly 25% of these 761 ignitions adjacent roadways occur within 20 feet of highways in the County.

High density of ignitions is also observable within and adjacent urban areas, with notable concentrations observed near the communities of Cambria, Lake Nacimiento, Paso Robles, Atascadero, Los Osos, San Luis Obispo, Avila Beach, Arroyo Grande, and on the Nipomo mesa. This concentration of ignitions in urban areas and along transportation corridors emphasizes the importance of public education and fire prevention activities, including road-side fuel treatments and strategic management of flashy fuels (e.g. grasses) in WUI and Wildland Urban Intermix areas. Figure 6 presents the ignition history from 2005 to 2010 and the associated ignition density for San Luis Obispo County.

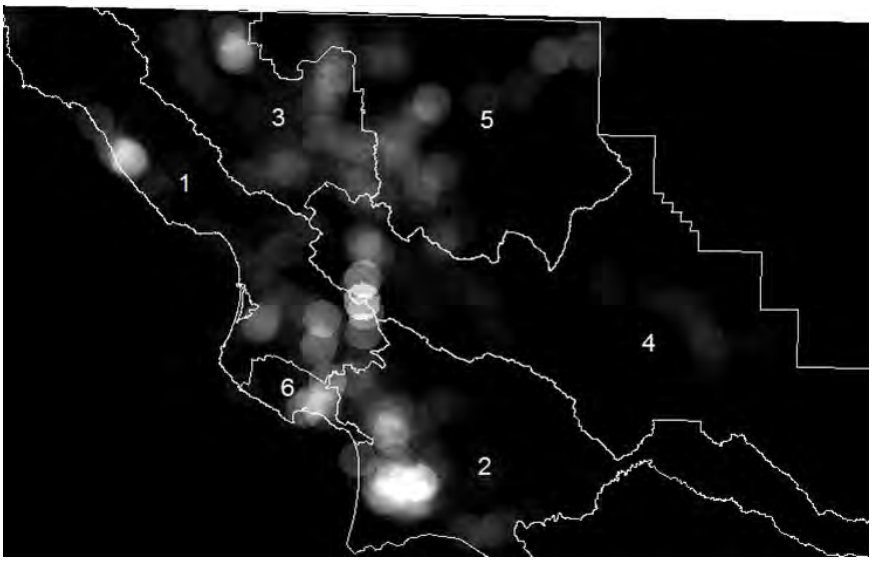


Figure 8 Ignition Density 2009-2013 100m

UNIT PREPAREDNESS

CAL FIRE / San Luis Obispo Unit puts tremendous effort into maintaining the highest preparedness level possible. This is a priority for each division and program. Each Division works with the intent to accomplish the mission of CAL FIRE and the San Luis Obispo County Fire Department. The fire administration, and fire prevention divisions are fulltime functions that assist fire operations division before, during and after an emergency event takes place. Additionally CAL FIRE / San Luis Obispo Unit presents annual preparation events to assist in maintaining its goal of keeping wildland fires at 10 acres or less. Below is a brief outline of the preparation efforts of each division with in the San Luis Obispo Unit.

Fire Administration Division

Among the many tasks that revolve around managing unit policies, budgets and logistics. Administrative staff also determines and implement staffing levels to achieve the county and state fire mission. Additionally administrative staff prepare and maintain cooperative fire service agreements and resource response plans, like the Central Coast Operating Plan, (CCOP). These plans provide operations the preparedness and depth necessary for mission success.

Fire Operations Division

The operations division provides a professional level of service related to fire control and suppression, rescue, advanced life support/emergency medical assistance, and the mitigation of hazardous materials incidents. In the event of major disasters, we are trained and equipped to handle a county wide incident, including wildland and structural fires, earthquakes, tsunami, riots, hazardous material incidents, nuclear events and other major emergencies. In addition to responding to emergency our training, fleet management and dispatch serve a critical role to our efficiency and preparedness to respond.

Fire Prevention Bureau

Prevention staff spends a majority of their time supporting field mission preparedness and preventing fires. It is divided into four areas; law enforcement & education; planning & engineering; pre-fire planning and resource management. Each of these are full time staffed and collectively work to support the efforts of operations. Prevention preparation activities include defensible space inspections, emergency evacuation planning, fire prevention education, incident intelligence and mapping, implementation of the State Fire Plan and fire-related law enforcement activities such as arson investigation. Other common projects include fire break construction and fire fuel reduction activities that lessen the risk of wildfire to communities and evacuation routes.

FIREFIGHTING CAPABILITIES

The fire service in San Luis Obispo (SLO) County is comprised of a cohesive and cooperative group of 17 agencies as described in this Section. Services are provided by a combination of city, special district, county, state, federal, and private agencies that operate 48 fire stations. These fire agencies have also developed an automatic mutual aid program that provides for the closest fire engine to respond to a new emergency regardless of the jurisdiction. This cooperative fire protection system gives each agency a depth and weight of response to be successful in mitigating both large scale and simultaneous emergency events within the County.

California Department of Forestry and Fire Protection / *CAL FIRE*
San Luis Obispo Unit (SRA)

As a state agency, CAL FIRE is jurisdictionally responsible for providing wildland and watershed fire protection to those portions of the unincorporated County area that meet the California Public Resources Code definition of State Responsibility Area (SRA). All lands within the boundary of an incorporated city and federally owned lands (US Department of Defense [DOD], USFS, BLM) are specifically excluded from SRA. Other than the Los Padres National Forest, Carrizo Plains National Monument and Camp Roberts, most of the unincorporated area in San Luis Obispo County meets the SRA definition.

Structure fire protection, rescue, emergency medical services, and hazardous materials response do not fall under CAL FIRE's wildland fire jurisdictional responsibility—that responsibility is vested with a local government agency. CAL FIRE has authority to respond to all types of fire/rescue incidents in assistance to local government, but does not assume jurisdictional responsibility. Where CAL FIRE's SRA jurisdiction coincides with County jurisdiction, a shared responsibility between the state and County exists. Some County unincorporated areas that meet the definition of SRA area fall within the boundaries of fire districts or community services districts that provide fire protection (including Cambria, San Miguel, Templeton, Santa Margarita, Avila Beach, and Cayucos). In these instances, CAL FIRE and the special district share fire protection responsibility and the County has no jurisdiction.

CAL FIRE's wildland fire resources include a fire chief, deputy chief, division chiefs, battalion chiefs and full-time/seasonal firefighters to staff ten fire stations during the peak wildland fire season. Equipment and other staff resources include three fire bulldozers, five hand crews and the Paso Robles Air Attack Base, which has an air tactical coordinator aircraft and two air tankers assigned. The wildland fire season normally occurs from May 15 through November 15 each year. These resources are available to respond as automatic aid or mutual aid to emergencies throughout the county. CAL FIRE operates a consolidated regional fire dispatch center that is staffed 24/7.

San Luis Obispo County Fire Department / *CAL FIRE*

Unincorporated County Area (LRA)

The County consolidated fire protection delivery with CAL FIRE in 1930 and jointly operates 18 fire stations for response (nine county-owned and nine CAL FIRE-owned). The CAL FIRE chief also serves as the fire chief for the County. Fire stations are staffed with various configurations of full-time, seasonal, paid call and reserve firefighters. A more complete description of the County and CAL FIRE can be found in the 2012 Strategic Plan.

> **2012 Service Level Analysis**
> San Luis Obispo County has prepared a Fire Service Strategic Plan (July 2013). The Strategic Plan is intended to serve as a guide for the San Luis Obispo County Board of Supervisors and other partners in the CAL FIRE / San Luis Obispo County Fire consolidated fire protection program. It is intended to identify proper levels of service for fire protection, make an assessment of the current delivery system and forecast necessary changes to fire protection services. One of the Strategic Plan goals is to provide a tool for making cost-effective decisions regarding changes in service levels. To achieve this goal, the Strategic Plan describes and presents data regarding fire protection in the County by using community demographics, service levels, staffing models, governance and funding options.

The County of San Luis Obispo is responsible for fire protection services for buildings and other improvements in unincorporated areas situated outside the boundaries of an independent fire district or community services district that provides fire protection. Unlike cities, the County has no legal obligation to provide fire protection in the unincorporated area; it is a discretionary service policy decision. Where unincorporated areas lie within the boundaries of a special district that chooses to provide fire protection (via a CSD or fire protection district), the responsibility and authority is transferred from the Board of Supervisors to that special district governing board. Federally owned lands (e.g. land managed by the US Forest Service [USFS] and Bureau of Land Management [BLM]) located in the unincorporated portion of the county create a federal and county dual-responsibility situation for fire and rescue.

MUTUAL & AUTOMATIC AID

Fire/rescue mutual aid is authorized by the State Master Mutual Aid agreement and a local county-level operational agreement. San Luis Obispo County Operational Area Fire/Rescue mutual aid is coordinated by CAL FIRE. The Operational Fire/Rescue Coordinator is selected by all the fire agencies in the county.

The San Luis Obispo County fire agencies have adopted an "automatic mutual aid" doctrine that provides an enhanced form of mutual aid for first response to new emergencies. Mutual aid provided for under the State Master Mutual Aid Agreement was created to provide assistance under extraordinary times when a jurisdiction had exhausted its own resources on a major emergency or series of emergencies. This allows for enhanced service without increasing the number of fire stations or firefighters by utilizing existing resources regionally rather than just within jurisdictional boundaries. Typically, cross-jurisdictional, automatic aid first response occurs several times daily.

Special Districts

There are eight special districts located in unincorporated areas that provide fire protection in San Luis Obispo County, including two fire protection districts and six community services districts.

Fire Protection Districts (FPD)

Fire protection districts are independent special districts organized under Fire Protection Districts Law[4] with their own independently elected board of directors. FPDs may include incorporated and unincorporated areas; however the two FPDs in SLO County include only unincorporated areas.

Community Service Districts (CSD)

Community service districts exist in unincorporated areas and have independently elected boards of directors that provide governance for services that the CSD has elected to provide. There are more than 15 CSDs in SLO County, but only six have assumed responsibility for fire protection service. All of these CSDs collaborate each year to fire protection agreements to serve the citizens with the best fire protection possible.

Avila Beach CSD: Avila Beach CSD boundaries include only the one square mile built-up area of downtown Avila Beach. In 2000, Avila Beach CSD consolidated its fire department with CAL FIRE/San Luis Obispo County Fire. The CAL FIRE/San Luis Obispo County Fire, fire chief serves as the fire chief of Avila Beach CSD. Response is provided by the full-time and paid call firefighters at the CAL FIRE/San Luis Obispo County Fire Station (FS# 62) at San Luis Bay Estates.

Cambria CSD: Cambria CSD is governed by an elected board of directors that provides several municipal services, including fire protection. The Cambria Fire Department has a full-time fire chief, six full-time and 12 reserve firefighters who staff one fire station. CAL FIRE / San Luis Obispo County Fire is contracted to provide dispatching services to this community.

Cayucos Fire Protection District: Cayucos FPD provides fire protection to the Cayucos downtown area and Morro Strand. The fire department has a volunteer fire chief and an all-volunteer firefighter force that staffs one fire station in the northern part of the district. CAL FIRE has a seasonal wildland fire station on the southern boundary of Cayucos; Cayucos FPD contracts with CAL FIRE/ San Luis Obispo County Fire to keep the station open and staffed during the non-fire season. This type of augmented fire protection contract utilizing existing CAL FIRE stations and personnel is known as an AMADOR contract.[5] The CAL FIRE station is staffed with two full-time firefighters 24/7 during the non-fire season.

Los Osos CSD: The Los Osos CSD serves the neighborhoods of Los Osos, Baywood Park, and Cuesta-by-the Sea. When created, the CSD absorbed the former South Bay Fire Protection District (a "dependent" special district governed by the County Board of Supervisors). Fire protection is provided by full-time and reserve firefighters from one fire station on Bayview Heights Drive near Los Osos Valley Road. Los Osos operates with two staffed paramedic firefighters on duty at the South Bay station daily.

San Miguel CSD: San Miguel CSD provides fire protection services in San Miguel and the St. Lawrence Terrace neighborhood. The CSD has a part-time fire chief and an all-volunteer firefighter force that responds from one fire station in downtown San Miguel. CAL FIRE / San Luis Obispo County Fire is contracted to provide dispatching services to this community.

Santa Margarita Fire Protection District: The Santa Margarita Volunteer Fire Department provides fire protection services in the community of Santa Margarita. None of the surrounding Santa Margarita Ranch is located inside the FPD boundary. Santa Margarita has a volunteer fire chief and an all-volunteer firefighter force that responds from one fire station. CAL FIRE / San Luis Obispo County Fire is contracted to provide dispatching services to this community.

Templeton CSD: The Templeton CSD provides fire protection within the CSD. The Templeton FD has a full-time fire chief, part-time assistant fire chief and an all-volunteer firefighter force that responds from one fire station in central Templeton. CAL FIRE / San Luis Obispo County Fire is contracted to provide dispatching services to this community.

Incorporated Cities

The seven incorporated cities in San Luis Obispo County have jurisdictional responsibility and authority to provide fire protection services to their city. General Law and charter cities alike are obligated to provide fire protection directly as a city service or through some other provider. Each of these Cities provide fire protection locally and to each other through mutual and auto aid.

City of Arroyo Grande and City of Grover Beach

The Five Cities Fire Authority has one full-time fire chief, a battalion chief, 15 full-time firefighters and 36 reserve/ paid call firefighters who staff three fire stations (one in each community).

City of Atascadero

The Atascadero Fire Department has a fulltime fire chief, fire marshal and 17 full-time firefighters who staff two fire stations. Atascadero has 18 paid call/reserve firefighters who respond at the time of an emergency. The city also hires a small crew of seasonal firefighters during the summer.

City of Morro Bay

The Morro Bay has a full-time fire chief and nine full-time and 15 reserve firefighters who staff one of the city's two fire stations 24/7. The second fire station is not staffed daily—coverage is provided by reserve firefighters.

City of Paso Robles

The Paso Robles Department of Emergency Services operates three fire stations, two in the main part of the city and the third at the Paso Robles Municipal Airport. The department has a full time Fire Chief, an Assistant Fire Chief and 18 full time firefighters that provide 24/7 coverage at the two downtown fire stations. Paso Robles does not have a Reserve or Volunteer Firefighter program.

City of Pismo Beach

The fire chief of CAL FIRE/San Luis Obispo County Fire serves as the fire chief for Pismo Beach. In addition, under the contract, Pismo Beach receives 24/7 battalion chief coverage, a fire inspector, nine full-time firefighters and 15 reserve/paid call firefighters to staff two fire stations. CAL FIRE also provides other services, such as training, arson investigation, equipment design, fleet management, etc. Facilities, fire apparatus and most portable equipment remains the property of the City of Pismo Beach. CAL FIRE relocated one of its state-funded wildland fire engine crews to the Shell Beach fire station and shares staffing costs for this station with the City of Pismo Beach.

City of San Luis Obispo

The San Luis Obispo Fire Department has a fulltime Fire Chief, Deputy Fire Chief, Fire Marshal, two Fire Inspectors, three Battalion Chiefs, and 39 full time Firefighters that staff four fire stations. A recent master plan completed for the San Luis Obispo recommends the addition of a fifth fire station on Tank Farm Road at the southern edge of the city. San Luis Obispo does not have a Paid Call or Reserve Firefighter program.

Federal Agencies (FRA)

United States Forest Service (USFS)—Los Padres National Forest

USFS provides only wildland fire protection services on national forest lands. Since the Los Padres National Forest is comprised of unincorporated area, jurisdictional responsibility for non-wildland fire/rescue responses falls to the County. The USFS operates two seasonal wildland fire stations in San Luis Obispo County, one in the community of Pozo and the second at Pine Canyon on Highway 166 at the border of Santa Barbara and San Luis Obispo County 15 miles east of Highway 101. During the wildland fire season, the USFS bases a wildland fire helicopter and helitack crew at their Arroyo Grande Helibase on Hi Mountain Road east of Lopez Lake.

U.S. Department of the Interior—Bureau of Land Management (BLM)

Similar to USFS, BLM provides only wildland fire protection on BLM or "public lands." Since BLM land is comprised entirely of unincorporated area, jurisdictional responsibility for those non-wildland fire responses falls to the County. The largest block of BLM land holdings are located in the Carrizo Plains National Monument in southeastern San Luis Obispo County. BLM also has several smaller pockets of public lands scattered throughout the county. BLM closed its Carrizo Plains fire station and has no fire resources in San Luis Obispo County. BLM contracts with CAL FIRE for wildland fire protection for the scattered pockets of federal land in the county.

Figure 9: Unit Wide Map

SECTION II: UNIT FIRE PLAN COLLABORATION

CAL FIRE / San Luis Obispo Unit is committed to collaborating with our Countywide Communities; Agencies; and Stake Holders. We provide a tremendous amount of leadership and support to the San Luis Obispo County Community Fire Safe Council. This Council is comprised of a collective group of county leaders with a common goal of fire prevention.

This Unit Fire Plan is intended to be used as an internal planning document and did not seek the input of our common partnerships.

Plan Development Team:

Organization	Title
CAL FIRE / San Luis Obispo County Fire	Unit Chief
CAL FIRE / San Luis Obispo County Fire	Unit Forester
CAL FIRE / San Luis Obispo County Fire	Pre-Fire Engineer

FISCAL SPONSORS

FireSafe Council

Formed in 1998, the primary objective of the San Luis Obispo County Community FireSafe Council is to provide education, exchange of information and foster fire prevention and fire safety within the County of San Luis Obispo. The SLOCCFSC is made up of a board of directors who represent the main stakeholders who are affected by wildland fires. The SLOCCFSC gives CAL FIRE /County Fire a unique opportunity to work with other agencies in solving wildland fire related issues. CAL FIRE /County Fire also works directly with homeowners during our yearly hazard reduction inspection program. CAL FIRE /County Fire staff will also have many opportunities to work with residents, homeowners associations, and other governmental agencies during the preparation of Community Wildland Fire Protection Plans, projects and events.

***CAL FIRE* Hazardous Fuel Treatment II**

The California Department of Forestry and Fire Protection (CAL FIRE) has secured grant funding from the U.S. Forest Service to plan, coordinate, and implement fuels reduction projects. The Hazardous Fuels Treatment (HFT) grant enabled CAL FIRE / San Luis Obispo County funding to treat multiple projects by the end of 2012.

Western Wildland Urban Interface Grant Program

National Fire Plan Funds to mitigate risk from wildland fire within the Wildland Urban Interface are available and awarded through a competitive process with emphasis on hazardous fuel reduction, information and education, assessment and planning, and monitoring through community and landowner action. Funding is delivered through and managed by state forestry organizations. This portion of the National Fire Plan was developed to assist interface communities manage the unique hazards they find around them.

San Luis Obispo County Office of Emergency Services (OES)
The County Office of Emergency Services is committed to serving the public before, during and after times of emergency by promoting effective coordination between agencies, and encouraging preparedness of the public and organizations involved in emergency response.

SECTION III: VALUES AT RISK

CAL FIRE's Fire and Resource Assessment Program (FRAP) prepared the document entitled California's Forest and Rangelands: 2010 Assessment. This document satisfies 2008 Federal Farm Bill provision that each state conduct an assessment of forest resources, which is intended to identify key issues facing each state and requires the delineation of spatial areas called Priority Landscapes. Priority Landscapes are intended to focus investments and other programs to address issues identified in the assessment. Priority Landscape data sets related to fire include an evaluation of fire risk as related to community water, ecosystem health, forest economics, human infrastructure, range economics, recreation and open space, and wildlife.

The fire/human infrastructure Priority Landscape developed by FRAP represents the convergence of areas with high wildfire threat and human infrastructure assets. Included in this assessment are communities and assets. Community areas include incorporated city boundaries and Census Designated Places for unincorporated communities while assets include residential and commercial structures, major roads, and transmission lines. Wildfire threat is the result of an analysis of fire frequency (likelihood of a given area burning) and potential fire behavior (fire hazard). For purposes of illustration, below are three examples, Fire Threat to Ecosystem Health, Rangeland Fire Threat, Post Fire Erosion Threat to Community Water.

Figure 20: Rangeland Fire Threat

Figure 11: Threat to Ecosystem

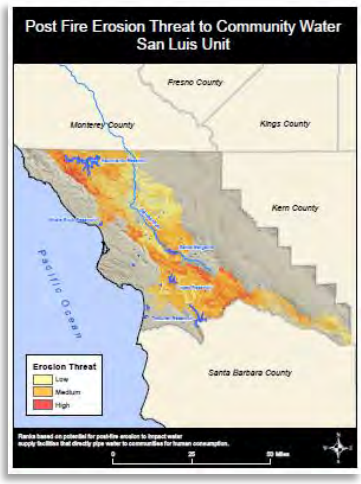


Figure 13 : Post Fire Erosion Threat

Another dominant factor affecting wildfire risk is the prevailing wind pattern in San Luis Obispo County. Specifically, on-shore winds from the northwest routinely pick up in the late morning hours increasing the risk of pushing a fire in a southeast direction if not extinguished by late-morning (approximately 10 am). This condition is observable in the shape of large fire burn perimeters in San Luis Obispo County. For example, prevailing winds contributed significantly to the extent of the 1994 Highway 41 Fire, which originated northwest of the City of San Luis Obispo and burned southwest toward the cities of San Luis Obispo and Atascadero.

While no large fires are included in the fire history data set for the Irish Hills area in the County, the potential fire risk in this area is considered high. For example, a fire originating in the Los Osos area or at

Diablo Canyon could be pushed by prevailing winds southeast toward the communities of Avila Beach and Pismo Beach. Another area with similar conditions where a large fire is considered likely is the Santa Rita Road area between Highway 41 and Highway 46 due to heavy fuels, prevailing wind patterns and steep terrain.

FIRE RISK vs. FIRE HAZARD

The concept of risk vs. hazard can be confusing and these terms are often used interchangeably. The purpose of this Plan is to assist fire agencies with development of collaborative methods of reducing the fire 'risk' within their jurisdictions by using strategies and tactics that will reduce or eliminate one or more fire 'hazards'. Examples of fire hazards include dense stands of decadent brush, faulty wiring, broken vehicle exhaust systems, and homes that are not built in accordance with fire code requirements. The fire risk (vulnerability) of a given area constantly rises and falls depending on conditions within the fire environment. Successful implementation of this Plan will result in the meaningful reduction of the fire risk in strategic portions of the County through identification and abatement of important fire hazards.

For the purposes of this Plan, San Luis Obispo County has been divided into eleven Planning Areas to facilitate localized pre-fire planning efforts. The following provides a brief description of each Planning Area. Priority Landscapes and Planning Areas are also delineated in Figures 7A through 7F.

PLANNING AREAS

Planning Area 1 (CAL FIRE – Battalion 1)
Planning Area 1 encompasses approximately 300,963 acres and is situated along the Pacific Ocean from the Monterey County Boundary in the north to approximately Point Buchon in the south. Its eastern boundary runs along the ridge of the Santa Lucia Range and extends eastward to the City limits of Atascadero and southward to the boundary of the City of San Luis Obispo. The City of Morro Bay and the community of Cambria are located along the Pacific Ocean in the western portion of the Planning Area. Planning Area 2 includes the Priority Community of Baywood Park-Los Osos. Large fire history in the Planning Area includes the 1960 Weferling Fire and the 1994 Highway 41 Fire.

Planning Area 2 (CAL FIRE – Battalion 2)
Planning Area 2 encompasses approximately 458,830 acres and is situated along the southern boundary of the County, adjacent the Cuyama River. Planning Area 3 stretches the entire length of the County, from Kern County in the east to the Pacific Ocean in the west and is bisected by the Los Padres National Forest (LPNF) in the central portion of the Planning Area. Its northern boundary runs along the boundary of the LPNF, adjacent the ridge of the Garcia and Caliente Ranges and extends northward to the City limits of San Luis Obispo. Planning Area 3 includes the Priority Community of Nipomo. Large fire history in the Planning Area includes the 1985 Las Pilitas Fire and the 1997 Logan Fire.

Planning Area 3 (CAL FIRE – Battalion 3)
Planning Ares 3 encompasses approximately 567,495 acres and is situated along the northern edge of the County from the Kern County boundary in the east to the ridge of the Santa Lucia Range in the west. Its southern boundary extends roughly eastward from the City of Atascadero, but excludes the Santa Lucia Range. Planning Area 4 includes the Priority Communities of Adelaida, Lake Nacimiento, and San Miguel. Large fire history in the Planning Area includes the 1960 Weferling Fire in the far western portion of the Planning Area.

Planning Area 4 (CAL FIRE – Battalion 4)
Planning Area 4 encompasses approximately 767,760 acres and is situated in the central portion of the County between Planning Area 4 to the north and Planning Area 3 to the south and is bisected by the LPNF. Its eastern boundary abuts Kern County, and its western extends up to the City of Atascadero. Planning Area 5 includes the Priority Community of Santa Margarita. Large fire history in the Planning Area includes an un-named fire in 1939, the 1985 Las Pilitas Fire, and the eastern portion of the 1994 Highway 41 Fire.

Planning Area 5 (CAL FIRE – Battalion 5)

Planning Area 5 encompasses approximately 567,495 acres and is the Northeast section of the county which is situated along the upper eastern edge boundary with Kern County through the Bitterwater Valley/Tremor Mountain range (San Andreas Fault line), Northeast boundary with Fresno County and the North boundary with Monterrey County. The Western edge of the planning area includes, Camp Roberts, San Miguel, eastern Paso Robles, and eastern Atascadero. Southern boundary runs along the Rocky Canyon truck trail and head east just north of Hwy 58 until it reaches the Kern County line again at the Bitterwater Valley Road intersection. Planning Area 5 includes the Priority Communities of Creston, Shandon & Whitley Gardens. There is no Extended Attack/Large fire history in the Planning Area because of the fuel type mostly being grassland.

Planning Area 6 (CAL FIRE – Battalion 6)

Planning Area 6 encompasses approximately 29,768 acres and is situated in the Irish Hills along the coast between approximately Point Buchon in the northwest to the eastern-most portion of the City of Pismo Beach in the southeast. Planning Area 6 includes the Priority Communities of Avila Beach and Pismo Beach. Fire history in the Planning Area is limited primarily to a few small fires adjacent Diablo Canyon Nuclear Power Plant.

ASSETS

For the purposes of this Plan, assets are those values that may be at risk from wildfire. Assets in San Luis Obispo County include power generation and transmission facilities, emergency communication facilities, transportation infrastructure, tourist and recreation areas, environmental areas, military installations, natural resource production facilities, and commercial fishing facilities. Table 8 presents the assets in San Luis Obispo County, by Planning Area.

Table 8. Assets in San Luis Obispo County, by Planning Area

Asset	Planning Area
Trains/Rail System	All
Transportation Corridors (Highways 166, 101, 46, 41, and 58)	All
Diablo Canyon Power Lines	1, 2, 6
Communication System/Repeaters	1
ConocoPhillips Oil Refinery	2
Hearst Castle	1
Communication Sites	1
Los Padres FS Botanical Gardens	1
Bishop Peak Recreational Site	1
San Luis Mountain Recreational Site	1
Montana De Oro State Park Campground	1
Whale Rock Reservoir	1
San Simeon State Park	1
San Luis V.O.R.	1
Chorro Regional Park	1
Hearst Castle	1
Camp San Luis Obispo (California National Guard)	1
San Luis Obispo County Airport	2
Lopez Lake Recreational Area	2
PG&E High Power Line NW of Atascadero	3
Oak Shores Campground	3
Santa Margarita Lake Recreational Area	4
Upper Highway 229	4
Port San Luis Obispo/Lighthouse	6
Diablo Canyon Nuclear Power Plant	6
Hartford Ocean Pier Complex	6

COMMUNITIES AT RISK

Communities at Risk (CAR) from potential wildfire were identified at the federal level in the 2001 National Fire Plan (66 Fed. Reg. 753, January 4, 2001), which included only communities that were in the vicinity of federal lands. Recognizing that wildfire risk was not limited to areas near federal lands, CAL FIRE developed a more inclusive list of communities at risk for the State of California, which is managed by the California Fire Alliance. The communities identified in this Plan for San Luis Obispo County were derived from the Geographic Names Information System (GNIS) database and evaluated to ensure that all Communities at Risk were accounted for. The GNIS database of communities in the County was then consolidated to represent major communities in the County and historical places were excluded. For example, the community of Cambria includes the GNIS–identified communities of Cambria, Cambria Pines, East Village, Happy Hill, Harmony, Leimert, Lodge Hill, Marine Terrace, Park Hill, Tin City, and West Village.

The communities for San Luis Obispo County are identified in Table 9. In addition, Table 9 identifies which Planning Area the community is within, if it is a Community at Risk (CAR), and if it is an incorporated city. Figures 7A through 7F present the location of communities in San Luis Obispo County.

Table 9. Communities in San Luis Obispo County

Community*	Planning Area	Community at Risk**	Incorporated City
Adelaida	3	X	No
Arroyo Grande	6	X	Yes
Atascadero	4	X	Yes
Avila Beach	6	X	No
Baywood Park-Los Osos	1	X	No
Callender	2		No
Cambria	1	X	No
Cayucos	1	X	No
Creston	5	X	No
Edna	2		No
Garden Farms	4		No
Grover Beach	6		Yes
Lake Nacimiento	3	X	No
Los Berros	2		No
Morro Bay	1	X	Yes
Nipomo	2	X	No
Oceano	6	X	No
Paso Robles	3	X	Yes
Pismo Beach	6	X	Yes
San Luis Obispo	1	X	Yes
San Miguel	5	X	No
San Simeon	1		No
Santa Margarita	4	X	No
Shandon	5		No
Templeton	3	X	No
Whitley Gardens	5		No

*Source: CalMapper 2013
**Communities listed as Communities at Risk on the California Fire Alliance website: http://www.cafirealliance.org/communities_at_risk/communities_at_risk_list

PRIORITY COMMUNITIES

To evaluate Priority Communities in the State, FRAP analyzed the fire/human infrastructure Priority Landscape data set in combination with communities that include at least 500 people or 1,000 acres. Communities ranked as medium or high Priority Landscapes (for fire/human infrastructure) constitute Priority Communities. The intent of the Priority Community identification is to provide a way of identifying possible communities for outreach and further strategy development. The Priority Communities data set was utilized as a starting point for identifying and prioritizing communities in San Luis Obispo County where efforts can be focused to reduce wildfire threat. This data set was refined based on input from community stakeholders and based on an assessment of fire history, ignition history, land ownership, vegetation/fuel, or terrain.

Priority Communities for San Luis Obispo County are identified in Table 10. Priority Communities are those in which pre-fire management activities, including hazardous fuel reduction and public education, should be focused. This list of communities is based on available fire hazard planning data from FRAP, augmented with a County-scale analysis of fire hazard variables and input from community stakeholders and should be routinely evaluated and updated, as necessary.

Table 10. Priority Communities in San Luis Obispo County

Community*	Planning Area
Adelaida	3
Arroyo Grande	2,6
Atascadero	4
Avila Beach	6
Baywood Park-Los Osos	1
Cambria	1
Lake Nacimiento	3
Nipomo	2
Paso Robles	3
Pismo Beach	6
San Luis Obispo	1
San Miguel	5
Santa Margarita	4
Templeton	3

*Source: CalMapper 2013/FRAP 2012

WILDLAND URBAN INTERFACE AREAS (WUI)

Pre-fire planning efforts by CAL FIRE/SLO have identified the following priority WUI areas which would also benefit from fuel reduction or other pre-fire planning efforts intended to minimize ignitions and promote public and firefighter safety. The priority WUI areas are identified by Planning Area.

The information presented in this section is intended to be general in nature and has not been developed for a specific project. Should projects be identified for the purpose of reducing structural ignition or otherwise affecting wildland fire risk potential, evaluation and documentation of environmental effects will be required prior to implementation, which may include CEQA review. Additionally, project-related permits may be required. This level of assessment is typically conducted in the project planning phase once the scope of a project is identified.

Planning Area 1 **(Corresponds with CAL FIRE Battalion 1)** • Cambria WUI • Cayucos WUI • Laguna West WUI • Los Osos WUI • Morro Bay WUI • Morro Toro WUI • Prefumo Canyon WUI • Ragged Point WUI • San Simeon Acres WUI • Santa Rita WUI	**Planning Area 4** **(Corresponds with CAL FIRE Battalion 4)** • Black Mountain WUI • Garden Farms WUI • Mount Lowe WUI • Parkhill WUI • Pozo WUI • Salinas River Drainage WUI • Tassajara WUI • Wilson Corner WUI
Planning Area 2 **(Corresponds with CAL FIRE Battalion 2)** • Blue Fox WUI • East Arroyo Grande WUI • Edna Valley Foothills WUI • Huasna WUI • Nipomo Hills WUI • Nipomo Mesa/Dale WUI • Ranchita Estates WUI • Reservoir Canyon WUI • Suey Creek WUI • Upper Lopez Canyon WUI • Varian Ranch WUI	**Planning Area 5** **(Corresponds with CAL FIRE Battalion 5)** • Bitterwater/Cholame Valley WUI • Branch/Union Road WUI • Creston WUI • Dresser Ranch WUI • Estrella River Drainage WUI • El Pomar WUI • Ground Squirrel Hollow WUI • Independence Ranch WUI • Jardine WUI • La Panza/Ryan Road WUI • Ranchita Canyon WUI • Shandon WUI • Whitley Gardens WUI • Yosemite Place WUI
Planning Area 3 **(Corresponds with CAL FIRE Battalion 3)** • Asuncion WUI • Bryson\Hesperia WUI • Cal Shasta Boat Club WUI • Christmas Cove WUI • Heritage Ranch WUI • Oak Shores WUI • Rancho Delargo WUI • Running Deer Ranch WUI • Rural West Paso Robles WUI • South Shore Village • South Templeton/Santa Rita WUI • Tri Counties Boat Club WUI • West Atascadero WUI	**Planning Area 6 (Corresponds with CAL FIRE Battalion 6)** • Avila Beach WUI • Baron Canyon WUI • Davis Canyon WUI • Pismo Beach WUI • San Luis Obispo Bay Estates WUI • See Canyon WUI • Squire Canyon WUI

SECTION IV: PRE-FIRE MANAGEMENT STRATEGIES

Pre-fire management as used in this Plan is a collective term that refers to all activities undertaken by county land managers, property owners, agencies and fire departments intended to reduce the risk of wildfire and resulting suppression costs and also to minimize the resulting damage to lives, property, and the environment. This section details the objectives of pre-fire managements two main categories; Fire Prevention and Vegetation Management..

A. FIRE PREVENTION

The management strategies included in this section focus on the four efforts of the SLU / CAL FIRE Prevention Bureau; Fire Prevention Planning & Engineering; Fire Law Enforcement and Education, Pre-Fire Planning and Intelligence; Resource Management. The goals identified during the development of this Plan include increasing firefighter and public safety, reducing wildland fire costs and losses, implementing WUI building standards, implementing and maintaining defensible space around structures, supporting pre-fire and emergency planning, promoting inter-agency cooperation, reducing ignitions in the County, and promoting public education about wildfire.

Fire Prevention Planning & Engineering

Fire Prevention Planning takes into account the best design, construction, and engineering practices for planning fire safe communities and homes. Engineering principles also apply in the safe use of industrial and recreational equipment; as well as event safety and inspections occurring in both county and state jurisdictions. The County Fire Marshal and Engineering Staff recommend and interpret laws and regulations covering wildland fire safety and assist homeowners, landowners, decision-makers, and local government planners in building and rebuilding fire safety into the communities we serve. Below are the

County Fire Codes

San Luis Obispo County, as well as all other jurisdictions in the County, has adopted with amendments, the California Fire Code (CFC) and the California Building Code (CBC) into local ordinance. These regulations have many requirements for the protection of the citizens from WUI fires, including:

- Water requirements
- Minimum access road requirements
- Roofing requirements
- Construction requirements
- Hazard abatement requirements
- Turnaround requirements
- Fire Works Regulation
- Event Inspection and Safety

Structural Ignitability

A progressive process typically occurs as a structure is exposed to a wildland fire. First, ashes are cast in front of a fire by its smoke or convection column. In some instances, these ashes retain enough heat and/or flame that secondary ignitions are possible. Following the lighter ash, heavier embers/firebrands with more surface area and mass, and consequently, more heat, are blown in front of advancing flames and often provide sources of additional ignition to structures and vegetation. Finally, intrusion of a flame front and the associated radiant heat flux can expose combustible material outside of a building and the exterior of the structure itself to various levels of radiant heat. Studies reveal that the actual exposure of a building to a typical wildland flame front by the perimeter of a fire is usually less than six minutes. However, exposure to the other forms of ignition source materials can result in proliferation of secondary ignitions of structures or adjacent vegetation and a longer exposure, depending on wind, topography and fuel conditions.

To enhance structural survivability, the primary focus must include first, providing sufficient measures to prevent the ignition of structural materials from objects (fire brands) that are cast in front of the fire and, second, reducing the likelihood that direct flame impingement will occur and preventing flames from penetrating into the building and resulting in an interior fire. There are considerable problems in achieving these objectives without the benefit of new construction subject to the latest building codes.

All forms of fire protection are classified as either active or passive. Active fire protection includes implementing specific action to control a fire in some manner. Passive fire protection uses resistance to ignition or provides some form of warning that allows other action to be taken. These two classifications of self-defense mechanisms create different problems with regard to being accepted as alternatives for building construction. Furthermore, certain self-defense mechanisms must be incorporated during new construction, and others may only be capable of being added as a retrofit to existing structures. In the absence of ignition resistant construction, the focus for reducing structural ignitability shifts to landscaping and fuel treatment areas.

Many of the residential structures within the San Luis Obispo County are not built to current building code standards, which have been implemented statewide and are based on intelligence gained from large wildfire events that included structure loss. It is not realistic to retrofit existing homes with enhanced ignition resistant construction, although the existing code can trigger upgrades to current code requirements for certain home additions. Based on the type of development within the County and the existing fuels and terrain, structural ignition reduction will primarily be realized through implementation of fuel modification as described in this Plan. Standard fuel treatment prescriptions are presented in the following sections. As previously noted, environmental review and permitting may be required prior to project implementation. This should be completed during the project planning phase once the project scope has been identified.

Law Enforcement & Information

Law Enforcement

The primary emphasis of the San Luis Obispo Unit's law enforcement bureau is the enforcement of local and state fire laws as they apply to the missions of CAL FIRE, the State Fire Marshall's Office, and the San Luis Obispo County Fire Department. CAL FIRE's Law Enforcement officers are sworn State Peace Officers under PC 830.2. They are trained and certified in accordance with the California Commission on Peace Officer Standards and Training (POST). The officers are busy year round investigating fire causes, interviewing witnesses, working with juveniles, issuing citations and setting up surveillance operations.

Arson and negligently caused fires receive priority for law enforcement action, which typically results in criminal or civil proceedings against the responsible person(s). Such proceedings can lead to imprisonment, fines, and fire suppression cost collection. Law enforcement action is a critical fire prevention tool.

Fire Information and Education

Public outreach and education is an important component in community wildfire hazard reduction efforts and is a key component in reducing overall costs and losses attributed to wildland fires. Fire prevention education efforts being implemented by fire agencies in the County are intended to provide the public with fire safety education material so that the community can take an active role in fire prevention efforts. These efforts are detailed in section V and include school programs, parades, fairs, road signs, Smokey Bear programs, and numerous events, exhibits and displays throughout the year. In recent years, the use of the internet websites and social media is increasing our ability to provide fire information to a much larger audience more quickly.

Juvenile Fire-setter Program

The Juvenile Fire-Setter program is managed within the Law Enforcement and Education area. It is an education based diversion program designed to work with juveniles and young adults who have been identified as having a fire-setting behavior pattern. It is designed to break the chain of fire-setting behaviors before a serious incident occurs. It is an alternative to the juvenile justice system, but can work with the justice system.

Civil Cost Recovery Program

Since 2008, when CAL FIRE's Civil Cost Recovery Program began, the state has recovered more than $93 million statewide from folks whose wayward fires required suppression, investigation and follow-up by CAL FIRE Law Enforcement.

Pre-Fire Planning and Intelligence

CAL FIRE / San Luis Obispo County Fire understands that in order to be successful at firefighting and incident management, we will need comprehensive and collaborative plans. A tremendous effort is put into these annually. For the purpose of this Plan we will highlight the Plans that have significance to this plan, and separate them into three categories, community planning, operational planning, and pre-attack planning. By placing the emphasis on what needs to be done long before the incident starts, these plans look to reduce cost and property losses, increase public and firefighter safety, and positively contribute to the ecosystem health.

Community Planning

These plans are put together as a guiding document for fuel reduction. We work in collaboration with the community stake holders, FireSafe Council and the local fire authority to set the goals. Once the plan is completed, the community typically seeks grant funding to achieve the goals of the plan. Each of these plans has been added as an appendix to the Unit Fire Plan.

San Luis Obispo County Community Wildfire Protection Plan (CWPP) *Draft in progress*
Los Osos 5 Year Wildfire Fire Protection Plan (CWPP)

Operational Planning

Fire Danger Operating Plan
The National Fire Danger Rating System (NFDRS) is used by fire management agencies to assess the current fire danger at the local level. Using fire danger modeling applications to analyze weather data and past fire occurrences, Fire Danger Operating Plans are developed and used to set preparedness levels and assign appropriate suppression resources based on pre-determined staffing levels and response levels. The most familiar use of this tool is "Smokey Bear Signs" which display the Adjective Fire Danger Rating for the day.

San Luis Obispo County Fire Service Level Analysis
The purpose of this planning document is to serve as a guide for the Board of Supervisors and other partners in the CAL FIRE/San Luis Obispo County Fire consolidated fire protection program. Paramount in this undertaking is the need to identify proper levels of service for fire protection, make an assessment of the current delivery system and forecast necessary changes to fire protection services. A goal of this plan is to provide a tool for making cost-effective decisions regarding changes in service levels. To achieve that goal, this plan describes and presents data regarding fire protection in the county by using community demographics, service levels, staffing models, governance and funding options. Strategic Plan (35M)

Central Coast Operating Plan
This Operating Plan is required by the California Master Cooperative Wildland Management and Stafford Act Response Agreement between State and Federal Agencies. This Operating Plan provides the officers and employees guidelines and information necessary to properly execute fire suppression within the central coast. Central Coast Operating Plan

Pre-attack Planning

Pre-Attack Plans

CAL FIRE / San Luis Obispo County Fire, through funding from the County Office of Emergency Services and the SLO FireSafe Council, have been creating localized disaster preplans. These plans come in the form of large, printed, foldout maps, (AAA style) which are distributed to engine companies, fire stations and chief officers within the County. These maps were produced with a collaborative effort with communities, Fire Departments, County OES, Law Enforcement, State Parks and Cal Poly Internship program. We are currently developing these plans in three categories. Wildland Fire Threat, Evacuation Planning and Tsunami.

Building Pre-Plans

Each Fire Station is tasked to maintain pre-plans of the high target hazard buildings within their response area. These plans provide first responders with information regarding hazardous materials storage, owner contact numbers, utility shut off locations and water supply information. Efforts are being made to store these plans online where incoming units can access them and enhance fire ground awareness prior to arrival to the incident.

B. VEGETATION MANAGEMENT

CAL FIRE / San Luis Obispo County Fire with private landowners, cooperating agencies, and county administers numerous programs which support the California Strategic Fire Plan. In the effort to make the vegetation management achievable this Plan has broken Vegetation Management into three strategic categories; defensible space fuel treatment; non-defensible space fuel treatment; vegetative management prescriptions. Environmental review must be conducted for all pre-fire management activities that could cause either direct or indirect changes to the natural or human environment.

Fuels treatment efforts conducted by CAL FIRE / San Luis Obispo County Fire include the following methods and techniques. A more detailed discussion of these methods and techniques is presented in Section 5 of this Plan (Fuel Treatment Tactics).

Methods:	**Techniques:**

• Defensible Space Treatment
• Non – Defensible Space Treatment
  ➢ Fuel Breaks
  ➢ Fire Breaks
  ➢ Prescribed Burning
  ➢ Hazard Reduction
  ➢ Range Improvement
  ➢ Training Burns
  ➢ Invasive Weed Control
• Ingress/Egress Enhancement
  ➢ Roads
  ➢ Truck Trails
	• Mechanical
	  ➢ Mowing
	  ➢ Mastication
	  ➢ Piling/Crushing
	  ➢ Plowing/Disking/Harrowing
	• Manual/Hand Work
	  ➢ Cut/Lop/Scatter
	  ➢ Cut/Pile/Burn
	  ➢ Cut/Chip
	  ➢ Pruning
	  ➢ Weedeating
	• Prescribed Burning
	  ➢ Aerial
	  ➢ Ground-based
	• Prescribed Herbivory
	  ➢ Cattle
	  ➢ Goats
	• Chemical Applications

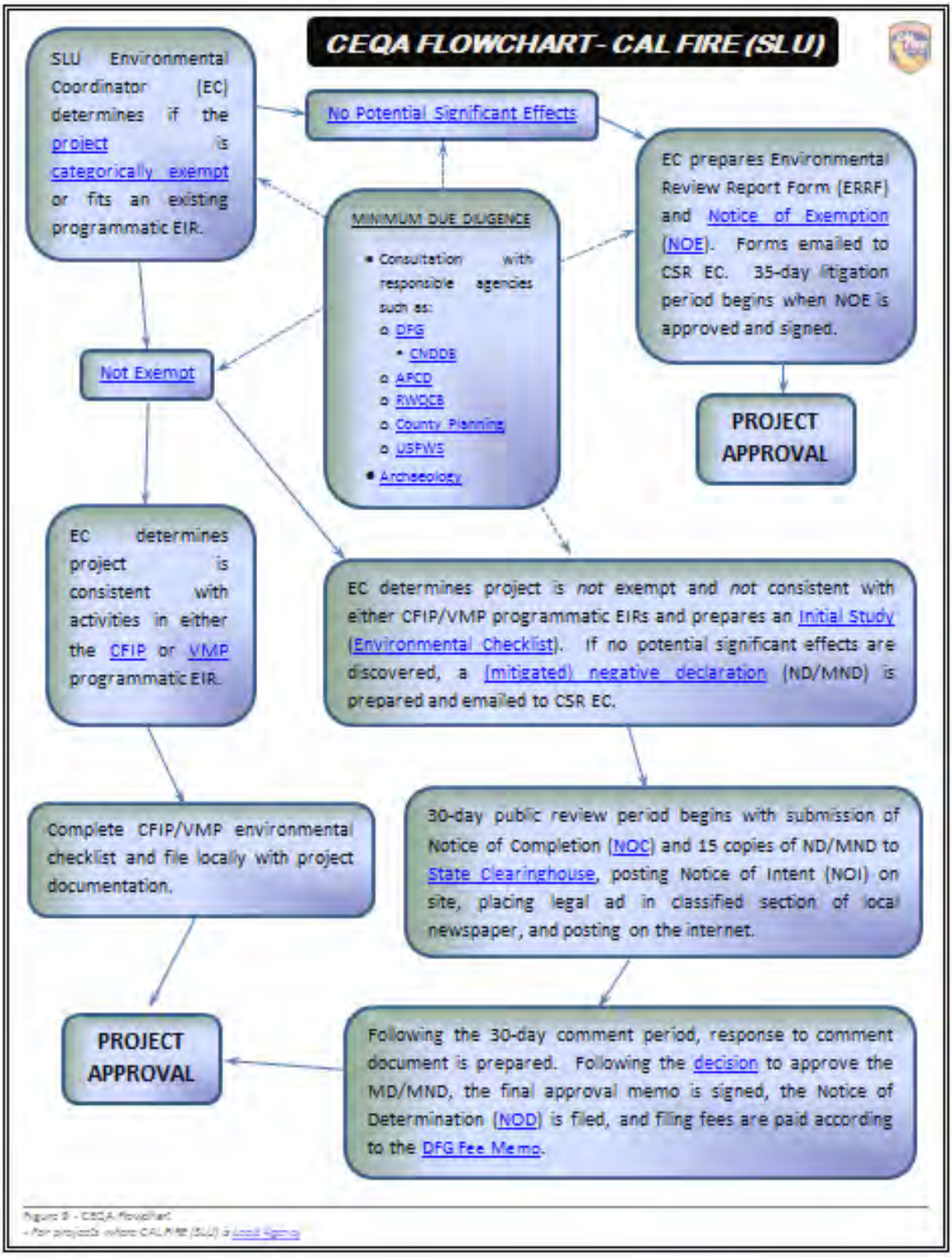
ENVIROMENTAL REVIEW

Such projects carried out by or in association with CAL FIRE must be conducted in accordance with policies and procedures established by CAL FIRE's Environmental Protection and Regulations Program (EPRP). Environmental review will be conducted according to all applicable laws and regulations for all projects proposed under this Plan prior to commencement of any activities that have potential to cause adverse environmental impacts. Unlike incorporated cities and SLO County, CAL FIRE does not have a planning department and environmental review is the responsibility of the Unit Environmental Coordinator

CEQA Review

The California Environmental Quality Act (CEQA) is a 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. The statute (Public Resources Code Sections §21000–21177) and guidelines (California Code of Regulations, Title 14, Division 6, Chapter 3, Sections §15000–15387) are available from the California Law Website. The 2012 CEQA Handbook, an unofficial copy of the statute and guidelines, and the CEQA Flowchart are useful references for those performing CEQA review to ensure that all work is in accordance with the statute. The CEQA Handbook is provided by the California Environmental Resources Evaluation System (CERES) which is an information system developed by The Natural Resources Agency to assist with environmental analysis and planning.

Locally, CAL FIRE has developed a [CEQA flowchart] used for projects where CAL FIRE is Lead Agency.



Programmatic Environmental Impact Reports (PEIR)
As shown in the CEQA flowchart, existing PEIRs can be used to fulfill the required environmental checklist component for projects where the proposed activities are consistent with the environmental analysis performed for the respective PEIR. These environmental checklists may be used as stand-alone support for certain projects; however, this method for conducting environmental review is most commonly used for projects carried out under CAL FIRE's fuels treatment programs including the California Forest Improvement Program (CFIP) and the Vegetation Management Program (VMP).

Agency Involvement
Certain types of activities may require involvement with other local, state, and/or federal agencies. Depending on the location, nature and timing of the proposed project, this can include formal or informal consultation, site visits, and permitting. This most often occurs as part of the CEQA review process. The agencies most frequently involved with pre-fire projects, particularly fuels treatment, are discussed below.

- **San Luis Obispo County Air Pollution Control District (APCD)** - The San Luis Obispo APCD is one of 35 air districts located throughout California responsible for controlling air pollution at the local level. APCD enforces all local rules and regulations and is the primary agency responsible for achieving clean air standards established by the California Air Resources Board (ARB) and the U.S. Environmental Protection Agency (EPA) including the Bluebook and the Clean Air Act. Pre-fire projects proposing to use burning will require issuance of a burn permit from APCD. Larger burns, including prescribed burns, are addressed through the Smoke Management Program which requires preparation of a Smoke Management Plan (SMP) or submission of an application through the Prescribed Fire Information Reporting System (PFIRS). Burn permits are available at several locations throughout the County.

  NOTE: Between May 1st and the end of fire season, CAL FIRE burn permits are also required.

- **San Luis Obispo County Planning & Building Department** - Pre-fire projects that meet certain criteria may require permit processing through the Planning Department. Most types of land use permits are only required in association with construction; however, permits may be required for tree removal, removal of state/federal listed species, or removal of major vegetation within designated environmentally sensitive habitat areas (ESHA) or the Coastal Zone. Early in the planning phase, project proponents are encouraged to consult with staff to determine permitting requirements. In addition, County Planning provides helpful information including GIS maps, biological resources, geology, erosion control, archaeology, problematic plants, ordinances, CEQA and a variety of other information.

- **California Department of Fish & Wildlife (DFG)** - San Luis Obispo County is within DFG Central Region #4. To determine DFG's role in CEQA, any type of activity that proposes ground or vegetation disturbance should be discussed early in the CEQA review process with the local DFG biologist or environmental scientist to determine if DFG's Environmental Review and Permitting Program is necessary to facilitate completion of the project. Early consultation with the proper DFG contact and use of DFG data and maps will help ensure that projects are conducted in the most environmentally responsible manner. Once CEQA review is completed, certain documents require payment of CEQA filing fees. Following informal consultation, the two most common situations requiring formal DFG involvement are:

  - Projects that propose disturbance to plant and/or animal species protected under the California Endangered Species Act (CESA). Projects where impacts to State-listed species cannot be avoided may require initiation of the Incidental Take Permit Process.
  - Fish and Game Code (Section 1602) requires an entity to notify DFG of any proposed activity that may substantially modify a river, stream, or lake. Where necessary, a permit may be issued according to DFG's Lake or Streambed Alteration Program.

- **Regional Water Quality Control Board (RWQCB) – Central Coast Region #3** – Large scale projects or those that could potentially impact the waters of the State should be reviewed by local RWQCB staff (Water Board contacts) to determine if the proposed project should be modified to prevent impacts to water quality. The Water Boards are responsible to protect California's waters and staff will provide input, usually through informal consultation, to ensure that projects do not impact water quality and are in accordance with laws and regulations such as the Porter Cologne Water Quality Control Act and the Federal Clean Water Act**.**

- **California Coastal Commission (CCC) –** The California Coastal Act (CCA) serves as a comprehensive planning and regulatory program to manage conservation and development within the California coastal zone. California's coastal management program is carried out through a partnership between state and local governments. Implementation of Coastal Act policies is accomplished primarily through the preparation of local coastal programs (LCPs) that are required to be completed by each of the 15 counties and 60 cities located in whole or in part in the coastal zone. San Luis Obispo County and the cities of Morro Bay, Pismo Beach, and Grover Beach each have certified Local Coastal Programs (LCP) within the central coast area.

  Pre-fire projects within the coastal zone that propose "development" as defined by PRC §30106 or occur within an ESHA (PRC §30107.5) may require issuance of a coastal development permit (CDP) through the LCP having jurisdiction. The coastal planner for each LCP will help determine the appropriate permitting process that must be followed. Typically, the CDP process is initiated near the end or immediately following completion of the CEQA review process.

- **California Department of Transportation (Caltrans)** – Pre-fire projects such as brush removal proposed within the designated right-of-way of a State highway may require the project proponent to obtain an Encroachment Permit from the District 5 Encroachment Permit Branch. Information on this process is provided in the Encroachment Permits Manual.

- **U.S. Fish & Wildlife Service (USFWS)** – San Luis Obispo County is within the area of responsibility of the Ventura F&W Office. Pre-fire projects, particularly those funded by federal agencies involving federally listed plant or animal species or designated critical habitat may require consultations with federal agencies to ensure compliance with the Endangered Species Act (ESA). Consultations most often occur as provided in ESA section 7. For non-federal activities where federally listed species occur, permits under ESA section 10 may be necessary such as an Incidental Take Permit for areas covered by an approved Habitat Conservation Plan (HCP).

Professional Forester's Law (PFL)
In California, PRC §750-783 requires that a Registered Professional Forester, commonly known as an RPF and licensed according to RPF regulations, be in charge of all pre-fire projects or activities defined as "forestry" (§753). Per §757, landowners are not subject to the PFL when working on their own property. Forestry, as used here, refers to pre-fire projects that occur on "forested landscapes" (§754) which is generally considered to be those areas where the canopies of native tree species occupy at least 10% of the landscape. To help determine the role of the RPF for a project, the Board of Forestry & Fire Protection (BOF) established the Professional Foresters Registration office to oversee policy statements and maintain the RPF roster.

Guidance on the Certified Rangeland Manager (CRM) Program describes the types of rangeland management projects that may require the use of a person possessing this specialty certificate. A specialist from the CRM roster may be able to provide expertise and required oversight on projects in "forested landscapes" where the proposed activities focus specifically on rangeland management objectives.

POST-FIRE

Whenever the Unit experiences significant wildfire events it will require extensive suppression repair activities. The Unit Registered Professional Foresters (RPF's) are trained and experienced in suppression repair. Our Unit forester will work with other state agencies, large landowners, and the community to complete suppression repair efficiently. Additionally, suppression repair activities are completed with future fire prevention in mind.

The Unit has a responsibility to repair damage incurred on the landscape during suppression activities, while at the same time attempt to reduce any increased fire hazard those suppression activities may have created. Unless all fuels are consumed, there is typically fuel loading found adjacent to roads, dozer trails, and structures where fire crews or equipment have modified the landscape for fire suppression. Following control of the fire the areas of increased fuel loading need to be addressed.

2012 Coon Creek Fire, Re-growth 6 months

SECTION V: PRE-FIRE MANAGEMENT TACTICS

The following pre-fire management tactics are employed by CAL FIRE/SLO though multiple programs that are available to each planning area. These programs can be tailored to meet the needs at a countywide, or community level. These programs are also scalable to meet the needs of the county and communities we serve. Prevention programs are divided into 4 categories; Prevention Planning & Engineering, Law Enforcement & Education; Pre-Fire Planning and Intelligence, Resource Management

PREVENTION PLANNING & ENGINEERING

County General Plan

The San Luis Obispo County General Plan and ordinances include provisions for access requirements, housing density, allowable occupancy use, community water system requirements, and property set back requirements. All development being reviewed by San Luis Obispo County Planning Staff is also reviewed by CAL FIRE/San Luis Obispo County Fire to ensure the project is designed within the parameters of the County adopted General Plan. This review ensures the development has secondary access, proper water storage, defensible space around the development, and will use fire safe construction materials prior the subdivision of lands.

County Municipal Code

The San Luis Obispo County Code of Ordinances also includes requirements for fire prevention, included in Title 16. This Code section outlines burning restrictions and vegetation clearance requirements. Title 16 can be found at:
http://library.municode.com/HTML/16608/level1/TIT16FIPR.html#TOPTITLE

San Luis Obispo County does not currently have a weed abatement ordinance in place, however if a structure is located within a State Responsibility Area, then PRC 4291 & 4290 is enforced by CAL FIRE/San Luis Obispo County Fire - Law Enforcement division.

Building Plans Reviews and Inspection Program

Code Enforcement Program

The CAL FIRE /San Luis Obispo County Fire Marshal's provides plan review and inspection services to all unincorporated areas of San Luis Obispo County in order to implement the fire and life safety regulations and building standards established and adopted by the State Fire Marshal and County Board of Supervisors. In addition, the department performs fire and life safety clearance inspections in State Licensed facilities and is charged with annual inspections of schools, motel/hotels, and apartment buildings as well as regular inspections of public assembly buildings and facilities using or storing acutely hazardous materials. The Fire Marshal also serves as the appointed "County Fire Warden" and is responsible for ensuring that the regulations stipulated in the California Public Resources Code 4290 are applied to new developments and structures in the State Responsibility Areas of San Luis Obispo County.

LAW ENFORCEMENT PROGRAMS

Peace officers from the San Luis Obispo Unit are routinely called upon to conduct arson and fire investigations, work with juvenile fire-starters, perform security functions for special operations and emergency incidents, conduct fireworks enforcement, conduct fire extinguisher investigations, as well as disposal of seized illegal fireworks. Our Investigators also assist other fire and law enforcement agencies with incident investigations. These peace officers are subject to call statewide.

Due to the complexities of the emergency incidents, the unit's law enforcement component maintains close working relationships with the district attorney's office, law enforcement agencies of all venues, and working task groups such as gang, juvenile and narcotics task forces. Additionally the unit's peace officers can be called upon to perform general law enforcement duties statewide during times of disaster and major emergencies

The CAL FIRE Arson Hotline is maintained by the Department's Sacramento Law Enforcement section, which also processes requests for payment of arson rewards. Rewards of up to $10,000 are available for information regarding wildland fires within State jurisdiction. Depending on the magnitude of the fire, enhanced rewards of up to $25,000 or higher may be available.

Burn Permits Program

Where alternative means of vegetation disposal are not feasible, CAL FIRE encourages the safe and prudent use of burning during certain times of the year. Residential debris burning, hazard reduction burning, agricultural burning, development burning, and range improvement burning are commonly used methods that can be effective for removing excess vegetation and reducing the fire hazard.

Burn permits are also required for the following:

- Public or industrial fire-fighting training.
- Prevention of a fire hazard that cannot be abated by any other means.
- The disposal of agricultural waste as specified by Rule 502. The agricultural waste must be produced and burned on site.
- Levee, ditch and reservoir maintenance, or right-of-way clearing by a public entity or utility.
- Developmental burning when there are no technically feasible alternatives.
- Prescribed burning.

All burning permits listed above are issued by the Air Pollution Control District. The California Department of Forestry and Fire Prevention (CAL FIRE) also requires a permit for all types of burning during the fire hazard season.

Cost Recovery Program

Since 2008, when CAL FIRE's Civil Cost Recovery Program began, the state has recovered more than $93 million statewide from folks whose wayward fires required suppression, investigation and follow-up by CAL FIRE Law Enforcement.

Inspection Program (LE100)

The hazard reduction inspection program (LE-100) is managed by each planning area Battalion Chief. Engine companies are responsible for performing inspections within their initial attack areas and are typically performed during spring and summer months. Engine companies are directed to leave an inspection notice at all properties to inform the homeowner there has been an inspection. Engine companies are also instructed to leave notices at residences where access is blocked. During the inspection, engine company personnel review and educate the homeowner on fire prevention requirements. If there are violations, a notice is issued and the homeowner is instructed to mitigate the violation. The engine company then returns for a re-inspection and if the violation is not mitigated, a citation may be issued and/or turned over to fire prevention staff for enforcement. Wildland Urban Interface Code Information

State Requirements (SRA Lands)

Public Resources Code 4290 – California Code of Regulations (CCR)
CCR Chapter 1, Division 1.5 of Title 14 (PRC 4290) is the statute that requires emergency access, signing and building numbering, private water supply reserves for emergency fire use, and vegetation modification in areas designated as State Responsibility Area (SRA).

Public Resources Code 4291 (PRC 4291)
The State of California Public Resource Code 4291 (PRC 4291) requires owners of property to create defensible space around structures on their property where firefighters can provide protection during a wildfire. PRC 4291 applies to areas of the state within the responsibility area of CAL FIRE (SRA) and includes:

> "a building or structure in, upon, or adjoining any mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or any land that is covered with flammable material…"

The defensible space distance is measured along the grade from the perimeter or projection of the building or structure. Under PRC 4291, the defensible space distances require up to 100 feet, or to the property limit, whichever is closer; however, the amount of fuel modification necessary may extend beyond 100 feet depending on the flammability of the structure, topography, and fuels. The CAL FIRE Guidelines for Creating Defensible Space as outlined in PRC 4291 can be found here:

http://bofdata.fire.ca.gov/regulations/proposed_rule_packages/defensible_space_2005/429145daynoticeguideline9_15_05.pdf

These fuel reduction techniques should be conducted annually during the early spring and late summer in order to avoid the accumulation of hazardous fuels over time. Finally, the 4291 guidelines are specific to State Responsibility Areas (SRA), but may be applicable in Local Responsibility Areas (LRA), depending on local agency standards.

Defensible Space Fuel Treatment Tactics

The following descriptions of vegetation treatment/hazard reduction operations are provided to promote individual homeowner compliance with PRC 4291. The guidelines, published by CAL FIRE should be reviewed by homeowners. Additionally, Figure 8 presents an illustrated graphic outlining the basics of defensible space creation and maintenance, as published by CAL FIRE. The following guidelines, provided by CAL FIRE, outline two distinct zones: from the structure outward to 30 feet and from 30 to 100 feet from structures (Reduced Fuel Zone):

1. Maintain a firebreak by removing and clearing away all flammable vegetation and other combustible growth within 30 feet of each building or structure, with certain exceptions pursuant to PRC §4291(a). Single specimens of trees or other vegetation may be retained provided they are well-spaced, well-pruned, and create a condition that avoids spread of fire to other vegetation or to a building or structure.

2. Dead and dying woody surface fuels and aerial fuels within the Reduced Fuel Zone shall be removed. Loose surface litter, normally consisting of fallen leaves or needles, twigs, bark, cones, and small branches, shall be permitted to a depth of 3 inches. This guideline is primarily intended to eliminate trees, bushes, shrubs and surface debris that are completely dead or with substantial amounts of dead branches or leaves/needles that would readily burn.

3. Down logs or stumps anywhere within 100 feet from the building or structure, when embedded in the soil, may be retained when isolated from other vegetation. Occasional (approximately one per acre) standing dead trees (snags) that are well-space from other vegetation and which will not fall on buildings or structures or on roadways/driveways may be retained.

4. Within the Reduced Fuel Zone, one of the following fuel treatments (4a. or 4b.) shall be implemented. Properties with greater fire hazards will require greater clearing treatments. Combinations of the methods may be acceptable under §1299(c) as long as the intent of these guidelines is met.

5. Reduced Fuel Zone: In conjunction with General Guidelines 1., 2., and 3., above, minimum clearance between fuels surrounding each building or structure will range from 4 feet to 40 feet in all directions, both horizontally and vertically. Clearance distances between vegetation will depend on the slope, vegetation size, vegetation type (brush, grass, trees), and other fuel characteristics (fuel compaction, chemical content etc.). Properties with greater fire hazards will require greater separation between fuels. For example, properties on steep slopes having large sized vegetation will require greater spacing between individual trees and bushes (see Plant Spacing Guidelines and Case Examples below). Groups of vegetation (numerous plants growing together less than 10 feet in total foliage width) may be treated as a single plant. For example, three individual manzanita plants growing together with a total foliage width of eight feet can be “grouped” and considered as one plant and spaced according to the Plant Spacing Guidelines in this document. Grass generally should not exceed 4 inches in height. However, homeowners may keep grass and other forbs less than 18 inches in height above the ground when these grasses are isolated from other fuels or where necessary to stabilize the soil and prevent erosion. Clearance requirements include:

    i. Horizontal clearance between aerial fuels, such as the outside edge of the tree crowns or high brush. Horizontal clearance helps stop the spread of fire from one fuel to the next.

    ii. Vertical clearance between lower limbs of aerial fuels and the nearest surface fuels and grass/weeds. Vertical clearance removes ladder fuels and helps prevent a fire from moving from the shorter fuels to the taller fuels.

b. To achieve defensible space while retaining a stand of larger trees with a continuous tree canopy apply the following treatments:

    i. Generally, remove all surface fuels greater than 4 inches in height. Single specimens of trees or other vegetation may be retained provided they are well-spaced, well-pruned, and create a condition that avoids spread of fire to other vegetation or to a building or structure.

    ii. Remove lower limbs of trees (“prune”) to at least 6 feet up to 15 feet (or the lower 1/3 branches for small trees). Properties with greater fire hazards, such as steeper slopes or more severe fire danger, will require pruning heights in the upper end of this range.

Figure 8. Defensible Space Illustration by CAL FIRE

FIRE INFORMATION & EDUCATION PROGRAMS

Fire Information

Volunteer in Prevention Program

The objectives of the VIP Program were to involve and utilize citizens and public service groups in non-salaried positions to reduce man-caused fires. Each year our SLU / CAL FIRE VIP's play a vital role to staff public event and assists emergency mitigation efforts. Each year VIP's assist by participating in fairs, displays, and parades each year and discussing with homeowners ways to make their homes fire safe. These one-on-one contacts are an increasingly important education tool as the population in California's wildlands continues to grow.

Internet Resources

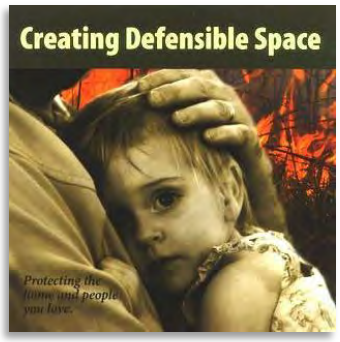
CAL FIRE / San Luis Obispo County has experienced great success with providing public fire information and education messages through the use of its website and social media outlets.

The website CALFIRESLO.ORG provides a medium in which to provide immediate emergency press releases as well as providing a place for the public to find information for themselves. It provides up to the minute Incident location information through the recently developed incident dashboard. It also provides the public and employees with information regarding our building and planning standards, upcoming training opportunities, job posting, and what to do to prepare for an emergency event. This site received over 2,000,000 visits last year and has increased in visits every year since inception.

Recently the unit has begun providing public information and incident information through social media outlet Twitter and is receiving great feedback from both the public as well as the media.

Media Outreach

Providing the public with information that is accurate and up to date is a great tactic to provide department information as well as fire prevention messages intended to educate the public. The Unit is committed issuing press releases to the San Luis Obispo County media outlets on a regular basis. These releases are typically accompanied by television interviews. They are also published on the CALFIRESLO.ORG website.



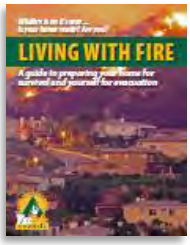
Through funding provided by the SLO FireSafe Council we are able to distribute the Creating Defensible Space DVD. This DVD is also broadcasts in partnership with Charter Cable thru the on demand video selection. Residents can view the FireSafe produced video for free anytime.

School Programs (K-12th)
Prevention staff, as well as engine companies participates in school programs throughout the year providing life safety, fire prevention, and natural resource protection education. Through the use of Smokey and Friends, and the use of Teacher Tools, we are able to provide an age appropriate, standardized safety message countywide.

Public and Special Events Program
The Unit Participates in numerous events through the year. Insuring public and firefighter safety at these events requires inspections and at times staffing. At each of these events our prevention staff, Engine Companies and Volunteers in Prevention (VIP) speak to thousands of people sharing the message of fire prevention. At the Mid State Fair, Earth Day, and the San Luis Obispo Farmers Market are just a few of the many public events the Unit participates in annually. We encourage local agencies to participate with us in an effort to provide a broader message promoting fire safety.

Mid-State Fair - FireSafe House
The goal of this project is to demonstrate several types of building materials and different techniques you can use to make your home and yard safer in a wildfire **.**

Printed Material Program
Printed educational materials are available to the public at every fire station and online. Through funding from the SLO FireSafe council we are able to distribute the Living with Fire brochure that gives citizen the information on home preparation, Evacuation Plans that illustrate where evacuation routes are and where pre-determined safety areas exist along that route. Ready, Set, Go! These brochures assist residents with evacuation planning.



Billboard Sign Program
A system of thirty billboard signs are strategically placed at ingress and egress points throughout San Luis Obispo County. These signs target community fire educations topics of creating defensible space, home preparations and the newly created “Ready, Set Go” program. Sign topics are created through the use of the ten year Unit ignition history and then placed in “at risk” communities within CAL FIRE’s jurisdiction.

HAZARDOUS FUEL REDUCTION TACTICS

The following fuel treatment prescription tactics are provided as potential options for reducing vegetative fuel hazards in defensible and non-defensible space fuel treatment areas:

- Vegetation Thinning. Thinning of vegetation involves an overall reduction of woody biomass to break up the horizontal and vertical continuity of fuels. In defensible space areas, thinning efforts should adhere to the minimum distances in PRC 4291. Site specific conditions should dictate thinning percentages in relation to structures and will be heavily dependent on topography, vegetation type, and building construction characteristics. In cases where shrubs and/or trees require removal, root systems should be left intact where needed to maintain slope stability. In such cases, annual treatment of stump growth or re-sprouting may be needed to maintain reduced fuel load volumes.

- Tree Removal. Removal of trees within the WUI should focus primarily on removing dead and dying trees, however live tree removal may be necessary to improve vegetation spacing and reduce overall fuel continuity. All fuel treatment operations should comply with the criteria set forth in the California Public Resource Code 4291. Tree removal may require oversight by a Registered Professional Forester (RPF).

- Dead/Dying Plant Removal. Removal of dead and dying plant material from the WUI will help reduce low fuel moisture biomass. This practice should also be conducted in combination with vegetation thinning efforts and may help reach or completely satisfy thinning objectives in some areas. Within the WUI, the goal is to reduce flame length to less than 4 feet.

Exotic/Invasive Plant Removal. Removal of non-native and invasive plants from the WUI defensible space zone will help reduce the presence of undesirable species and enhance thinning efforts aimed at reducing overall biomass levels. The San Luis Obispo County Weed Management Area (WMA) is focused on limiting the negative effects of invasive plants in the County and maintains a list of exotic and invasive species[1].

The intent of these descriptions is to detail vegetation treatment actions aimed at reducing fire spread rates and heat intensity, while providing defensible space for fire suppression efforts. Although these treatment descriptions are aimed at reducing current fuel volumes and creating both vertical and horizontal separation between vegetation groups, long-term maintenance of the landscape within the WUI should adhere to the vegetation spacing, fuel volume reduction, and vegetation clearance recommendations contained herein.

Fuel Treatment Tactics

In addition to defensible space treatments required under PRC 4291, other fuel treatment projects in the County may be desirable to reduce overall wildfire threat to a community or asset. Such projects may occur on private or public land and are intended to act as a buffer between communities and/or assets and non-maintained wildland fuels. Non-defensible space treatments may include the following treatments:

- Fuel Breaks: intended to modify fire behavior and spread by altering fuel beds in a linear alignment, typically situated along ridge tops and may include retained trees (shaded fuel breaks).
- Fire Break: Is an non-combustible fire barriers either natural or manmade. (e.g. lake, game trail, road).
- Road-side Fuel Treatments: intended to reduce the likelihood of ignition sources along roadways and maintain access/egress capabilities.
- Defensible Space: Fuel reduction around improvements, structures and critical infrastructure.

[1] http://www.slocounty.ca.gov/agcomm/Weed_Control/SLO_County_s_Weed_Management_Area.htm

- Fuel Reduction: intended to modify fire behavior by treating fuels over large areas in strategic locations or historic fire corridors; typically conducted on large expanses of federal or private land (e.g. Strategically Placed Area Treatments).

- Tree and Shrub Pruning. Trees or large tree-form shrubs (reaching 4 feet or taller at maturity) that are to be retained in the WUI defensible space zone should be trimmed or pruned to reduce both vertical and horizontal fuel continuity:

- Vertical Separation. Pruning of vegetation off the ground should provide vertical clearance that measures 3 times the height of the understory vegetation or 10 feet, whichever is higher. Vertical separation serves to minimize the potential for a ground fire to transition to a crown fire. This process will remove ladder fuels and reduce the potential for fire spread from lower shrubs to higher trees and structures.

- Horizontal Separation. Pruning of vegetation shall result in horizontal clearance that measures three times the height of the plant material height or 20 feet, whichever is greater. Horizontal separation serves to minimize fire spread from plant to plant and from plant to structure.

- Vegetation Grouping. Maintaining groups of shrubs is recommended to provide a mosaic pattern in the landscape. However, shrub groups should be separated from other shrub groups according to the horizontal separation criteria discussed above.

- Mowing. Mowing of native, non-native grasses and exotic weeds should be conducted to maintain grass heights at 4 inches or lower. Focus should be primarily on invasive weed prevention, suppression and monitoring; and properly timed and implemented grassland management (e.g. mowing, grazing) that promotes the establishment of less volatile native perennial grasses. Mowing should take place before 10 a.m. to reduce the risk of wildfire resulting from mowing activities.

- Chipping. Chipping and spreading of existing dead biomass or that resulting from fuel reduction efforts within the WUI is an effective method for weed suppression. However, chip or mulch depth should not exceed 6 inches.

- Grazing. Livestock (including goats) have proven to be an effective method for reducing fuel volumes in wildland-urban interface areas. Management, maintenance, public safety, and environmental permitting issues should be considered prior to use.

- Mastication: Mastication is the operation of reducing vegetation volume by grinding, shredding or chopping material. This treatment can lower fuel bed depth, raise crown base height, increase fuel-ground contact to promote decomposition, and generate more fine materials.

- Vegetation Clearance from Structures. All vegetation should be trimmed such that a minimum clearance of 10 feet exists between structures and exposed wildland vegetation. In cases where vegetation is planted within 10 feet of a structure (vines, shrubs), such vegetation should be maintained free of dead material and shall be pruned and maintained to reduce overall fuel volume. In cases where tree canopies extend over roof tops, 10 feet of clearance should be maintained between the roof and the lowest tree branch extending over the structure. Any tree adjacent to or overhanging a structure should be maintained free of dead or dying wood (PRC 4291 (d)). Firewood or other combustible material should not be stored within 15 feet of existing structures. All combustible material, including tree leaves, pine needles, branches, and twigs should be removed from roofs and rain gutters (PRC 4291 (e)). All vegetation should be trimmed such that a clearance of 10 feet exists in all directions between landscape vegetation and the outlet of a chimney or stovepipe (PRC 4291 (c)). All vegetation should be trimmed such that a 10 foot wide clearance exists along both sides of a structure, from the street to the rear of the

property to promote firefighter access/egress. In cases where property setback widths are less than 10 feet, the entire width should be maintained free of obstructing vegetation.

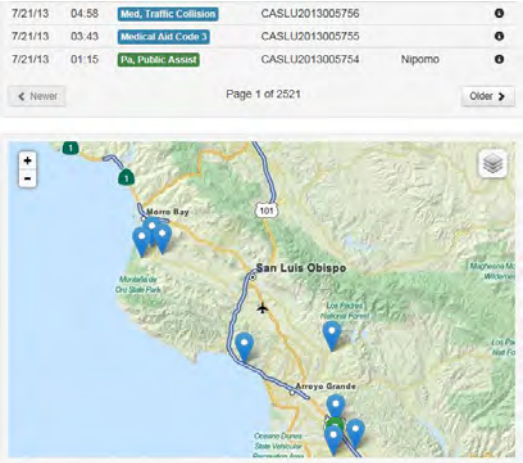
- Prescribed Burning Program. This management technique is currently employed by CAL FIRE by trained professionals. Prescribed burning may be conducted by private landowners under permit from CAL FIRE, or under contract with CAL FIRE under the statewide Vegetation Management Program (VMP). More information about the statewide VMP is available at: http://www.fire.ca.gov/resource_mgt/resource_mgt_vegetation.php.

- Unit Terra Torch. The terra torch is a skid mount, ground vehicle mounted, gelled fuel application system used to provide a less expensive alternative to firing devices such as fusees, very pistol rounds and pyrotechnic grenades and helicopter slung helitorches.
  The terra torch has been in operation in San Luis Obispo County since the mid-eighties, and has proven itself cost effective in igniting VMP, Fuel Reduction and Range Improvement burns where funding is minimal or areas where terrain or topography and small minimal burns make the use of a helicopter impractical. The terra torch is also used in wildfire suppression burnout operations. Terra Torch 34 has been used successfully on most local controlled burning operations in San Luis Obispo County. Most recently is has been used on projects such as the Lewis VMP in La Panza, The Porter VMP in East Nipomo and the Coon Creek VMP.

PRE-FIRE PLANNING & INTELLIGENCE PROGRAMS

Geographical Information Systems (GIS)
Providing the responding resources and fire officers real-time and accurate fire intelligence is a priority in the CAL FIRE / San Luis Obispo Unit. Through the implementation of mobile data computers (MDC) in the responding units, pre-attack planning maps of residents and priority WUI areas of the County are available at scene. These products are increasing our firefighting performance. These are a product of the Geographical Information Systems (GIS) and the efforts of the Pre-Fire Engineer, the County funded Research Analyst I, and the Cal Poly Intern Program.

The primary tactic of providing fire intelligence involves pre-planning for anticipated or expected events or emergencies and includes evacuation planning, mapping and GIS data management, or incident pre-attack planning. GIS also give us opportunities to assist firefighter and planners through accurate data that is specific to the fire environment. Water sources, terrain, structures, boundaries and vegetation landscapes are a few of the priority data sets managed at a countywide scale. When added to live data products we are able to make products that increase citizen and firefighter safety and reduce firefighting suppression cost.



*Incident Dash Board

*Creek Fire Archive

CAL FIRE/San Luis Obispo County Fire routinely prepares, updates, and maintains the following types of pre-fire planning documents.

Wildland Fire Pre-Attack Plans
Evacuation Plans
GIS Mapping

SECTION VI: PLAN RECOMMENDATIONS AND MANAGEMENT

PLAN RECOMMENDATIONS

The following recommendations have been developed based on stakeholder input and are intended to facilitate multi-agency cooperation for fire protection planning efforts in San Luis Obispo County:

1. PRE-FIRE PLANNING

- Continue to maintain and update County-wide GIS data sets relevant to pre-fire planning
- Maintain and strengthen coordination between fire agencies in the County to integrate GIS fire-related data sets
- Develop an accessible database and/or GIS mapping interface to store and share multi-agency maps, data, plans, and pre-fire projects
- Routinely update pre-fire and emergency plans, maps, and documents
- Identify funding sources and opportunities for implementation of pre-fire planning efforts
- Identify operational/response planning needs (e.g. wildfire response plans, evacuation areas, evacuation routes, shelter locations, fire equipment staging areas, control objectives, significant environmental areas, etc.)
- The cumulative effects of large scale special events and increased commercial operations within county and state jurisdictions place challenges upon CAL FIRE/County Fire's ability to provide emergency services within rural areas. Increasing winter staffing would assist to provide the needed protection.
- Inventory of water purveyors in the county to determine which are available to provide water for firefighting operations.

2. STATUTES AND REGULATIONS

- Standardize fuel reduction and weed abatement ordinances in the County to reduce confusion and streamline enforcement
- Identify alternative inspection approaches to increase the quantity or properties inspected each year
- Coordinate with County and local government staff to integrate Fire- wise approaches into planning documents and ordinances
- Continue to support community chipper programs to encourage property owner compliance with vegetation management requirements
- Identify funding sources and opportunities for enforcement of regulations.

3. FIRE PREVENTION

- Implement and maintain vegetation management projects along highly traveled roadways throughout the County to minimize ignitions
- Identify funding sources and opportunities for enforcement of regulations
- Identify acceptable metrics of performance related to :
    - Quantity of homes in the WUI with need for roof and/or window retrofits
    - Quantity of defensible space inspections to be performed annually
    - Quantity of tons/area of material chipped annually
    - Quantity of citizens participating in the planning process
- Implement vegetation management projects and ignition reduction projects in priority WUI areas in the County
- Identify likely ignition areas, even if outside the WUI, where fuel treatment or other efforts (e.g. roadside ignition mats, replacement of flashy fuels with woody vegetation) can be employed to minimize ignition potential.

4. INFORMATION AND EDUCATION

- Continue inter-agency coordination with the SLOFSC to maintain a community presence and provide a resource for distributing public information regarding fuel reduction efforts throughout the County
- Provide a public copy of this Plan on-line and post information about future updates to solicit public input into the planning process
- Make specific pre-fire project descriptions available to the public
- Provide and maintain an on-line list of local fuel reduction contractors and consultants
- Develop printed educational materials for distribution
- Conduct public outreach/education in communities where fuel reduction projects are proposed prior to initiation of work
- Develop strategic partnerships and funding opportunities with local industry to support fuel reduction projects.

5. LAW ENFORCEMENT

- Seek funding sources for additional law enforcement officers.
- Develop and improve our partnerships with other law enforcement agencies to provide additional training opportunities.
- Develop new partnerships to provide permanent funding for the county's Fourth of July fireworks enforcement operation to remove some of the financial burden from the state.
- Work with the District Attorney's office and the courts to ensure fireworks violators pay the costs of the disposal of sized illegal fireworks.
- Seek community partnerships and funding sources to develop and deliver CAL FIRE's fire safe message to all schools in the county.
- Develop strategic partnerships and funding opportunities with local industry to support the overall fire safety message.
- Conduct public outreach/education in communities where fire violations are frequent.
- Seek opportunities for additional training in working with Juvenile fire-starters.

PLAN MANAGEMENT

Fire and land management agencies and private landowners responsible for managing the vegetation in and surrounding the Priority Communities within San Luis Obispo County are encouraged to submit projects that provide for wildfire protection and reduce wildfire risk. The Pre-Fire Projects identified in Appendix A presents a current list of projects, as of the date of this Plan. CAL FIRE/SLO, along with local agency and community input, shall assess project progress annually and invite agencies, landowners, and involved citizens to submit projects that provide for community protection from wildfire. Project identification and implementation is an on-going process and additional projects will be presented annually in a supplement to be prepared by CAL FIRE/SLO.

This Plan is intended to be a living document and has been created to allow for ongoing management, updates, and community input intended for reducing the risk associated with wildland fires in San Luis Obispo. The following sections discuss long-term management objectives intended to promote Fire-wise communities in the County. This Plan should be updated by CAL FIRE/SLO, with input from the community and local fire and land management agencies, at least every 5 years, or more frequently, as necessary. Annual updates should be completed via a supplement. The supplement shall summarize changes in the County that affect pre-fire planning and shall provide an updated pre-fire project list (Appendix A) identifying projects completed, in-process project status, and newly-identified or planned projects.

Plan updates shall be conducted following update meetings which will be open to the public and all local fire and land management agencies. Meetings will include a discussion of the following: priorities, budgets, action items and necessary Plan modifications. Participating agencies will report on their respective projects, as necessary. Maintenance of the Plan will be described in detail during these meetings. Additionally, Plan updates shall also include updates to GIS data and mapping and a re-valuation of the County risk assessment and project priorities.

SECTION VII: REFERENCES

Software

- Google Earth
- ArcGIS Explorer

On-Line Mapping Resources

- ArcGIS Explorer Online
- DFG - IMAPS
- SLOC Planning & Building Interactive GIS
- Google Maps
- Open Street Map
- The National Map
- National Atlas Mapmaker
- Geo.Data.gov

Pre-Fire Success Stories

APPENDIX A: PRE- FIRE PROJECTS

Projects identified in this table may require compliance with the California Environmental Quality Act (CEQA). Additionally, regulatory agency review and permitting may be necessary. Agency and CEQA review shall take place during the project planning phase and prior to implementation. For an updated list please visit our online version of this document.

CalMAPPER Project ID	Project Name	Project Status	Project Type	Activities GIS_Acres
VMP-152	Upper San Juan Creek Area	Proposed	VMP	348.92
VMP-111	2010_Eagle_Ranch	Proposed	VMP	803.38
FPL-139	Molinari	Proposed	FPL	0.00
VMP-112	O'Reilly Training Site	Proposed	VMP	0.00
VMP-001	Pismo VMP	Planning	VMP	0.00
FPL-002	Morro Creek - Frontal Pacific Ocean West Area	Active	FPL	421.83
FPL-005	Pismo Creek - Frontal Pacific Ocean Area	Active	FPL	5.62
PRE-001	Arroyo Grande Creek_Huasna River Area	Active	PRE	25.16
PRE-003	Santa Maria River_Arroyo Grande Creek Area	Active	PRE	1030.32
FPL-004	Morro Creek - Frontal Pacific Ocean East Area	Active	FPL	97.73
FPL-002	Parkhill Area	Active	FPL	5980.26
FPL-142	Fitzhugh Training Site	Active	FPL	1701.38
PRE-105	Nacimiento River Watershed Area	Active	PRE	48.63
FPL-105	Toro Creek training Site	Active	FPL	398.87
FPL-155	Hwy 46 W. Fuelbreak	Active	FPL	136.50
PRE-113	Evacuation Brochures	Active	PRE	0.00
PRE-111	Roadside Fire Prevention Sign Locations	Active	PRE	0.00
PRE-116	One Less Spark PSA	Active	PRE	0.00
PRE-114	Prevention Education Supplies	Active	PRE	0.00
FPL-108	Los Osos Fuel Reduction Project	Complete	FPL	267.88
FPL-001	West Atascadero	Complete	FPL	45.89
PRE-121	Bridge Street Shaded FuelBreak	Complete	PRE	28.54
VMP-138	Estero Bluffs 2012	Complete	VMP	6.37
FPL-001	Santa Rita_Old Creek Evacuation Clearance	Complete	FPL	125.92
VMP-143	Harmony Headlands 2013	Complete	VMP	209.16
VMP-144	Estero Bluffs 2013	Complete	VMP	104.98
PRE-727	2013_Atascadero_Chipping	Complete	PRE	0.00

ID Guide: PRE = Prevention , FPL = Fire Plan Project, VMP =Vegetation Management Project

APPENDIX B: GLOSSARY

Authority Having Jurisdiction (AHJ) – The organization, office, or individual responsible for approving equipment, materials, an installation, or a procedure (NFPA, NFPA 1144, 2002, p. 4).

Aspect – Compass direction toward which a slope faces (NFPA, NFPA 1144, 2002, p. 4).

Building – Any structure used or intended for supporting or sheltering any use or occupancy (NFPA, NFPA 1144, 2002, p. 4).

Combustible – Any material that, in the form in which it is used and under the conditions anticipated will ignite and burn or will add appreciable heat to an ambient fire (NFPA, NFPA 1144, 2002, p. 5).

Community Wildfire Protection Plan (CWPP) – Address issues such as wildfire response, hazard mitigation, community preparedness, or structure protection. The process of developing a CWPP can help communities clarify and refine their priorities for the protection of life, property, and critical infrastructure in the wildland-urban interface (Source: Preparing a Community Wildfire Protection Plan. March, 2004).

Condition Class – Describes fire-related risk to ecosystems and relates current expected wildfires to their historic frequency and effects. Condition class ranks are defined as the relative risk of losing key components that define an ecosystem. Higher ranked areas present greater risk to ecosystem health. Condition class is a measure of the expected response of ecosystems to fire given current vegetation type and structure that often is far different from that historically present.

Class	Departure from natural regimes	Vegetation composition, structure, fuels	Fire behavior, severity, pattern	Disturbance agents, native species, hydrologic functions	Increased smoke production
Low Condition Class 1	None, minimal	Similar	Similar	Within natural range of variation	Low
Moderate Condition Class 2	Moderate	Moderately Altered	Uncharacteristic	Outside historical range of variation	Moderate
High Condition Class 3	High	Significantly different	Highly uncharacteristic	Substantially outside historical range of variation	High

(Source: CDF FRAP 2003 Forest and Range Assessment, p. 98)

Defensible Space – An area as defined by the AHJ (typically a width of 30 feet or more) between an improved property and a potential wildland fire where combustible materials and vegetation have been removed or modified to reduce the potential for fire on improved property spreading to wildland fuels or to provide a safe working area for fire fighters protecting life and improved property form wildland fire (NFPA, NFPA 1144, 2002, p. 5), or as defined by PRC 4291.

Disaster – Disaster is characterized by the scope of an emergency. An emergency becomes a disaster when it exceeds the capability of the local resources to manage it. Disasters often result in great damage, loss, or destruction (Greene, R.W., Confronting Catastrophe, ESRI Press, 2002, p. 110).

Dry Hydrant – An arrangement of pipe permanently connected to a water source other than a piped, pressurized water supply system that provides a ready means of water supply for fire-fighting purposes and that utilizes the drafting (suction) capability of fire department pumpers (NFPA, NFPA 1144, 2002, p. 5).

Dwelling – One or more living units, each providing complete and independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking, and sanitation (NFPA, NFPA 1144, 2002, p. 4).

Emergency – A deviation from planned or expected behavior or course of events that endangers or adversely affects people, property, or the environment (Greene, R.W., Confronting Catastrophe, ESRI Press, 2002, p. 110).

Evacuation/Escape Route - An organized, phased, and supervised withdrawal, dispersal, or removal of civilians from dangerous or potentially dangerous areas, and their reception and care in safe areas. (National Wildlife Coordinating Group, 2012, http://www.nwcg.gov/pms/pubs/glossary/e.htm)

Fire Behavior – The manner in which a fire reacts to the influences of fuel, weather, and topography. (National Wildlife Coordinating Group, 2012, http://www.nwcg.gov/pms/pubs/glossary/f.htm.)

Fire Frequency – A broad measure of the rate of fire occurrence in a particular area. For historical analyses, fire frequency is often expressed using the fire return interval calculation. For modern-era analyses, where data on timing and size of fires are recorded, fire frequency is often best expressed using fire rotation (CDF FRAP 2003 Forest and Range Assessment, p. A-12).

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. (National Wildlife Coordinating Group, 2012, http://www.nwcg.gov/pms/pubs/glossary/f.htm).

Fire Hydrant – A valved connection on a water supply system having one or more outlets and that is used to supply hose and fire department pumpers with water (NFPA, NFPA 1144, 2002, p. 5).

Fire Lane – A means of access or other passageway designated and identified to provide access for emergency apparatus where parking is not allowed (NFPA, NFPA 1141, 1998, p. 4).

Fire Protection – All measures taken to reduce the burden of fire on the quality of life. Fire protection includes measures such as fire prevention, fire suppression, built-in **fire protection systems**, and planning and building codes (NFPA, NFPA 1141, 1998, p. 4).

Fire Protection System – Any fire alarm device or system or fire extinguishing device or system, or their combination, that is designed and installed for detecting, controlling, or extinguishing a fire or otherwise alerting occupants, or the fire department, or both, that a fire has occurred (NFPA, NFPA 1141, 1998, p. 4).

Fire Threat – The combination of two factors: 1) fire frequency, or the likelihood of a given area burning, and 2) potential fire behavior (hazard). Components include surface fuels, topography, fire history, and weather conditions (Source: CDF FRAP, http://frap.cdf.ca.gov/frapgisdata/output/fthrt.txt, CDF FRAP 2003 Forest and Range Assessment, p. A-12, http://frap.cdf.ca.gov/assessment2003/).

Fire Regime – A measure of the general pattern of fire frequency and severity typical to a particular area or type of landscape: The regime can include other metrics of the fire, including seasonality and typical fire size, as well as a measure of the pattern of variability in characteristics (CDF FRAP 2003 Forest and Range Assessment, p. A-12).

Fire Rotation – An area-based average estimate of fire frequency, calculated as the length of time necessary for an area equal to the total area of interest to burn. Fire rotation is often applied to regionally

stratified land groupings where individual fire-return interval across the variability of the strata (i.e., the fine scale pattern of variation in timing of fires) is unknown, but detailed information on fire size is known. Hence, fire rotation is a common estimate of fire frequency during periods of recorded fire sizes (CDF FRAP 2003 Forest and Range Assessment, p. A-12).

Fire Weather – Weather conditions which influence fire ignition, behavior, and suppression. (National Wildlife Coordinating Group, 2012, http://www.nwcg.gov/pms/pubs/glossary/f.htm).

Firebreak – A natural or constructed barrier used to stop or check fires that may occur, or to provide a control line from which to work.
(National Wildlife Coordinating Group, 2012, http://www.nwcg.gov/pms/pubs/glossary/f.htm).

Fuel break – A natural or manmade change in fuel characteristics which affects fire behavior so that fires burning into them can be more readily controlled.
(National Wildlife Coordinating Group, 2012, http://www.nwcg.gov/pms/pubs/glossary/f.htm).

Fuels – Any combustible material, especially petroleum-based products and wildland fuels.
(National Wildlife Coordinating Group, 2012, http://www.nwcg.gov/pms/pubs/glossary/f.htm).

Fuel Loading – The amount of fuel present expressed quantitatively in terms of weight of fuel per unit area. This may be available fuel (consumable fuel) or total fuel and is usually dry weight.
(National Wildlife Coordinating Group, 2012, http://www.nwcg.gov/pms/pubs/glossary/f.htm).

Fuel Models – Description of the types of vegetative combustible material:

Light Fuels – grasses, forbs
Medium Fuels – short light brush and small trees
Heavy Fuels – tall dense brush, timber and hardwoods
Slash Fuels – logs, chunks, bark, branches, stumps, and broken understory trees and brush.

Fuel Modification – Manipulation or removal of fuels to reduce the likelihood of ignition and/or to lessen potential damage and resistance to control (e.g., lopping, chipping, crushing, piling and burning). (National Wildlife Coordinating Group, 2012, http://www.nwcg.gov/pms/pubs/glossary/f.htm).

GIS - See **Geographic Information Systems**

Geographic Information Systems – The combination of skilled persons, spatial and descriptive data, analytic methods, and computer software and hardware – all organized to automate, manage, and deliver information though geographic presentation (i.e., maps) (Zeiler, M., Modeling Our World, ESRI Press, 1999, p. 46).

Ground Fuels – All combustible materials below the surface litter, including duff, tree or shrub roots, punky wood, peat, and sawdust, that normally support a glowing combustion without flame.
(National Wildlife Coordinating Group, 2012, http://www.nwcg.gov/pms/pubs/glossary/g.htm).

Hazard – Refers generally to physical characteristics that may cause an emergency. Earthquake faults, flood zones, and highly flammable brush fields are all examples of hazards (Greene, R.W., Confronting Catastrophe, ESRI Press, 2002, p. 110). Also see **Fire Hazard**.

Healthy Forests Restoration Act (HFRA), 2003 – Gives incentives for communities to engage in comprehensive forest planning and prioritization. This legislation includes statutory incentives for the US Forest Service (USFS) and the Bureau of Land Management (BLM) to give consideration to the priorities of local communities as they develop and implement forest management and hazardous fuel reduction priorities. The Act emphasizes the need for federal agencies to work collaboratively with communities in developing hazardous fuel reduction projects, and it places priority on treatment areas identified by communities themselves in a CWPP (Source: Preparing a Community Wildfire Protection Plan. March, 2004).

Improved Property – A piece of land or real estate upon which a structure has been placed, a marketable crop is growing (including timber), or other property improvement has been made (NFPA, NFPA 1144, 2002, p. 5).

Intermix – An area where improved property and wildland fuels meet with no clearly defined boundary (NFPA, NFPA 1144, 2002, p. 5).

Ladder Fuels – Fuels which provide vertical continuity between strata, thereby allowing 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.(National Wildlife Coordinating Group, 2012, http://www.nwcg.gov/pms/pubs/glossary/l.htm).

Mitigation – Action that moderates the severity of a fire or risk (NFPA, NFPA 1144, 2002, p. 5).

National Fire Protection Association (NFPA) – An international nonprofit organization, established in 1896, to reduce the worldwide burden of fire and other hazards on the quality of life by providing and advocating consensus codes and standards, research, training, and education (NFPA, 2009, http://www.nfpa.org/categoryList.asp?categoryID=143&URL=About%20Us).

NFPA-1144 Standard for Protection of life and Property from Wildfire – Standard developed by the NFPA to be used to provide minimum planning, construction, maintenance, education, and management elements for the protection of life, property, and other values that could be threatened by wildland fire. The standard shall be used to provide minimum requirements to parties responsible for fire protection, land use planning, property development, property maintenance, and others responsible for or interested in improving fire and life safety in areas where wildland fire could threaten lives, property, and other values (NFPA, NFPA 1144, 2002, p. 4).

Noncombustible – Any material that, in the form in which it is used and under the conditions anticipated will not ignite and burn nor will add appreciable heat to an ambient fire (NFPA, NFPA 1144, 2002, p. 5).

Overstory – the level of forest canopy that includes the crowns of dominant, codominant, and intermediate trees. (Maryland Department of Natural Resources, 2003, http://www.dnr.state.md.us/forests/gloss.html#o).

Risk – The potential or likelihood of an emergency to occur. For example, the risk of damage to a structure from wildfire is high if it is built upon, or adjacent to, a highly flammable brush field or other area deemed to have a high **Fire Threat** (Greene, R.W., Confronting Catastrophe, ESRI Press, 2002, p. 110).

Safe 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 control 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 fuelbreaks; they are greatly enlarged areas which can be used with relative safety by firefighters and their equipment in the event of blowup in the vicinity.(National Wildlife Coordinating Group, 2012, http://www.nwcg.gov/pms/pubs/glossary/s.htm.)

Slope – The ratio between the amount of vertical rise of a slope and horizontal distance as expressed in a percent. One hundred feet of rise to 100 feet of horizontal distance equals 100 percent (National Wildlife Coordinating Group, 2012, http://www.nwcg.gov/pms/pubs/glossary/s.htm). Upward or downward incline or slant (NFPA, NFPA 1144, 2002, p. 5).

Turnaround – A portion of a roadway, unobstructed by parking, that allows for a safe reversal of direction for emergency equipment (NFPA, NFPA 1144, 2002, p. 5).

Turnouts – A widening in a travel way of sufficient length and width to allow vehicles to pass one another (NFPA, NFPA 1144, 2002, p. 5).

Understory – The layer formed by the crowns of smaller trees in a forest. (Mountain Association for Community Economic Development, 2014, http://www.maced.org/foi/generalforestryglossary.htm#U.)

Water Supply – A source of water for fire-fighting activities (NFPA, NFPA 1144, 2002, p. 5).

Wildfire – Any fire occurring on undeveloped land; the term specifies a fire occurring on a wildland area that does not meet management objectives and thus requires a suppression response. Wildland fire protection agencies use this term generally to indicate a vegetation fire. Wildfire often replaces such terms as forest fire, brush fire, range fire, and grass fire (CDF FRAP 2003 Forest and Range Assessment, p. A-17).

Wildland – A region with minimal development as evidenced by few structures; transportation networks may traverse region. Region typically contains natural vegetation and may be used for recreational or agricultural purposes (CDF FRAP 2003 Forest and Range Assessment, p. A-17).

Wildland-Urban Interface (WUI) – Commonly described as the zone where structures and other human development meet and intermingle with undeveloped wildland or vegetative fuels. In the absence of a CWPP, Section 101 (16) of the HFRA defines WUI as " (I) an area extending ½ mile from the boundary of an at-risk community; (II) an area within 1 ½ miles of the boundary of an at-risk community, including any land that (1) has a sustained steep slope that creates the potential for wildfire behavior endangering the at-risk community; (2) has a geographic feature that aids in creating an effective fire break, such as a road or ridge top; or (3) is in condition class 3, as documented by the Secretary in the project-specific environmental analysis; (III) an area that is adjacent to an evacuation route for an at-risk community that the Secretary determines, in cooperation with the at-risk community, requires hazardous fuels reduction to provide safer evacuation from the at-risk community." A CWPP offers the opportunity to establish a localized definition and boundary for the wildland-urban interface (Source: Preparing a Community Wildfire Protection Plan. March, 2004).

APPENDIX C: Community Wildfire Protection Plans (CWPP)

SAN LUIS OBISPO COUNTY (CWPP)

This Community Wildfire Protection Plan (CWPP) covers San Luis Obispo County, California and was developed to collaboratively address fire protection planning efforts occurring in the County to minimize wildfire risk to communities, assets, firefighters, and the public. This Plan presents the County's physical and social characteristics, identifies and evaluates landscape-scale fire hazard variables, utilizes Priority Landscape data sets for evaluating wildfire risk, identifies measures for reducing structural ignitability, and identifies potential fuel reduction projects and techniques for minimizing wildfire risk. The goal of this Plan is to provide a planning-level framework for hazardous fuel assessment and reduction within San Luis Obispo County so that structures and assets are provided additional protection, reducing the potential for wildfire-originated ignitions. This Plan is intended to be a living document managed and updated routinely by the San Luis Obispo County Fire Department with community and stakeholder input and involvement.

Development of this Plan was also intended to support the vision, goals, and objectives of the California Fire Plan, thereby creating a cohesive document which integrates the community focused nature of a CWPP while simultaneously functioning as the CAL FIRE Unit Strategic Fire Plan, which also seeks to create a state that is more resistant and resilient to the damaging effects of catastrophic wildfire while recognizing fire's beneficial aspects. With consistent goals of improving fire prevention and suppression efforts, reducing hazardous fuels, restoring fire-adapted ecosystems, and promoting community assistance, integrating these two plans was a logical step for fire planning efforts in San Luis Obispo County. The goals of this Plan include: improving the availability and use of information regarding hazard and risk assessment; providing guidance for land use planning efforts; promoting a shared vision among communities and multiple fire jurisdictions; establishing fire resistance in communities; prioritizing protection of communities and other high-priority watersheds; promoting collaboration between government agencies and a broad representation of stakeholders; improving fire suppression and prevention capabilities; promoting post-fire recovery efforts; and maintaining accountability through performance-based monitoring. This Plan utilizes the following strategies to accomplish its goals:

- Collaborate with stakeholders and multiple fire jurisdictions
- Conduct and refine risk assessments for wildland urban interface (WUI) areas
- Develop high-hazard wildfire community pre-attack plans
- Foster community involvement in pre-fire planning efforts
- Monitor the effectiveness of programs, projects and initial attack success.

LOS OSOS (CWPP)

The Los Osos Community Wildfire Protection Plan (CWPP) enables this community to plan how it will reduce the risk of wildfire. The plan identifies strategic sites and methods for fuel reduction projects across the landscape and jurisdictional boundaries. Benefits of having a CWPP include National Fire Plan funding priority for projects identified in a CWPP. The United States Forest Service and the Bureau of Land Management can expedite the implementation of fuel treatments, identified in a CWPP, through alternative environmental compliance options offered under the Healthy Forests Restoration Act.

APPENDIX D: FIRE DANGER OPERATING PLAN

This plan is designed to help guide the application of National Fire Danger Rating System (NFDRS) at the unit level. It will provide a framework for consistent thought process to apply the Fire Danger Operating Plan for San Luis Obispo County for agency administrators, fire managers, dispatchers, agency coordinators, and firefighters using accurate and effective scientific methods and historical fire and weather data. Management decisions dealing with dispatch levels and staffing levels will be assessed based on vegetation, climate, and topography in conjunction with NFDRS modeling.

This operating plan is for San Luis Obispo County which encompasses two fire danger rating areas including the Coastal FDRA and the Inland FDRA. These two geographic regions are our focus of study because each is composed of a unique combination of fuels, climate and topography.

This plan offers decision support and helps in quantifying elements that establish agency planning and response levels. Additionally, procedures for developing seasonal risk analysis and fire severity trigger points are outlined with the implementation and analysis process of this plan.

http://calfireslo.org/Documents/Plans/FDOP/FDOP_v14_2(reduced).pdf

EXHIBITS: MAPS

Figure 1. Land Ownership Distribution for San Luis Obispo County

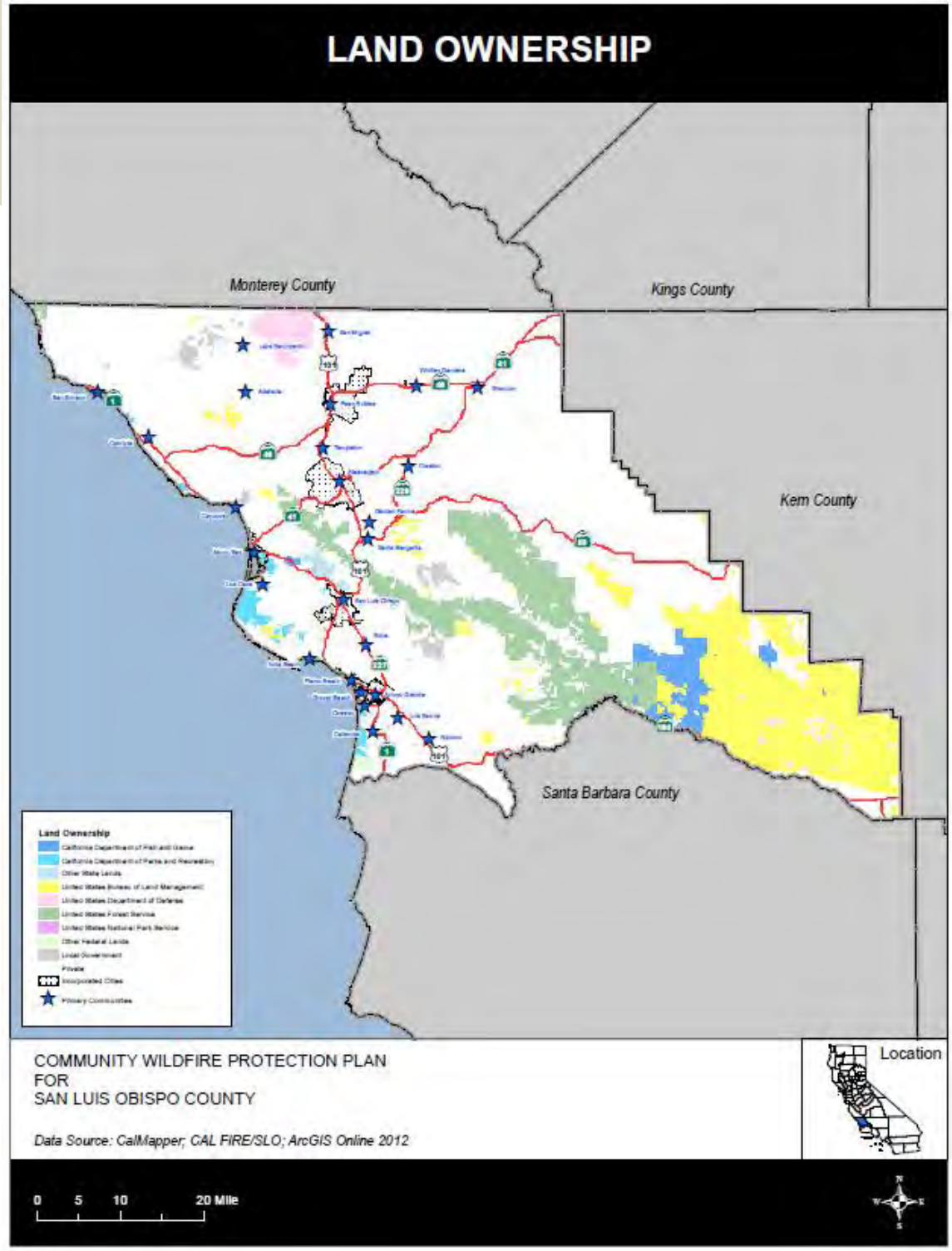


Figure 2. Population Distribution for San Luis Obispo County

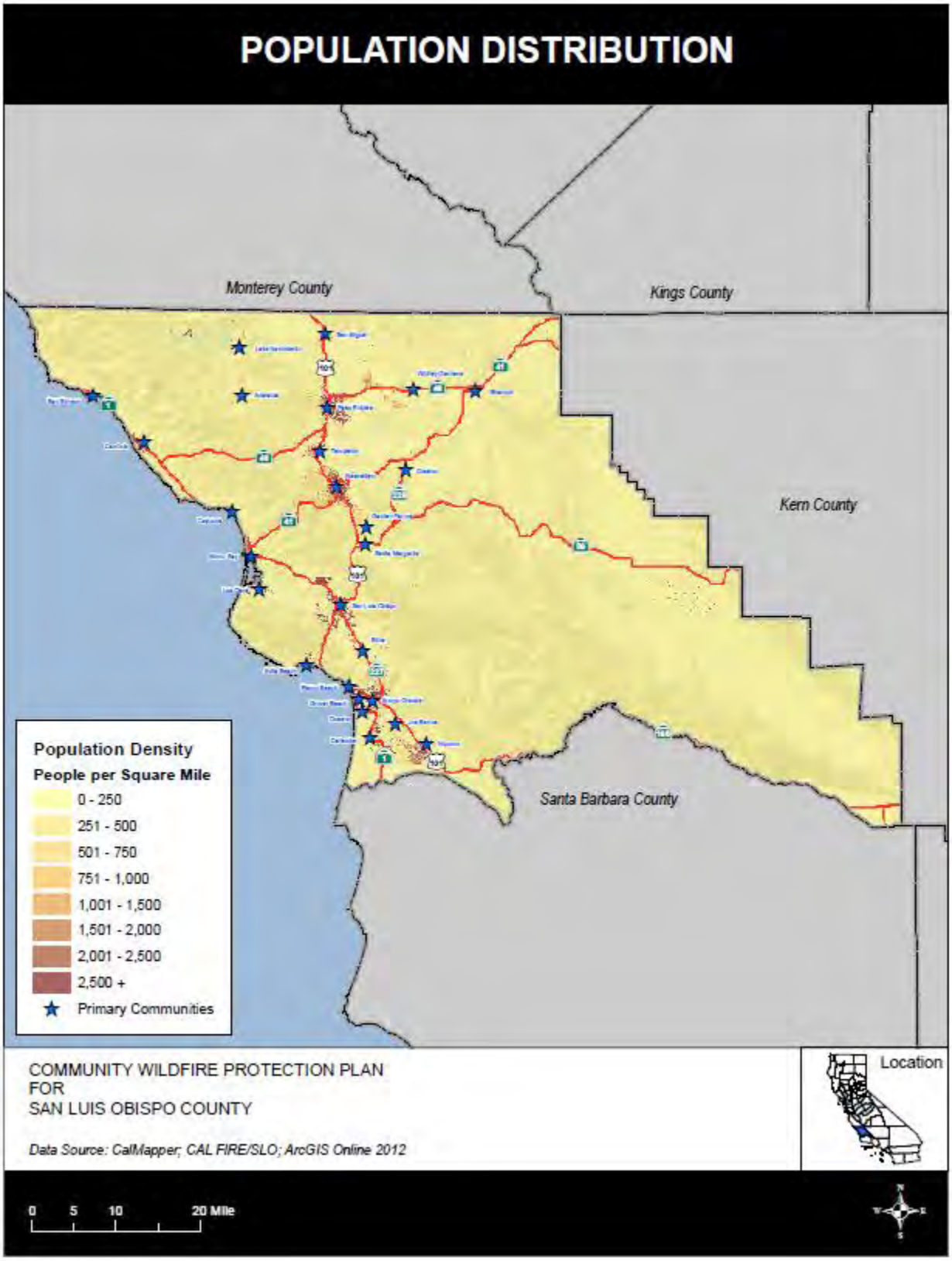


Figure 3. Fuels Distribution for San Luis Obispo County

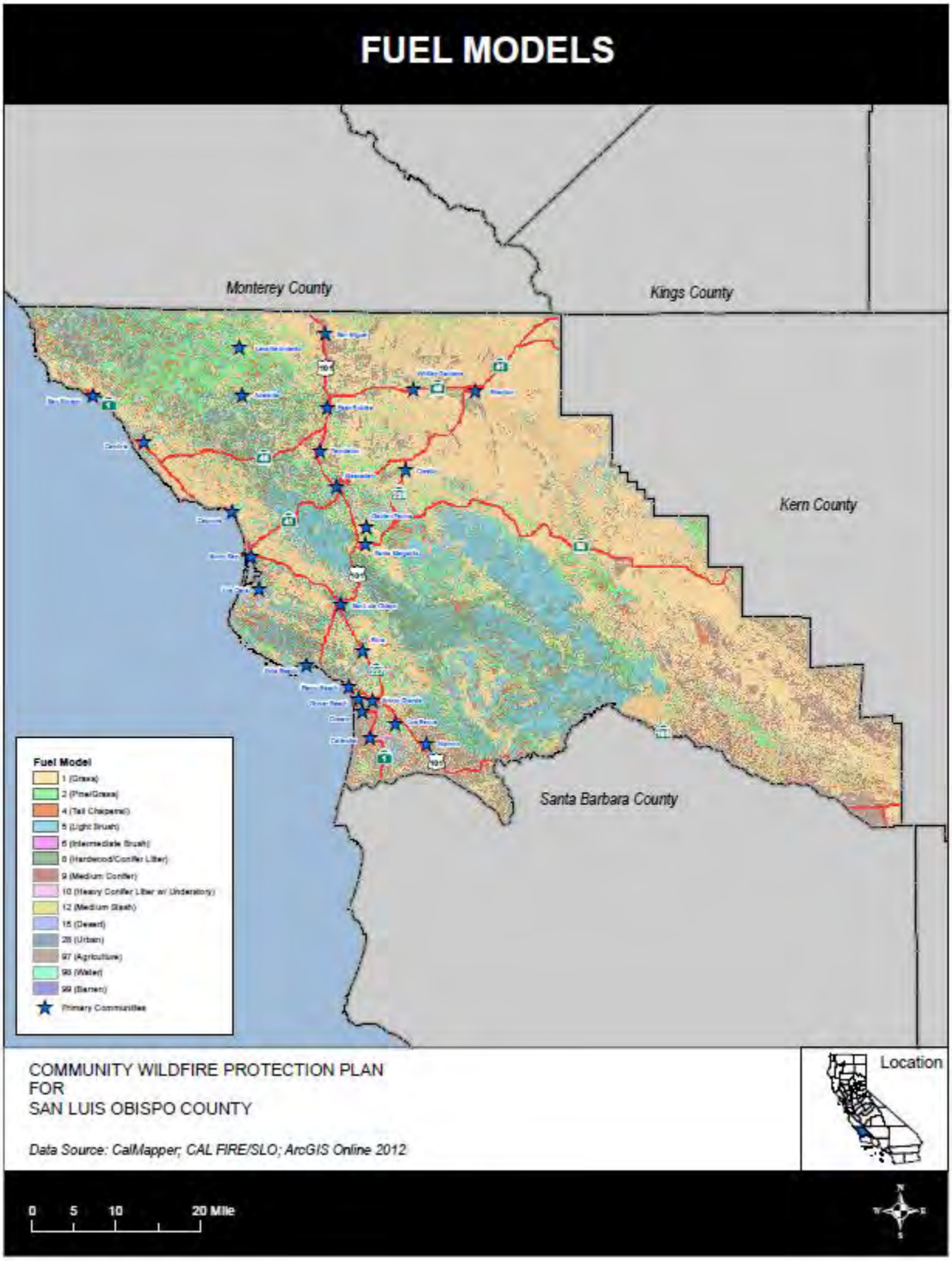


Figure 4. Fuel Models for San Luis Obispo County

Figure 5. Remote Weather Station Sites (RAWS) for San Luis Obispo County

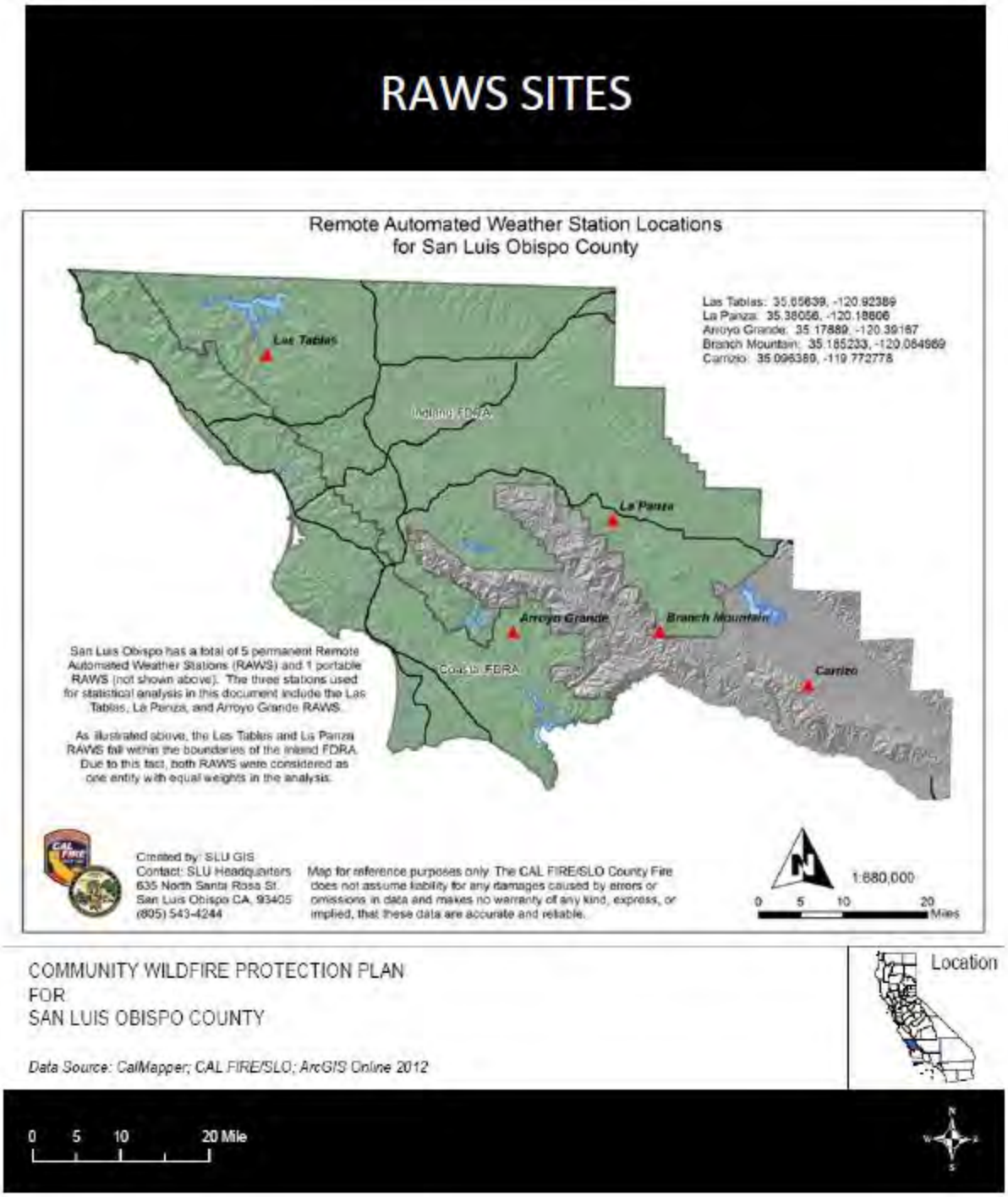


Figure 6. Topography for San Luis Obispo County

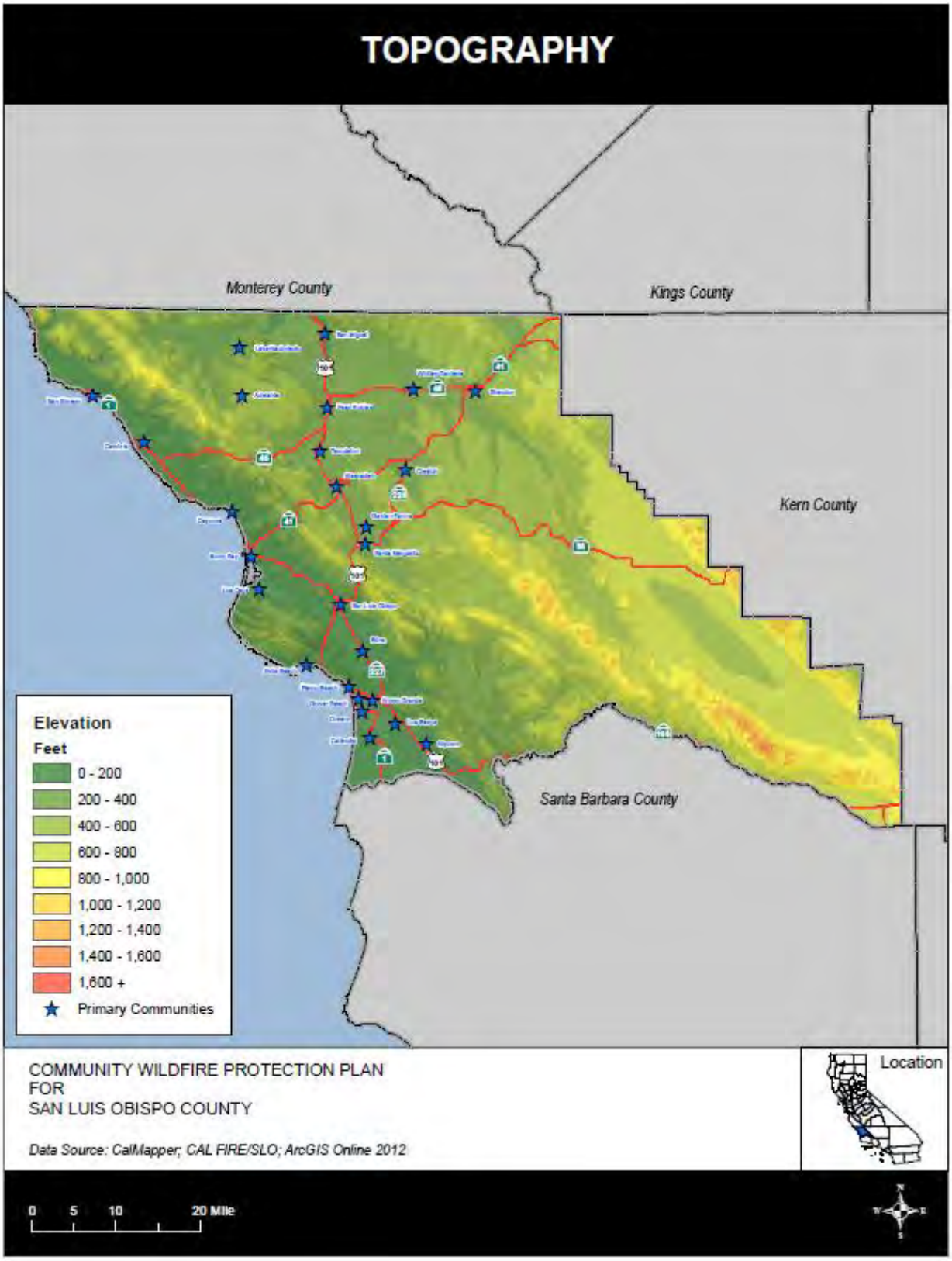


Figure 7. Fire History for San Luis Obispo County

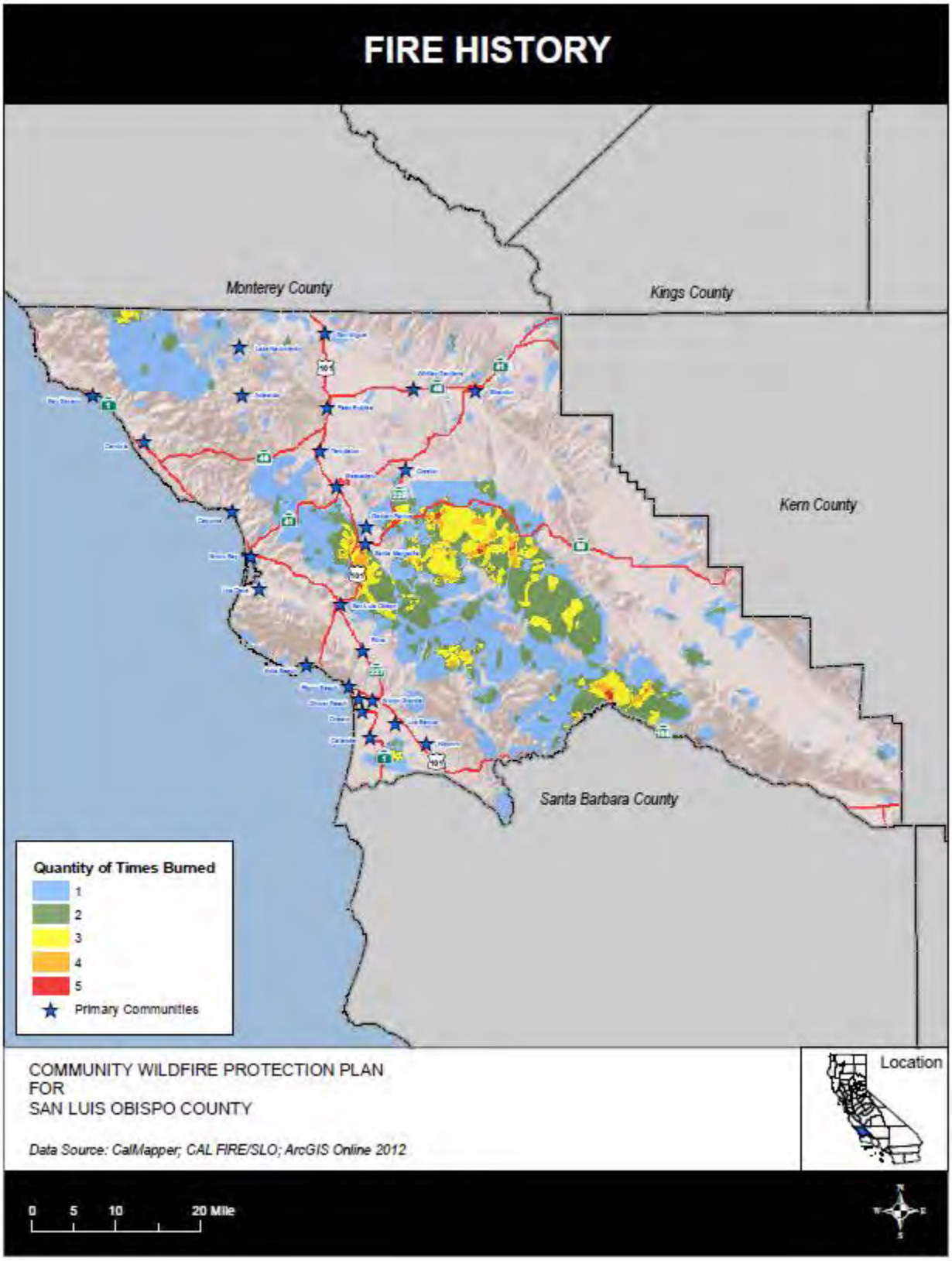


Figure 8. Ignition History for San Luis Obispo County

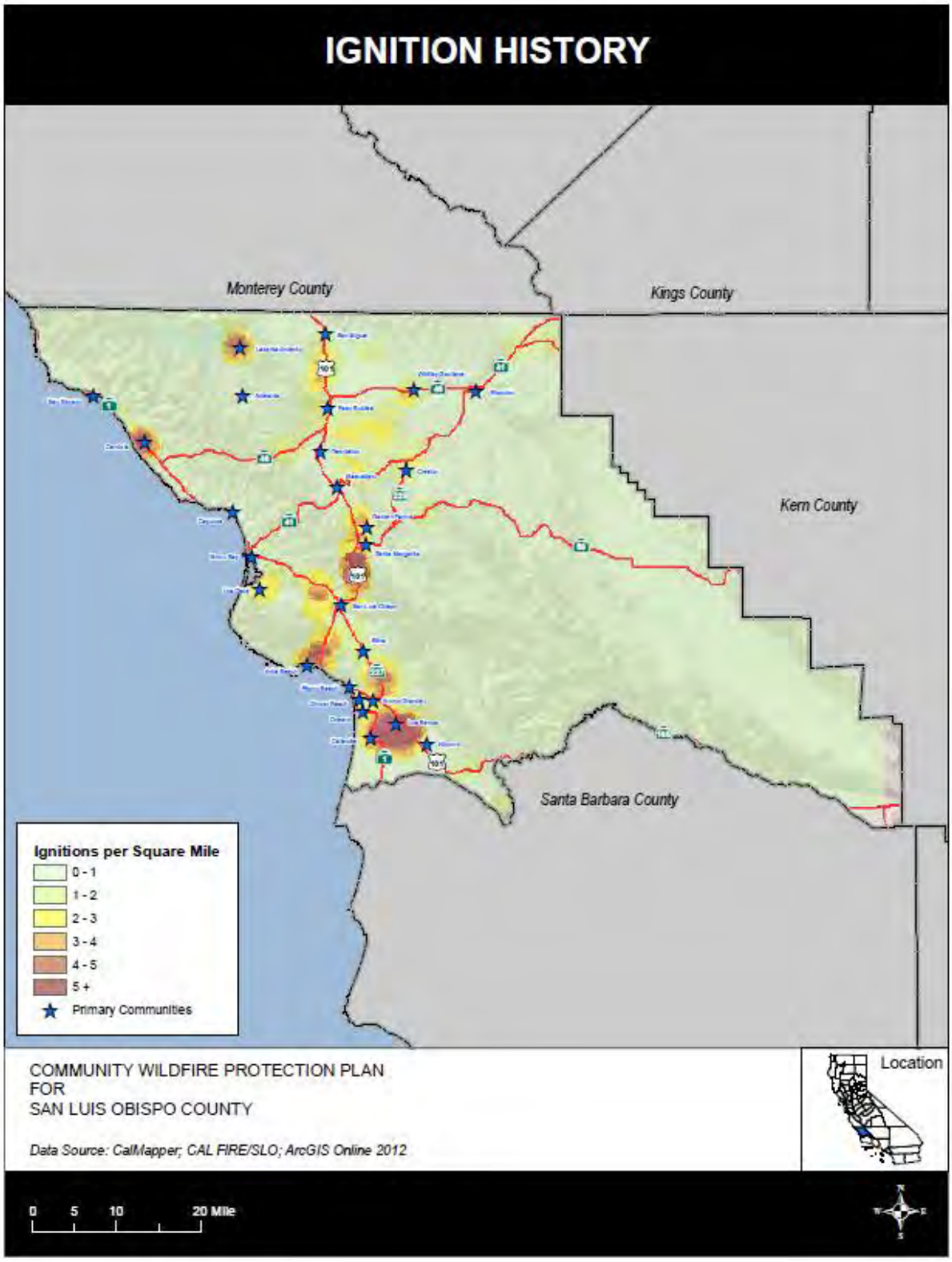


Figure 9. Unit Administrative Map for San Luis Obispo County

Figure 10.Rangeland Fire Threat for San Luis Obispo County

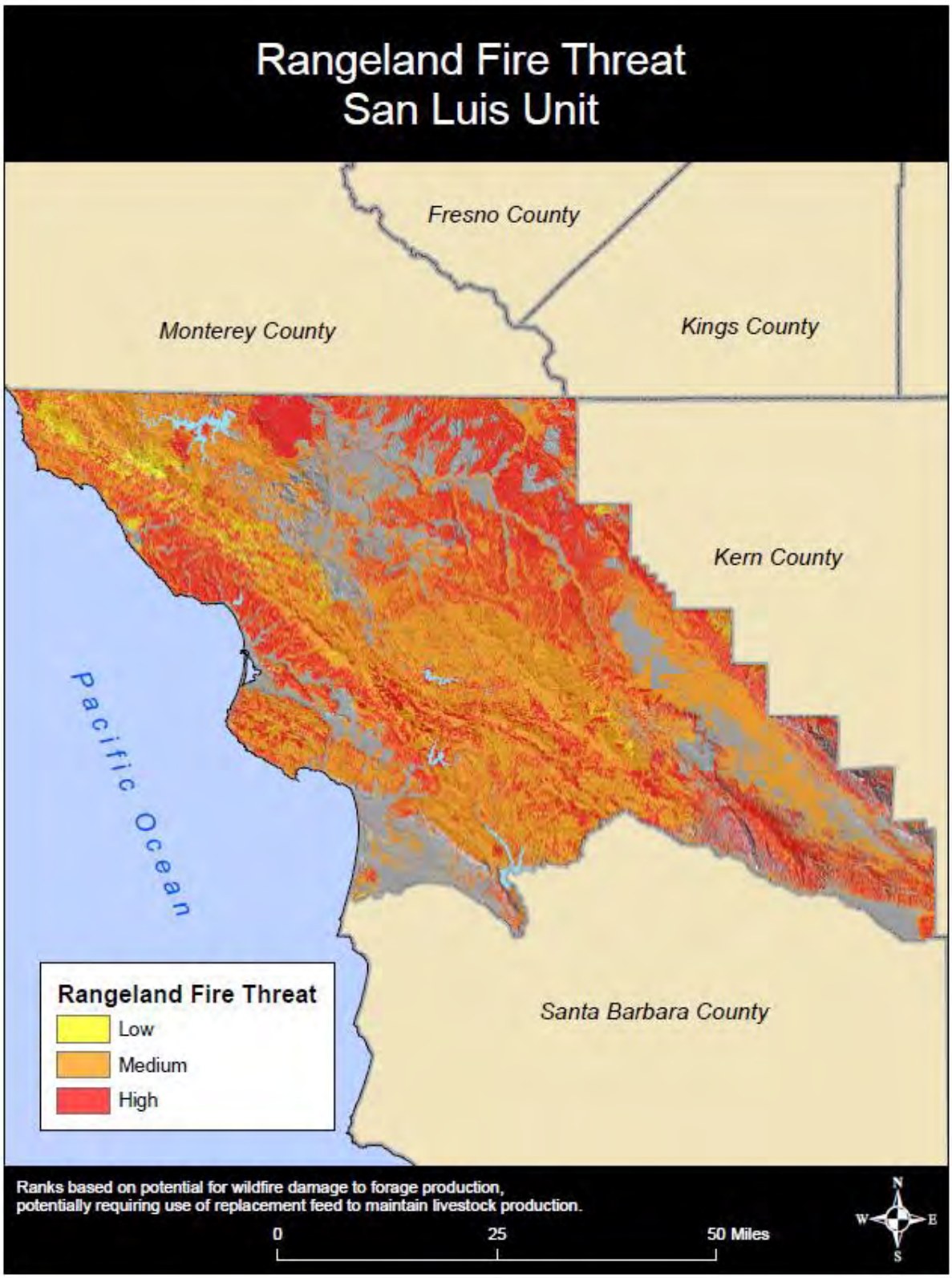


Figure 11. Threat to the Ecosystem for San Luis Obispo County

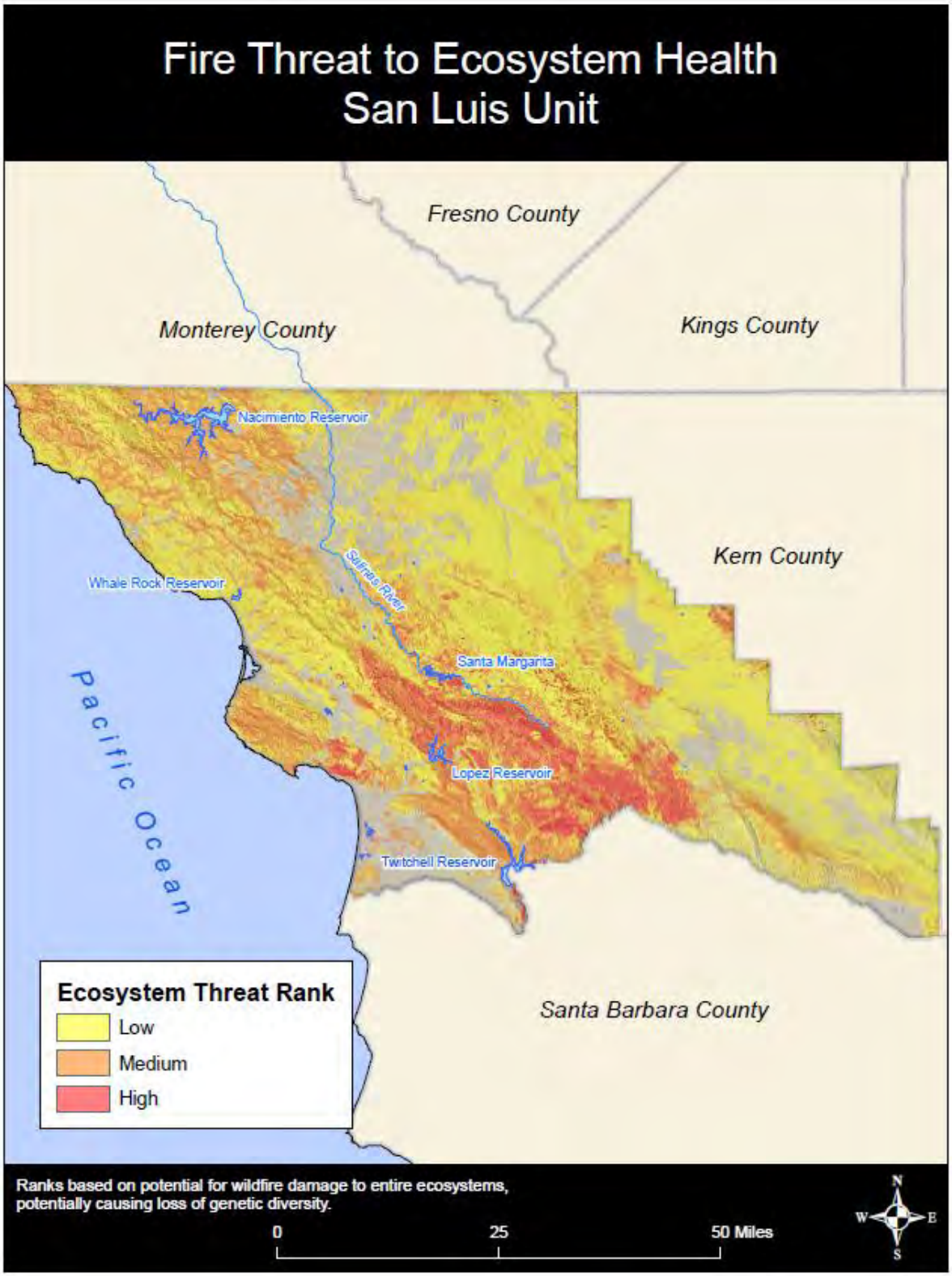
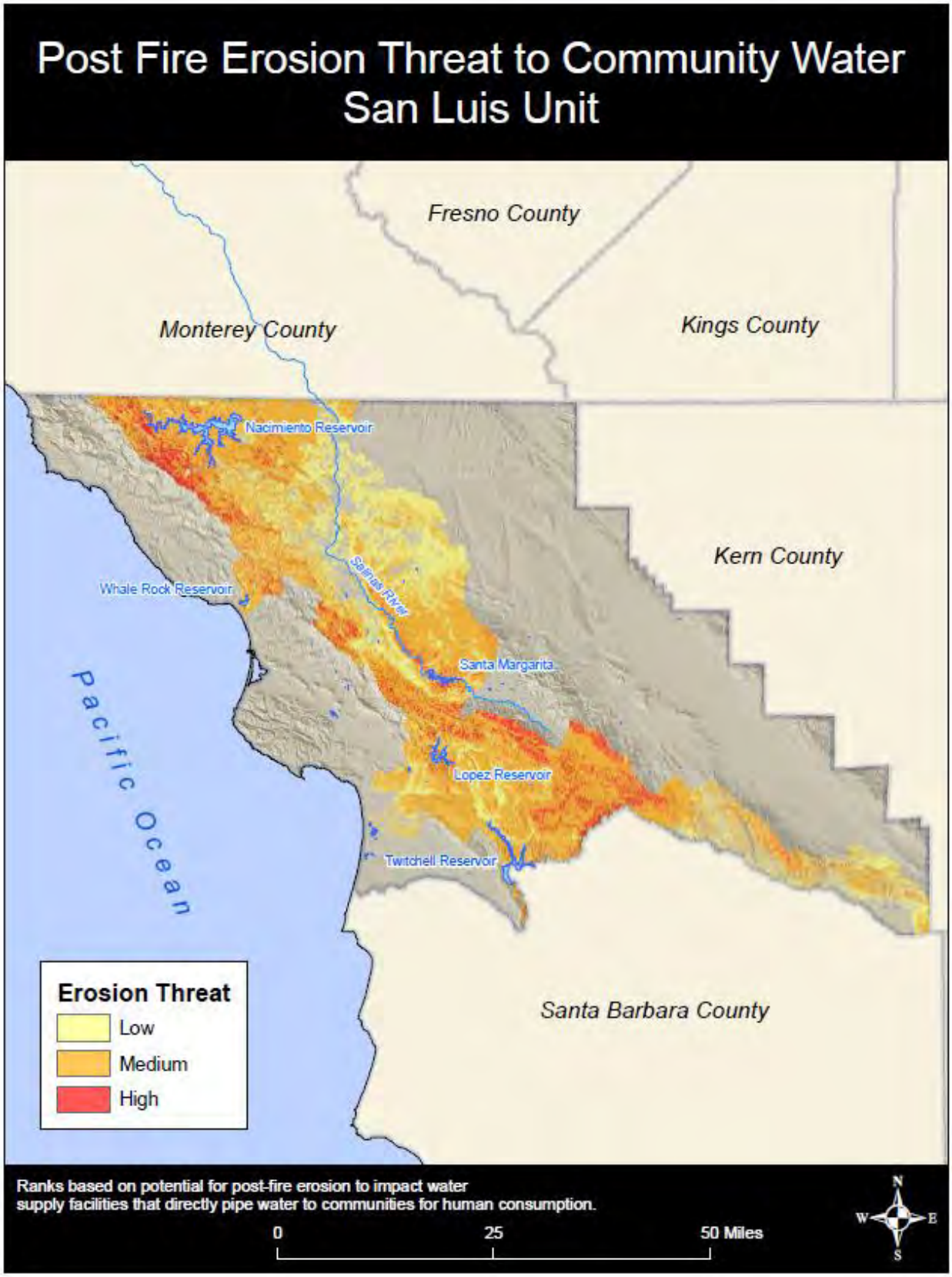


Figure 12. Post Fire Erosion Threat for San Luis Obispo County



SUPPLEMENT: 2013

Annual Report of Unit Accomplishments

The San Luis Obispo Unit accomplished the following in 2013:

CAL FIRE/SLO treated 11787.34 total acres of fuel reduction projects.

CAL FIRE/SLO performed 16,163 state inspections, 515 of those inspections resulted in violations.

CAL FIRE/SLO performed 8,738 local inspections, 554 of those inspections resulted in violations.

Approximately 5,000 CAL FIRE/SLO personnel hours were dedicated to the inspection program.

CAL FIRE/SLO conducted 10,031 fire prevention education programs for local schools and community groups.

CAL FIRE/SLO prevention staff performed 1,181 inspections (including residential, commercial, Department of Social Services, State Fire Marshal, site and other visits).

CAL FIRE/SLO prevention staff prepared 926 fire safety plans for new projects (including residential, commercial, development plans, minor use permits, parcel/tract maps, knox boxes).

CAL FIRE/SLO assisted and preformed fire prevention programs with local agencies.

CAL FIRE/SLO contacted 48,219 people at events or fire prevention activities.

CAL FIRE/SLO has also been utilizing the Cal MAPPER program for collecting and managing data, tracking project progress, preparing fiscal reports, pre-planning emergency response, and planning fuel reduction activities. Currently the Unit has a total of 24 projects, 12 treatments areas, 55 activities, 9 funding sources, 7 ownership records and 23 stakeholders records entered in the Cal MAPPER database.

The San Luis Obispo Unit is an active participant with the San Luis Obispo County Community FireSafe Council and has actively been working on projects related to fuel reduction, public safety, and public education. In addition, the San Luis Obispo Unit is in the process of developing a combined Unit Fire Plan and Community Wildfire Protection Plan which will provide a framework for fire protection planning at a County-wide scale while allowing opportunities for focused fire planning at a local scale.