

# PLANNING FOR A COMMUNITY WILDFIRE PROTECTION PLAN

San Luis Obispo County



## Senior Project

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Prepared by Justin Sauder  
B.S. City and Regional Planning  
Cal Poly San Luis Obispo

Advisor: William Siembieda  
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# APPROVAL PAGE

City and Regional Planning  
Cal Poly State University

Title: Planning for a Community Wildfire Protection Plan  
Author: Justin Sauder  
Date submitted: August 2017

William Siembieda  
Senior Project Advisor

_____	_____
Signature	Date

Michael Boswell  
CRP Department Head

_____	_____
Signature	Date

# TABLE OF CONTENTS

## CHAPTER 1

Executive Summary	3
Planning Description	3
Sources Utilized	4

## CHAPTER 2

What is a Community Wildfire Protection Plan?	5
Benefits	5
Steps to Success	6
Best Practices	7

## CHAPTER 3

Local Hazard Mitigation Plans	13
LHMP in San Luis Obispo	13
Arroyo Grande	14
Grover Beach	16
Atascadero	17
Morro Bay	19
Paso Robles	20
Pismo Beach	23
San Luis Obispo	25
Cambria	27
Summary	33

## CHAPTER 4

Additional Resources .....	34
Safety Element .....	34
California Fire Plan .....	35
California Planning Assistance for Wildfire .....	35
Firewise U.S.A .....	36

## CHAPTER 5

Interviews .....	37
Five Cities .....	37
San Luis Obispo .....	39
Cambria .....	40

## CHAPTER 6

Conclusion .....	42
Process .....	42
Analysis .....	43
Action .....	43
Recommendations .....	43
Appendix .....	45
References .....	50

# CHAPTER ONE

## Executive Summary

San Luis Obispo County has a long history of wildfires and can be expected every fire season. Agencies providing fire protection do an excellent job at reducing the risk to loss of life, property, and natural resources in the area, but there is always room for improvement. California in general is experiencing increasingly longer, hotter, and drier fire seasons due to climate change, and San Luis Obispo County is no exception. As the population increases urban development is pushed to the outer limits of city boundaries where it often conflicts with forests in an area called the wildland urban interface. This area is very prone to the risk of wildfire and a major reason for the need of a community wildfire protection plan (CWPP).

The intent of this document is to describe the benefits and necessary steps of a CWPP, as well as plans and programs related to fire protection that can help in development of a community plan. This informational guide consists of best practices, case studies, summaries of Local Hazard Mitigation Plan (LHMP), interviews, and recommendations to incorporate needs from each community into a countywide CWPP.

The goal is for the CWPP to be a tool for a county wildfire safety plan that draws from the needs and risks from each community determined from research and interviews. The CWPP could then be used as a guide and a tool for other plans regarding wildfire protection such as the LHMP or Safety Element to reference. Consistency is key throughout these different plans in hopes that each document can draw from one another when being updated. The CWPP could even be useful for other elements within the General Plan such as Land Use or Circulation elements. At the very least this document can help start the conversation of what a CWPP is and how the county can benefit from such a plan.

## Planning Description

The goal is to start the collaborative process that is required from the Healthy Forests Restoration Act of 2003 (HFRA) and ultimately help provide framework and structure for the CWPP that coincides seamlessly with other planning documents related to fire safety in the county.

This guide can help integrate fire safety related information from documents created by incorporated and unincorporated cities in the county, into a cohesive community based plan for the entire county.

## **Sources Utilized**

Different forms of information were consulted in the creation of this document. Sources of information referenced include plans, guides, and interviews. Important information for the CWPP is determined by comparing and contrasting documents related to fire protection from each city in the county in order to satisfy the needs of each jurisdiction.

Interviews with individuals from the community who have played a role in developing important fire protection documents in the past, or who are currently working to protect their community from fire have been conducted. The purpose of these interviews is to understand how different jurisdictions deal with the risk of fire, and how their ideas can help on a county level. The inverse is also true. Those interviewed were asked how a county CWPP could help fire suppression efforts in their own community.

## CHAPTER TWO

### What is a Community Wildfire Protection Plan?

A Community Wildfire Protection Plan or CWPP is a community based plan for comprehensive forest planning and prioritization (Preparing a CWPP, 2004). Wildfire protection plans in different forms have protected communities in the past but with the enactment of the Healthy Forests Restoration Act of 2003 (HFRA), the comprehensive community based approach of a CWPP has gained ground in importance. This legislation allows the US Forest Service (USFS) and the Bureau of Land Management (BLM) to give consideration to the priorities of communities to create and implement forest management and fuel reduction projects. However, for a community to take full advantage of the new legislative opportunity it must create a CWPP.

The HFRA is general in nature and the language used allows for flexibility to determine what is most important for communities. Communities can choose the substance and detail of the plan as well as how they will go about creating their CWPP. Most often this type of community plan will address issues such as wildfire response, hazard mitigation, community preparedness or structure protection. Some plans address all of the listed issues and even more in order to help the community redefine their priorities for the protection of life, property, and critical infrastructure within the wildland-urban interface (WUI).

Although the HFRA is intended to be general, it defines the minimum requirements for a CWPP. At the very least the plan must include: collaboration, prioritized fuel reduction, and treatment of structural ignitability as described in the HFRA. To the minimum requirements a CWPP must be collaboratively created by state and local representatives and consult with federal agencies as well as other interested parties. For fuel reduction the plan must address areas for hazardous fuel reduction projects as well as recommend methods of treatment that will protect at risk communities and infrastructure. A CWPP must also recommend methods that homeowners can use to reduce the ignitability of buildings throughout their communities. In an effort for collaboration the HFRA also requires that three entities must all mutually agree on the final document: local governments such as cities or counties, local fire departments, and the state entity for forest management.

### Benefits

There are a number of different ways that a CWPP can benefit a community. One of the first benefits is that it establishes a local boundary of the wildland-urban interface. Without a CWPP the WUI is defined by the HFRA within a half mile of a

community's boundary or within a mile and a half where mitigating circumstances are needed such as steep slopes. This is important because half of the funds for projects under the HFRA must be used within the WUI, which is defined by the CWPP. The HFRA also gives priority to projects and treatment areas recognized by a community plan by allowing federal agencies to give special consideration for fuel reduction projects that implement the community plan.

The HFRA has provided communities with a great tool to guide where and how federal agencies should implement fuel reduction projects on federal lands, and how federal funding should be spent on nonfederal lands. The Community Wildfire Protection Plan is the easiest and most effective way to take advantage of this opportunity.

## **Steps to a Successful Community Wildfire Protection Plan**

The "Preparing a Community Wildfire Protection Plan" handbook defines eight steps or recommendations on how to prepare a CWPP specifically for Wildland-Urban Interface communities. The recommendations are as follows.

### **1. Convene Decision Makers**

It is important to include representatives from the affected local agencies including fire authorities, governments, and forest management.

### **2. Involve Federal Agencies**

It is also important to include representatives from the United States Forest Service and the Bureau of Land Management.

### **3. Engage Interested Parties**

Involve interested agencies, groups and organizations that may be interested in fire safety for their community, such as the Fire Safe Council.

### **4. Establish a Community Base Map**

A base map of the identified areas of the WUI as well as important community resources. Community resources are outlined in each LHMP as well as WUI areas. Although specific to each jurisdiction, this information can be incorporated into the County CWPP.

### **5. Develop a Community Risk Assessment**

Identify areas of risk for homes, businesses, wildfires, critical infrastructure, and fuel hazards to be integrated into base map. It is also important to rate these risks. Each city with an LHMP has already done a risk assessment for their own community. These assessments can be integrated into the CWPP.

### **6. Establish Community Priorities and Recommendations**



Use the base map and risk assessment to start a collaborative effort to identify areas of interest such as fuel reduction, response times, or reducing structural ignitability. Make sure it is clear and concise which projects are related to the protection of communities and infrastructure or related to reducing fire risk to other community values.

#### **7. Develop an Action Plan and Assessment Strategy**

The CWPP contains implementation strategies that can be monitored over time. The draft CWPP already has a list of mitigation actions but there is always room for improvement. Mitigation actions from LHMP's in the County can be integrated into the CWPP.

#### **8. Finalize Community Wildfire Protection Plan**

Finalize the CWPP and distribute results to the community and any stakeholders involved.

These are just recommended steps to creating a CWPP. A wildfire plan can use a different steps or a different approach than the steps outlined here depending on the needs of that community. However, there are three minimum requirements for a CWPP set forth by the HFRA.

1. It must be a **collaborative** effort created by local and state agencies that work with federal agencies as well as other interested parties. This is the process part of the plan.
2. **Fuel reductions** must be prioritized. The plan must identify and then prioritize areas for fuel reductions. It must also recommend the method of treatment for different areas. This is to ensure the protection of communities at risk of wildfire and their essential infrastructure. This is the analytical part of the plan.
3. The local wildfire plan must also make **recommendations for measures** to be taken by home and business owners as well as the entire community to reduce the ignitability of structures throughout areas identified in the plan. This is the action part of the plan.

## **Best Practices**

It is important to have a step by step process to follow when creating a CWPP but it is also important to learn from other successful plans and understand best practices for this type of plan. The U.S Forest Service published a document detailing best practices and lessons learned from several different communities across the country (Best Management Practice for Creating a CWPP, 2012). It talks about important considerations for a successful community plan such as context, community capacity, networks, framing, scale and ensuring long-term success. An explanation of these considerations is provided in the section below.

**Context** - Obviously understanding the context of the community as in fuels, weather and topography is crucial for fire protection, but when creating a community plan it is imperative to understand how the community has responded to fire events in the past. The small town of Taylor in Florida had a history of three large wildfire in just ten years. None of these fire actually burned within the city limits but size and frequency of them caused concerns for Taylor. In this case the community already had a history of wildfires that they managed very well together. Due to the collaborative work in the past when the Florida Department of Forestry approached Taylor about creating a CWPP, they were able to draw up a plan in just four meetings. The Department of Forestry brought together representatives from federal, state, and local government agencies to start the collaborative process. These stakeholders were already familiar which the concerns of each other due to fighting previous fires. Understanding the context of this community allowed a CWPP to be created in a quick and easy manner by involving the necessary stakeholders. A major accomplishment of the plan was the creation of a fire break that circles the entire city. The fire break covers public and private property which can be seen as a testament to the strong collaborative effort.

**Community Capacity** - Community capacity refers to the resources available. A community's resources can be in many different forms such as financial ability, networks, community values or individuals. The capacity of a community may change over time making it easier or harder at times to create a CWPP, but the plan can have lasting impacts. "The lasting outcome of a CWPP is not necessarily the plan itself but the capacity for action that it builds, the opportunities it creates, the knowledge it advances, and the connections among people and organizations it forges" (Best Management Practices for Creating a Community Wildfire Protection Plan, page 8, 2012). Even if the community changes, the CWPP can provide the basis for wildland fire protection.

For communities that do not have an abundance of financial resources can overcome this obstacle with highly motivated individuals. This was the case in the small town of Grizzly Flats in El Dorado County California. The small town is isolated with only about 700 residents. Their CWPP came about mainly from the efforts of a couple motivated individuals. A new resident wanted to get involved in his new town and started to invite people over for regular barbeques. Upon moving to Grizzly Flats, he learned of the fire risk of the area and decided to do something about it. With the connections made from hosting barbeques, he helped start their local Fire Safe Council which in turn received a grant to hire a consultant to write a CWPP.

As a result of their plan, Grizzly Flats improved the existing evacuation route and created a new evacuation route. Along with continued fuel treatments their next big goal is to build a community center to store their own fire truck. The efforts of one resident helped lead to the creation of a very active Fire Safe Council, a CWPP, and an overall stronger and safer community.

**Networks** - Involving different social networks in the community wildfire protection process helps bring in resources and expertise for a several different groups. Social networks helped create the CWPP for Josephine County, Oregon. The county is similar to San Luis Obispo County in that it covers a large area of land with over a million acres with several unincorporated cities. A plan for a larger county requires more social networks. The success of this particular plan is attributed to the involvement of fire chiefs throughout the county, federal agencies that manage most of the land, and county agencies such as the planning department and emergency services. San Luis Obispo has a similar network with an active Office of Emergency Services, Planning Department, and federal agencies such U.S Forest Service and Bureau of Land Management, and even CAL FIRE. The county already has a very strong network but there is always room for improvement.

The planning department hired an outside consultant to facilitate the planning process. She was able to connect all these agencies in the county that previously only functioned individually, as well as provide connections to individuals with expertise in grant writing that secured funds for their plan. Finally, she brought in underrepresented groups of people such as those with disabilities and the elderly.

Their plan was a success due the consultant's ability to bring all of these different social networks together in order to create a CWPP for a large community. However, a consultant is not always needed. In some cases a consultant may help with bringing social networks together as in Josephine County, but it can certainly be done with motivated individuals just like Grizzly Flats. Consultants may be useful for several different parts of the planning process and be involved throughout it all, or just for specific purposes.

**Framing** - The framing of the CWPP is crucial because it can determine both the process and outcomes of the plan. Ultimately the plan is always about wildland fire management, however there are different ways to frame the issues. For example, some are framed with a focus on fuels management while others are focused on safety or ecosystem restoration. While the CWPP must address structural ignitability and prioritize fuel reduction, depending on the community the plan can take on a different form or focus. Of course the plan can have more than one frame as well, especially a plan that covers several cities and jurisdictions. A plan of this caliber would need to frame issues on safety concern focusing on evacuation routes and response times, as well as focus on landscape management with ecosystem restoration and fuels management.

The frame of the plan will influence who is involved in the planning process and how they engage. A good example is the subdivision of Windcliff outside of Estes Park Colorado. The county was in the process of creating their CWPP when they reached out to Windcliff due to the high wildfire risk in the area. It became apparent that the frame for the subdivision and the county were not the same, yet the plan was still successful.

The county was concerned with safety of both the residents and firefighters when it came to Windcliff. Local firefighters had decided in the event of a wildland fire, it was not safe to send in crews to fight the fire due to only one route in and out of the subdivision. Instead they would focus efforts on helping residents evacuate. The community on the other hand was actually resistant to participating in wildfire protection planning at first. They did not want to cut down trees and “degrade their forested vistas.” However, after a significant fire in the area they reconsidered. They focused on safety primarily, but the concern for their forest was also taken into account. After the community learned that fuel thinning projects can help foster a healthier forest condition, they were excited to promote a natural ecosystem that also reduced the wildland fire risk. The efforts and participation of Windcliff inspired other nearby communities to participate in the county CWPP as well.

**Scale** - The scale or size of the plan should reflect the overall goals of fire protection for the community. This just means that a smaller community only needs a small scale to accomplish its goals, while a larger plan will require a large scale. If the goal is to encourage homeowners to reduce fire hazards on their own property a small scale CWPP can be developed. Fortunately these plans can easily be linked to plans that deal with fire protection on a larger scale, such as incorporating elements from a local hazard mitigation plan for a city into a countywide CWPP. This is important for smaller communities because it provides their local resources with a strategic long term plan.

Reducing fire risk on a county level requires coordination from several different stakeholders and agencies, which means the scale of the plan is much larger. This larger scale allows agencies to take advantage of the wealth of data available from the different agencies. It is vital to link large scale plans to other plans that determine land use or mitigate hazards and again to small scale plans in order to turn strategies into local actions. Large scale plans can coordinate and prioritize fuel reduction projects based on levels of risk.

Lincoln County Montana is a prime example of linking plans together of different scales. The county CWPP was being developed as the chapter on fire in the countywide Pre-Disaster Mitigation Plan. They linked their CWPP to a much larger plan. This plan allocated resources for several communities in Lincoln, but without local small scale plans in place, some of these communities could not put the money to use. Luckily a couple retired foresters were champions of the Lincoln County CWPP, which they also helped prepare, and took the plan to the most vulnerable communities and catered their services to the specific needs of each. In some cases they went door to door talking to residents about fire protection. They helped secure grants to start some mitigation projects on individual properties which encouraged others to join in the process as well. In some communities they did not need to go from door to door. Homeowners Associations took an interest and were very influential. The CWPP had set up the framework and several

Homeowner Associations took it upon themselves to lead efforts to become a Firewise Community. These individuals and Homeowners Associations used the strategies from a large scale plan, and put them into action.

**Long-term Success - Longevity** should be a goal of every CWPP. The plan will need to be updated but it should still always be aimed towards lasting impacts. The best way to ensure long term success is to consider each of the above guiding principles when developing a community plan and yet there are still best practices.

It is important to implement projects that can be completed quickly. The action plan of a CWPP is a long term effort but minor rapid successes help gain public support and involvement. Along with implementing projects to encourage public support, the community should always be evaluating changing circumstances that may affect the CWPP. There could be environmental or even social changes but regardless the plan may need to be amended to continue serving the public. Perhaps the best way to ensure the long term success is to link the CWPP to other plans whether they are more broad or specific.

The subdivision of Auburn Lake Trails in California used several of these ideas to foster the longevity of their CWPP. The community already had a strong foundation for a community fire plan. They were designated as a Firewise Community as well as participating in the Volunteers in Prevention Program (VIP). The VIP program used volunteers to go door to door assessing homes for wildfire risk, they used the Firewise principles to advise homeowners, and even followed up to ensure homeowners had taken steps to reduce their fire risk. The National Fire Protection Agency (NFPA) has some helpful guides on Firewise principles on their website.

Their CWPP came about when the state hired consultants to write a fuel reduction plan for Auburn Lake Trails. The community modified the fuel reduction plan by incorporating their own Firewise measures from their VIP program, and created an even stronger plan for their community. Auburn Lake Trails used this momentum to create a new Resource Management Department which utilized the newly crafted CWPP within its governing structure. The Resources Management Department realized the importance of implementing projects quickly and began by just removing roadside brush. It not only cleaned up the community but showed the importance of acting quickly to reduce the wildfire risk. The Auburn Lakes Trail plan was such a success because it was linked to a broader plan with similar community values, incorporated within a government structure, and carried out quick and easy projects that were highly visible.

A CWPP for the County of San Luis Obispo could easily implement these best practices to ensure a successful plan. This document intends to show how links to other similar plans can help create an even more powerful asset for wildland fire protection.

There are several great resources to consider when creating a CWPP. The resources used to influence this section are listed and linked below.

“Best Management Practices for Creating a Community Wildfire Protection Plan”

[https://www.nrs.fs.fed.us/pubs/gtr/gtr\\_nrs89.pdf](https://www.nrs.fs.fed.us/pubs/gtr/gtr_nrs89.pdf)

“Community Guide to Preparing and Implementing a Community Wildfire Protection Plan”

[https://www.forestsandrangelands.gov/communities/documents/CWPP\\_Report\\_Aug2008.pdf](https://www.forestsandrangelands.gov/communities/documents/CWPP_Report_Aug2008.pdf)

“Preparing a Community Wildfire Protection Plan - *A Handbook for Wildland-Urban Interface Communities*”

<https://www.forestsandrangelands.gov/communities/documents/cwpphandbook.pdf>

## CHAPTER THREE

### Local Hazard Mitigation Plans

Hazard mitigation planning is done in an effort to reduce the loss of life and property from disasters. This kind of planning is undertaken by State, tribal and local governments and is the act of identifying risk and vulnerability of communities when it comes to natural disasters. Local Hazard Mitigation Plans (LHMP's) help develop long-term strategies to protect the loss of life and property from natural disasters. Mitigation strategies can help save lives by analyzing risk and vulnerability and taking actions before a disaster occurs in order to hopefully reduce the damage of a hazardous event. A Community Wildfire Protection Plan essentially aims to do the same thing by mitigating the impacts of a disaster, in this case just concerning wildfire. LHMP's should have a section regarding wildfire and therefore can be a helpful document when creating a CWPP.

### Local Hazard Mitigation Plans in San Luis Obispo County

Each of the seven incorporated cities in San Luis Obispo County has a LHMP. There is also a LHMP for the entire County and the unincorporated city or district of Cambria as well as shown in Table 1. While each plan may approach the issues in each community differently, when it comes to wildfire they all essentially have the same information about their community. Each plan typically covers:

- Nature - Weather, topography, fuels
- Fire severity - low - very high (if a wildfire occurred how severe would it be)
  - Also including fire severity zone maps (parts of the community in each severity zone)
- Probability - low to very high (given the conditions, how likely is a wildfire to occur)
- Fire history - past fires in the area
- Cascading effects (soil erosion, downed power lines, loss of property, etc...)
- Critical facilities and infrastructure (list of structures and infrastructure in each fire severity zone)
- Population and building stock (list of residential units in each fire severity zone)
- Mitigation goals, objectives, and actions
- Monitoring, evaluating, updating
- Implementation through existing planning mechanisms
- Related planning documents
- Funding sources

- Implementation responsibility
- Timeline
- Priority
- Fire Hazard Severity Map (found in the appendix)

In this section the information regarding fire from several different LHMP's in the county is outlined. The format of each plan generally follows the outline above and each sub-heading contains key points for fire in that community. The wealth of knowledge for each community may seem too specific for a countywide CWPP, however, important information will be used to make suggestions in the recommendations section of this document.

**Table 1: LHMP Status in San Luis Obispo County**

<b>Jurisdiction</b>	Arroyo Grande	Atascadero	Cambria CSD	Grover Beach	Morro Bay	Paso Robles	Pismo Beach	San Luis Obispo
<b>Date of LHMP or Most Recent Update</b>	2015	2014 (draft)	2017	2015	2006	2016	2007	2014

### **Multi-Jurisdictional Local Hazard Mitigation Plan - Arroyo Grande (2015)**

<http://www.arroyogrande.org/DocumentCenter/Home/View/3857>

**Severity** - Medium

**Probability** - Low

**Impact and Vulnerability** - The California Department of Forestry and Fire Protection (CDF) or CAL FIRE determines Fire Hazard Severity Zones which is required by law. There are three Fire Hazard Severity Zones (medium, high, and very high) which are based on fuel, topography and weather. Some critical infrastructure is within moderate fire hazard severity zones but any areas that have been determined to be vulnerable have been mitigated and therefore not seen as at risk. Most of the residential units in the city are within the high fire severity hazard zone. If a catastrophic fire started in the county area and spread to Arroyo Grande the fiscal impact to the city could exceed \$5 million.



**Capability Assessment** - The plan lists regulatory tools, personnel resources, financial resources, and agencies with potential programs or grants related to hazard mitigation. This could be useful to show what other documents are related to hazard mitigation.

## **Mitigation**

**Goal 3** - Minimize the level of damage and losses to people due to Wildland and Structure Fires.

**Objective** - Educate the public to maximize compliance with Fire Safe Community guidelines.

**Mitigation Project** - Create a Fire-Smart Community by developing a comprehensive approach to reducing damage and loss due to fires.

## **Proposed Actions**

- Encourage the 100' Defensible Space around structure in the WUI
- Continue weed abatement program
- Enforce building codes and ordinances that eliminate the use of wood shake roofs
- Enforce codes and ordinances that require fire sprinkler systems in all new structures constructed

**Environmental concerns** - Riparian habitats

**Implementation Responsibility** - Fire Department, Community Development

**Timeline** - 5 years

**Funding** - California Fire Safe Council, General Fund, Fire prevention Grant, PDM Grant, Staff time

**Resources required** - TBD

**Priority** - High

## **2013-2017 Mitigation Action Schedule**

2013 - Develop comprehensive Fire Prevention program

2014 - Apply for grant funding

2015 - Commence education and action programs

2016 - Monitor and record effectiveness of Mitigation Actions

2017 - Evaluate effectiveness of Mitigation Actions

## **Multi-Jurisdictional Local Hazard Mitigation Plan - Grover Beach (2015)**

<http://www.arroyogrande.org/DocumentCenter/Home/View/3857>

**Severity** - Medium

**Probability**- Low

**Impacts and Vulnerabilities** - Due to the location on the coast away from vegetated hills there is no significant wildfire hazard in Grover Beach. There are some light fuels within the city but with high humidity levels and cool temperatures these fuels do not represent a wildfire risk.

**Capability Assessment** - The plan lists regulatory tools, personnel resources, financial resources, and agencies with potential programs or grants related to hazard mitigation. This could be useful to show what other documents are related to hazard mitigation.

**Goal** - Minimize the level of damage and losses to people due to Wildland and Structure Fires.

**Objective** - Educate the public about Wildland and Structure fire dangers.

**Mitigation Project** -Create a Fire-Smart Community by developing a comprehensive approach to reducing damage and loss due to fires.

### **Proposed Mitigation Actions**

- Encourage the 100' Defensible Space around structures in the WUI
- Continues weed abatement program
- Enforce building codes and ordinances that eliminate the use of wood shake roofs
- Enforce codes and ordinances that require fire sprinkler systems in all new structures.

**Environmental concerns** - Riparian habitats

**Implementation Responsibility** - Fire Department

**Timeline** - 5 years

**Funding** - California Fire Safe Council, Fire Prevention Grant Funding, PDM Grant, General Funds, Capital Improvements funds, staff time

**Resources required** - TBD

**Priority** - Medium

## **2013-2017 Mitigation Action Schedule**

2013 - Develop comprehensive Fire Prevention program

2014 - Apply for grant funding

2015 - Commence education and action programs

2016 - Monitor and record effectiveness of Mitigation Actions

2017 - Evaluate effectiveness of Mitigation Actions

## **Impact to Vulnerable Structures and Infrastructure**

## **Atascadero Local Hazard Mitigation Plan**

[http://www.atascadero.org/files/FD/2014\\_07\\_24\\_Atascadero\\_LHMP\\_FINAL\\_DRAFT.pdf](http://www.atascadero.org/files/FD/2014_07_24_Atascadero_LHMP_FINAL_DRAFT.pdf)

**Nature** - no specific information regarding nature of fire for Atascadero

**Disaster History** - Highway 41 fire in 1994 burned 49,000-acre fire burned from the western side of Atascadero to Morro Bay.

## **Table of Significant Fires in SLO County**

**Location, Extent and Probability of Future Events** - The wildland fire hazard areas are shown on the map. These areas have been determined by the Fire and Resource Assessment Program fuel rank model. The model takes into account slope, fuel model, and the ladder or crown of the fuel present to determine the areas susceptible to wildland fire. Ladder fuel refers to bushes or shrubs that bridge the gap from surface level fire acting as a ladder for fire to reach higher fuels in the crown or canopy of larger shrubs or trees. Using the model, the southwestern portion of Atascadero is at the greatest risk to fire because it is in the WUI.

**Cascading Effects** - Wildland fires can destroy ground cover which leads to a number of cascading effects such as flash floods, heavy erosion and mudflows.

- **Effects on people and housing** - loss of life and property
- **Effects on commercial and industrial structures**
- **Effects on infrastructure** - depletion of water reserves, downed power lines, disrupted telephone service and blocked roads. Burdened flood control facilities if ground cover is completely destroyed
- **Effects on agriculture** - loss of animals and crops, damage to soil and water can have lasting impacts on agriculture

## **Asset Inventory**

- **Population and Building stock**
- **Critical Facilities and Infrastructure**

## **Potential Wildland Fire Vulnerability Assessment**

### **Population and Buildings**

- Very High - 332 people, 52 residences
- High - 11,008 people, 4,612 residences, 15 non-residential structures
- Moderate - 12,609 people, 3,732 residences, 67 non-residential structures

### **Critical Facilities**

- Very high - 0 facilities
- High - 16 facilities
- Moderate - 20 facilities

### **Critical Infrastructure**

- Very high - .1 miles of highway, .13 miles of city arterials, 0 bridges
- High - 3.779 miles of highway, 8.657 miles of city arterials, 4 bridges
- Moderate - 14,569 miles of highway, 14.457 miles of city arterials, 10 bridges

**Goal** - Reduce the possibility of damage and losses due to wildland fires.

**Objective** - Maintain and broaden current Wildland Fire protection.

### **Proposed Mitigation Actions**

- Continue to educate public on wildland fire safety.
- Continue the enforcement of the Weed Abatement Ordinance.
- Maintain and revise, where appropriate, the Community Wildland fire Plan.
- Research emerging fuels management programs and implement where appropriate
- Continue fuel load reductions program by annual control burns in the WUI impacting the city

**Environmental considerations** - Follow all CEQA regulations where appropriate

**Implementation responsibility** - Fire Departments

**Timeline** - Ongoing

**Funding source** - California Fire Safe Council, General Fund, Fire Prevention Grants, PDM grants

**Resources required** - TBD

**Priority** - High

## Schedule of Mitigation Actions

- Ongoing continuation from previous LHMP
- Monitor, record, and evaluate effectiveness of Mitigation Actions annually

## Morro Bay Local Hazard Mitigation Plan - 2006

[http://www.hazardmitigation.calema.ca.gov/docs/lhmp/Morro\\_Bay\\_City\\_of.pdf](http://www.hazardmitigation.calema.ca.gov/docs/lhmp/Morro_Bay_City_of.pdf)

**Severity** - Medium

**Probability** - Low

### Nature

- **Topography** -General lay of land features are described and how they can contribute to fire hazard. There is no information about specific conditions in Morro Bay.
- **Weather** - The average rainfall is between 20-25 inches per year mostly occurring between November and April. The summer months are generally cool with high humidity and fog. The wind in this area is predictable usually moist breezes from the ocean. In the *fall* there tends to be warmer and drier days increasing fire threat.
- **Fuel** - List of fuels with either moderate, high or very high risk indicated.

**History** - The largest fire within the boundary of Morro Bay was seven acres.

**Future Probability** - The mild climate of Morro Bay drastically reduces fire threat. There is only a small portion of WUI in the city. There are medium Fire Hazard areas along the edge of the city, as well as neighborhoods near the state park and Black Hill with heavy fuels, dying trees from disease and older homes with wood roofing and siding. Under the right conditions these areas do have the potential for a wildland fire. Some of the risk for a large wildland fire is mitigated by grazing cattle on the edge of the city. The overall probability of a wildland fire is low.

**Related Hazards and Cascading Effects** - There are no specific related hazards or cascading effects discussed relating to Morro Bay.

**Risk Assessment Conclusion** - The probability is low and the severity is medium.

**Hazards Impact to Vulnerable Structures** - None threatened by wildland fire.

**Goal 6-** Minimize the level of damage and losses to people, existing and future critical facilities and infrastructure due to wildland fires.

## Objectives

- **Objective 6.1** - Develop a comprehensive approach to reducing the level of damage and losses due to wildland fires.
- **Objective 6.2** - Protect the improved property, natural resources and life vulnerable to the effects of wildland fires.
- **Objective 6.3** - Educate the public about wildland fire dangers and mitigation measures.

## Mitigation

- **Action 6.A** -Work with the San Luis Obispo County Fire Safe Council to initiate fuel thinning and chipping projects in the Black Mountain and within the City limits.
  - Responsible department - Fire Department
  - Priority - medium
  - Funding - Grant
  - Completed 07/01/08
- **Action 6.B** - Continue to support the City's weed abatement program.
  - Responsible department - Fire Department
  - Priority - medium
  - Funding - none required
  - Ongoing
- **Action 6.C** - Continue to enforce codes and ordinances that eliminate the use of wood shake roofs.
  - Responsible department - Fire Department, Community Development
  - Priority - medium
  - Funding - none required
  - Completed 07/01/08
- **Action 6.D** -Develop codes and ordinances that require fire sprinkler systems in all new structures built in the wildland urban interface areas of the City.
  - Responsible department - Fire Department, Community Development
  - Priority - medium
  - Funding - none required
  - Completed 07/01/08

## Paso Robles Local Hazard Mitigation Plan - 2016

<http://www.prcity.com/government/pdf/LHMP-Feb2016.pdf>

**Nature** - No specific information describing nature of fires in Paso Robles. There are wildland fires, interface or intermix fires, firestorms, prescribed fire and prescribed natural burns.

**History** - There have been ten fires within a 25-miles radius of the city limits that have burned more than 10,000 acres. There have been two wildland fires within the city limits.

- **1994** - 200 acres of vegetation burned
- **2013** - 65 acres of vegetation burned

**Location** - The central, western and southern areas of the city are within a high fire hazard severity zone. The northeastern part of Paso Robles is within a medium fire hazard severity zone. These areas are within the Local Responsibility Area while there is State Responsibility Area with a high fire hazard near the city.

**Extent** – CAL FIRE’s Fire Severity Zone Maps show that 6.4 square miles of land within Paso Robles is located in a high fire hazard zone while 3.59 square miles are within a moderate fire hazard area. There is only .54 square miles of land in the high fire hazard area within the sphere of influence.

**Probability of Future Events** - Small grass fires are expected in Paso Robles annually. The Central Coast is likely to have one wildfire over 10,000 acres every ten years based on previous fire history.

### Exposure Analysis - Population and Residential Buildings

- **Moderate Wildfire Severity** - City limits
  - Population - 4,475
  - Residential buildings - 1,754
- **Moderate Wildfire Severity** - Sphere of influence
  - Population - 1
  - Residential buildings - 0
- **High Wildfire Severity** - Sphere of influence
  - Population - 115
  - Residential buildings - 49

**Critical Facilities** - An extensive list of all critical facilities and whether they are in a moderate or high severity zone.

## Summary of Impacts

- **City Limits**
  - **High fire hazard severity** - 6.4 square miles (33%)
    - Population - 8,860
    - Residential buildings - 3,383
    - Critical facilities - 16
  - **Moderate fire hazard severity** - 3.59 square miles (18.5%)
    - Population - 4,475
    - Residential buildings - 1,754
    - Critical facilities - 22
- **Sphere of Influence**
  - **High fire hazard severity** - .54 square miles (60.3%)
    - Population - 7
    - Residential Buildings - 3

## Financial Resources

- **State**
  - CAL FIRE directs fund from FEMA, BLM, U.S Forest Service for wildfire emergency and mitigation funding, except for HMGP and PDM grant programs. For wildfire emergency and mitigation.
  - The California Fire Safe Council is in charge of state and federal money for wildfire mitigation and encourages grass-roots movements to protect the built-environment.
- **Federal**
  - The Assistance to Firefighters Grant Program - FEMA and the U.S Fire Administration provide equipment, protective gear, emergency vehicles, training and other resources in order to protect public and emergency personnel from fire.

## Legal and Regulatory Resources for Hazard Mitigation (relating to fire)

- City of El Paso de Robles General Plan
- City of El Paso de Robles Growth Emergency Services Growth management Plan
- City of Paso Robles Municipal Code

## Current, Ongoing, and Completed Hazard Mitigation Projects and Programs

- **Weed Abatement Program** - This program is designed to keep the city fire-safe by ensuring that yards and larger land parcels are cleared of combustible weeds and debris. Each year, owners of these properties must



have all weeds moved or otherwise removed to lessen the fire hazard from June 1 through November 1. It can be expanded to include more stringent measures as needed. (2010-present)

### **Mitigation Action Plan**

- **Action 1** - Integrate the hazard analysis and mitigation strategy into the General Plan's Safety Element.
- **Action 11 (priority)** - Create a new vegetation management program that provides vegetation management services to elderly, disabled, and/or low-income property owners who lack the resources to remove flammable vegetation from around their homes. *Ongoing, annually.*
- **Action 12 (priority)** - Implement a fuel modification program for new construction by requiring builders and developers to submit their plans, complete with proposed fuel modification zones, to the Community Development Department/Department of Emergency Services for review and approval prior to beginning construction. *Ongoing.*
- **Action 13** - Create a GIS based pre-application review for new construction and major remodels in hazard areas, such as high wildfire severity zones, moderate landslide susceptibility areas, and dam failure inundation zones.

### **Pismo Beach Local Hazard Mitigation Plan - 2007**

<http://www.pismo-beach.org/DocumentCenter/Home/View/285>

**Nature** - No specific information regarding nature of fire in Pismo Beach.

**History** - There have only been two small wildland fire within the city limits in a ten year period between 1986 and 1996.

**Location, Extent and Probability of Future Events** - The California Fire and Resource Assessment Program fuel rank model identified the north part of Pismo Beach by Bluffs Drive to be at the greatest risk of a fire. It is part of the WUI. The Spyglass Planning area is also at risk due to heavy landscaping.

### **Population and Building Stock**

- Population - 8,551 (2000 Census)
- Residential buildings - 4,674
- Non-residential buildings - 66

## Potential Hazard Vulnerability Assessment - Population and Buildings

- **Extreme**
  - Population - 2,123
  - Residential buildings - 1,126
  - Non-residential buildings - 13
- **High**
  - Population - 1,905
  - Residential buildings - 1,050
  - Non-residential buildings - 10
- **Moderate**
  - Population - 2,358
  - Residential buildings - 1,242
  - Non-residential buildings - 30

## Critical Facilities and Infrastructure

- **Extreme**
  - Buildings - 12
  - Highways - 3.04 miles
  - Railroads - .347 miles
  - Bridges - 5
- **High**
  - Buildings - 20
  - Highways - 2.399 miles
  - Railroads - .741 miles
  - Bridges - 8
- **Moderate**
  - Buildings - 11
  - Highways - 7.707 miles
  - Railroads - .264
  - Bridges - 5

## Legal and Regulatory Resources Available for Hazard Mitigation

- **Plans** - General Plan Safety Element, Local Coastal Plan
- **Programs** - Fire Safe Council Fuel Management Projects
  - The California Department of Forestry and Fire protection conduct annual controlled burns, chipping and fuel reduction projects.
- **Policies (Municipal Code)**
  - **Fire Control Regulations** - Adopts and enforces the Uniform Fire Code Standards (2000)
  - **Weeds and Rubbish** - Enforces weed and rubbish abatement on both public and private property.

**Goal 10** - Reduce the possibility of damage and losses due to wildland fires.

## Mitigation Actions

- **10.A** - Continue to conduct current fuel management programs and investigate and apply new and emerging fuel management techniques.
  - **Priority** - high
  - **Potential funding** - USFA Grants, HMGP and PDM grants
  - **Timeframe** - ongoing
- **10.B** - Create defensible space guidelines for buildings that are in very high and extreme fire hazard areas.
- **10.C** - Develop and provide funding and/or incentives for defensible space measures (e.g., free chipping day, free collection day for tree limbs).
  - **Priority** - high
  - **Potential funding** - USFA Grants, HMGP and PDM grants
  - **Timeframe** - ongoing

## San Luis Obispo Local Hazard Mitigation Plan - 2014

<http://www.slocity.org/home/showdocument?id=6345>

**Nature** - No specific information regarding nature of fire in San Luis Obispo

### History

- **1985 - Las Pilitas Fire** - Burned eastern edge of San Luis Obispo destroying structures and evacuations.
- **June 28, 2013 Highway 101 Fire** - small grass fire
- **July 9, 2013 Men's Colony Fire**
- **July 16, 2013 Cerro San Luis Fire** - one acre burned near base
- **August 27, 2013 Bowden Ranch Fire** - small brush fire

**Location** - San Luis Obispo has a more significant fire risk than most cities in the county due to the foothills of the Irish Hills and Santa Lucia mountains. The peaks of Cerro San Luis, Bishop Peak, Chumash Peak, and Islay Hill also present a fire hazard. A majority of the community is located within a mile of either a very high or high fire hazard severity zone.

The Safety Element of the General Plan recognizes and addresses fire risk in a few ways with a single policy. Policy 3.1 does not allow subdivisions in the Very High Fire Hazard Severity Zone. The city Chief Building Official is responsible for approving development plans that are needed for existing parcels to ensure management of fuels, a maintained buffer zone and overall adequate fire protection. Development plans for existing parcels must also be compliant with the Conservation, Open Space and Safety Element of the General Plan.

San Luis Obispo is regarded as a “Community at Risk” for wildfire. The San Luis Obispo Fire Prevention Code says that all areas within the city limit are under certain regulations when it comes to high fire risk zones. One specific regulation is requiring fire resistant roofing materials because some buildings in the city still have wood shake roofs.

**Extent** - no information on extent of fires specific to San Luis Obispo

**Probability of Future Events** - The likelihood of a major wildland fire of 10,000 acres in the area surrounding the city is about one fire every four years. No major wildland fires are expected to occur within the city limits.

#### **Key Assets Fire Hazard Severity Potential**

- **Very high (LRA)** - 1
- **Moderate (SRA)** - 60 (including SLO Airport, bridges, reservoirs, a pump station, water tanks, water treatment plant and buildings at Cal Poly)

#### **Key Infrastructure Fire Hazard Severity Potential**

- **Very high (LRA)** - 1,125 linear feet (including sewer system, water system, and storm water infrastructure)
- **High (SRA)** - 7,365 linear feet (including essential public roads, water system, railroad and storm water infrastructure)
- **Moderate (SRA)** - 195,041 linear feet (including fiber optic network, critical roads, essential public roads, sewer system, water system, railroad and storm water infrastructure)

**Goal 2** - Reduce the severity of damage and losses due to natural and human caused hazards

**Objective 2.A** - Protect and enhance, as practical, existing assets, as well as any future development, from the effects of natural and human caused hazards.

#### **Mitigation Actions**

- **2.A1** - Continue to enforce local codes, ordinance, and standards pertaining to safe development and resiliency to natural and human caused hazards. (modified from 2006 LHMP)
- **2.A.8** - Continue to conduct current fuel management programs and investigate and apply new emerging fuel management techniques. (valid from 2006 LHMP)
  - **Priority** - high
  - **Potential funding** - FEMA and Fire Safe Council grants
- **2.A.9** - Require an enhanced fire protection plan in Local Very High Fire Severity Zones. (valid from 2006 LHMP)

- **2.A.10** - Enhance partnerships with CAL FIRE and local Fire Safe Council for fuel reduction efforts. (new)
- **2.A.11** - Support ongoing urban forest maintenance and tree trimming programs. (new)
- **2.A.12** - Add gas pipeline mapping to the City's GIS resources. (new)

## Cambria Local Hazard Mitigation Plan - 2017

<http://www.cambriacsd.org/assets/cambria-lhmp-master.pdf>

**Severity** - Very high

**Probability** - High

**History** - Typically fires in San Luis Obispo County occur away from coastal areas. Some fires have started near Lake Nacimiento and advanced towards Cambria but ultimately stopped by the Santa Lucia Range. There have been two significant fires in areas very similar to Cambria that showcase some of the potential dangers Cambria faces. The Morse fire burned 190 acres in Pebble Beach, Monterey County. It burned into a Monterey Pine forest in a WUI community just like Cambria. The fire destroyed 31 structures and injured 18 people.

**Risk Assessment** - To calculate the risk the topography, weather and fuels of the area are taken into account.

- **Topography** - In the Community Service District there are several steep hillsides and inaccessible canyons as well as the small slope of the marine terrace. The steep slopes in Cambria is almost all developed with homes. The two business districts are also on gently sloped area. Both the business districts and the residential homes are all within WUI area.
- **Weather** - The average rainfall for the area is about 29 inches in the District with 39 inches in the mountains. This rainfall happens mainly between November and April. The summer months are relatively cool with high humidity and fog. The wind mainly flows to the Northwest in spring and summer. Fall can be warm and dry. The greatest threat of fire spreading in Cambria comes from strong winds from the Northwest to the East quadrants.
- **Fuels** - The fuels are classified in three fire hazard severity ranks; moderate (grass), high (grass) and very high (brush, timber).
  - Since the establishment of the community in 1860 fire suppression activities have led to astounding amounts of dead and live fuel that otherwise would not be there due to natural fires.
  - **Tree mortality** - Pine Pitch Canker is a disease that has severely affected the Monterey Pines in the community. The spread of the disease was intensified with the onset of drought starting in 2012.

By 2014 mortality in Monterey Pines was up to 70%. This significantly increases the fuel problem in Cambria.

### **Ordinances and Regulations**

- California Fire Code
- Wildland Urban Interface Code
- California Health and Safety Code and the California Building Code
- Public Resources Code (PRC) and Title 14 of the California Code of Regulations
- San Luis Obispo County General Plan Safety Element and Land Ordinance

### **Preparedness Programs**

- **Cambria FireSafe Focus Group**

### **Mitigation Projects**

- **Completed**
  - Community wide chipping (annually since 2000)
  - PG&E Grant to maintain and enhance Bridge Street Fuel Bank
  - Hillside hazardous fuel reduction in Rodeo Grounds portion of Fiscalini Ranch Preserve
  - Cambria CSD has installed emergency evacuation road across the Fiscalini West Ranch to ensure that Park Hill, Seacliff Estates, Marine Terrace and West Lodge Hill residents have an alternate escape route and First Responders have a secondary means of ingress and egress.
  - Emergency Access Road across the Fiscalini Ranch West
  - Hydrant installed adjacent to the south end of the Emergency Access Road on the Fiscalini West Ranch to be used as a helicopter water supply and general water supply for combating wildfires.
- **Projects Underway**
  - CAL FIRE Greenhouse Gas Fund Grant (Salvage harvest dead and dying trees)
  - Strawberry Canyon, Greenspace - The Cambria Land Trust (fuel reduction)
  - Cambria Highway 1 - fuel reduction
  - Cambria Community Chipping
  - Public Safety Hazard tree removal throughout community
  - Monitoring measurement of forest health restoration
  - Community Fire Safe Fair 2016 West States WUI Grant
  - CAL FIRE Tree Mortality Grant

- **Grant in process** - Greenhouse Gasification Biomass Plant (CCSD Applicant with Fire Safe Council Support)
- **Ongoing Work (non-grant funded)** - To benefit the community CAL FIRE and California Conservation Corps work with Cambria CSD staff and property owners to make fire defense improvements, mostly funded through State of California Fire Prevention fees (SRA fees). Some of these projects are:
  - The Bridge Street Fuel Break
  - CAL FIRE hand crews provided clearance in the CSD owned Fiscalini Ranch Preserve, Strawberry Canyon owned by Greenspace, and privately owned Covell Ranch.
  - Defensible space compliance inspections of 100% of applicable properties in Cambria.

### **Management Plans and Studies**

- Statewide Pine Pitch Canker Task Force
- Cambria Forest Management Plan
- CAL FIRE Unit Fire Prevention Plan
- The Cambria Community Wildfire Protection Plan

**Relationship to Other Hazards and Cascading Effects** - no specific information to Cambria

**Risk Assessment Conclusion** - The fuels and topography of Cambria pose as a significant threat of wildfire. However, the coastal weather reduces the probability of a wildfire. The overall probability is high while the severity is very high considering the potential for loss of human life and economic loss.

### **Critical Facilities and Infrastructure at Risk from Wildfire - 12**

#### **Physical Assets**

- Cambria Fire Department
- CAL FIRE

**Goal 2** - Ensure that future development is protected from natural disasters.

#### **Objective**

- **2** - Limit new development in hazardous areas. As permissible, link the CSD Buildout Reduction Program to eliminate potentially threatened building sites. Build to standards that will prevent or reduce damage from naturally occurring events.

- **C** - In order to better protect life and property, continue to develop a more accurate and comprehensive series of maps and data sets that pertain to the District's earthquake, wildfire, tsunami and flood threats.
  - Priority - medium
  - Timeframe - ongoing
  - Funding - general funds

**Goal 3** - Build and support local capacity and commitment to minimize the District's vulnerability to potential naturally occurring hazards.

### **Objective**

- **3.1** - Improve existing capabilities of the CCSD staff to manage emergency situations
  - **H** - Study ways to improve the existing automatic aid and mutual aid agreements with CAL FIRE and neighboring first responders.
    - Priority - low
    - Timeframe - 01/01/18
    - Funding - none required
- **3.2** - Enhance the safety of CCSD residents and staff
  - **B** - Train CERT team members in a Fire Watch program when a Red Flag warning is issued by the National Weather Service.
    - Priority - high
    - Timeframe - 07/01/17
    - Funding - none required
  - **E** - Increase the water storage of the District to ensure service for both fire protection and domestic consumption.
    - Priority - medium
    - Timeframe - ongoing
    - Funding - general funds and grants
  - **F** - Improve the "purple pipe" recycled water system along Moonstone Drive so that it may be utilized for fire protection.
    - Priority - low
    - Timeframe - ongoing
    - Funding - general fund and grants
- **3.5** - Maintain a current fire department staffing levels as afforded by the SAFER grant
  - **A** - Study and pursue funding sources to staff the fire department to a level of 4 firefighters 24 hrs. X 365 days.
    - Priority - high
    - Timeframe - 07/01/17
    - Funding - general fund and grants



- **B** - Promote firefighter training and involvement in the California Mutual Aid System as single resources. (Note: Potential funding source for fire department staffing.)
  - Priority - high
  - Timeframe - 07/01/17
  - Funding - none required

**Goal 5** - Minimize the level of damage and losses to people, existing and future critical facilities and infrastructure due to wildland fires.

## Objective

- **5.1** - Continue the comprehensive approach to reducing the level of damage and losses due to wildland fires through vegetation management, code enforcement, GIS mapping, and planning processes.
  - **A** - Prevent wildfires through code enforcement efforts by working with Engine Company Captains to increase the education and enforcement of California Health & Safety Code Section 14875 and International Property Maintenance Code Section 302, in collaboration with the CAL FIRE enforcement of Public Resource Code 4291.
    - Priority - high
    - Timeframe - ongoing
    - Funding - none required
  - **B** - In order to assist fire prevention efforts and to better manage large fires when they occur, continue to improve GIS mapping and tracking efforts by gathering and maintaining relevant GIS data layers and imagery and utilizing the best available mapping applications and software.
    - Priority - high
    - Timeframe - ongoing
    - Funding - none required
  - **C** - Collaborate with property owners and regulatory agencies in order to utilize prescribed fire on private and state owned lands in the County areas that surround the District.
    - Priority - high
    - Timeframe - ongoing
    - Funding - none required
  - **D** - Work with the CCSD, Fire Safe Council, Green Space, Cambria Focus Group, and the Cambria Forest Committee to reduce the wildfire threat by:
    - Supporting the ongoing aggressive efforts to reduce the fuel load problem through a variety of methods such as chipping, forest re-mulching, salvage logging, and hand clearing.
    - Assisting in identifying and prioritizing treatment areas.

- Investigating additional funding sources for fuel reduction and forest management projects.
  - Updating the Community Wildfire Protection Plans (Both District and County).
  - Enhancing collaboration amongst all fire agencies and stakeholders
  - Support the development of a biomass cogen plant.
    - Priority - high
    - Timeframe - ongoing
    - Funding - none required
- **5.2** - Enhance the ability of CCSD administration and first responders to manage the impacts of a significant wildfire.
  - **A** - Obtain through Fire Safe Council grant funds, a large portable water tank to improve water supply and storage for wildland firefighting. (FOL-DA-TANK style)
    - Priority - high
    - Timeframe - 07/01/17
    - Funding - Fire Safe Grant
  - **B** - Replace an existing Type 3 Water Tender which has reached the end of its service life. (Note: Unit may also provide a funding source when utilized in the CA mutual aid system)
    - Priority - high
    - Timeframe - 07/01/18
    - Funding - grant
  - **C** - Purchase a Type 6 Fire Engine (Brush Unit) so as better provide initial response to wildfires in the District. (Note: Unit may also provide a funding source when utilized in the CA mutual aid system)
    - Priority - high
    - Timeframe - 07/01/18
    - Funding - grant
  - **D** - Work with the District Water Department to improve fire flow, system reliability and redundancy, and improve the existing water supply in the District.
    - Priority - high
    - Timeframe - ongoing
    - Funding - General Fund and grant
  - **E** - Protect water conveyance system by reducing fuels adjacent to Covell and Fiscalini Ranch water tanks..
    - Priority - high
    - Timeframe - 07/01/17
    - Funding - Fire Safe Grant
- **5.3** - Improve forest health in order to minimize the impact of wildland fire.
  - **A** - Implement the Cambria Forest Management Plan and pursue funding to hire a professional Forest Ecologist to manage the forest.

- Priority - high
- Timeframe - 06/01/17
- Funding - General Fund and grant

## Summary and Analysis of Local Hazard Mitigation Plans

The Local Hazard Mitigation Plans described in the previous section all of distinctive similarities as well as their own unique differences. Each has the same overarching goal (reduce the possibility of loss to due wildland fire) and in general they all follow the same format. Although some are obviously more alike than others such as Arroyo Grande and Grover Beach which are both in the same multi-jurisdictional plan. The format of the Atascadero plan seems to have gained inspiration from the multi-jurisdictional plan for formatting. Each plan contains mitigation actions that are specific to that community, however, there is still overlap for certain actions that we see in almost every plan.

The first few plans summarized all contain basic mitigation actions that are seen in each of the plans such as continue weed abatement, enforce building codes, and defensible space guidelines. These are all important mitigation actions but the following plans tend to have more specific and innovative actions. The innovative actions will be discussed in the recommendations section but a couple examples are to collaborate with private landowners and to update both local and county CWPP. These mitigation actions come from Cambria's LHMP which is the outlier of plans included.

The Cambria LHMP was the most unique compared to the other plans and even more comprehensive in material covered. Cambria is an unincorporated city but its plan is the most recent and contains several actions that none of the other plans include. Some of these actions may not be useful in every community but value can still be found in their efforts.

Mitigation actions are arguably the most important part of a local hazard mitigation plan, but successful actions will be based on data and facts. The majority of each LHMP strives to establish the data and facts for that community in order to inform mitigation actions that make sense for the area. Leading up to the action every plan describes fire nature, fire history, plan area, probability of future fire, and often a detailed building and infrastructure asset inventory. Once again, this information is all specific to each community, but the extensive data could prove useful for a county plan.

## CHAPTER FOUR

### Additional Resources

#### Safety Element

The General Plan has seven required elements and one of those is the Safety Element. “The goal of the safety element is to reduce the potential short and long-term risk of death, injuries, property damage, and economic and social dislocation resulting from fires...” (General Plan Guidelines 2017). To reduce the risk the element should contain policies that identify hazards, emergency response, and mitigation projects. “The general plan’s safety element can provide a framework for inserting fire protection and prevention policy requirements in zoning, subdivision, and strategic fire defense ordinances” (General Plan Guidelines 2017). These policies should be the foundation for fire safe ordinances and strategic fire defense system zoning.

California has an ever increasing population which means more and more development. Often new development increases the WUI. An increase in WUI brings along an increase in the associated risks of loss of property, life, natural resources and economic assets. The changing climate also increases wildland fire risk with higher temperatures and drier conditions due to drought. All of these factors led to amendments to the general plan guidelines for safety elements. To address the increasing WUI and emanate fire threat, the safety element requirements for SRA and very high fire hazard severity zones has been changed by Senate Bill 1241. When a housing element is updated (which is required every five years) the safety element must also be updated to address fire risk in SRA and very high fire hazard severity zones. The bill requires that the *Fire Hazard Planning General Plan Technical Advice Series* must be consulted for advice for the update.

Senate Bill 1241 requires cities or counties that are within State Responsibility Area (SRA) to submit a draft of their safety element or any amendments to the State Board of Forestry as well as any local agency that provides fire protection for review. It also requires drafts or amendments to be submitted to those agencies if a city or county contains a very high fire hazard severity zone as defined by subsection I of Section 51177 of the bill (Fire Hazard Planning *General Plan Technical Advice Series* 2015). It must be submitted at least 90 days before adoption or amendment allowing time for comments. San Luis Obispo County does contain SRA and therefore any update to the county Safety Element must be submitted to the State Board of Forestry and local fire protection agencies for comment and review. Also, any city that contains a very high fire hazard severity zone must submit updates and drafts of their safety element to the required agencies.

For San Luis Obispo County, this means that any update or draft to the county safety element must be reviewed by the State Board of Forestry and local agencies providing fire protection, which would include city fire departments and CAL FIRE. There are also cities within the county that contain very high fire hazard severity zones and would need to submit their drafts and updates as well. They may recommend changes to land use policy in SRA and very high fire hazard severity zones to protect life, property and natural resources from wildland fire, as well as methods of fire risk and reduction within these areas. This provides a unique situation where fire authorities can have an influence on land use decisions to help ensure Safety Elements provide the best policies to reduce risk associated with fire.

Another bill, AB 2140 encourages jurisdictions to integrate their federally approved local hazard mitigation plan into their safety element. This allows for consistency within plans fire protection plans. It also allows for local fire protection agencies to have even more influence to local land use issues when regarding fire risk. If there is a safety element that needs to be updated and has integrated an LHMP in a city or county with SRA or very high fire hazard severity zones, then according to SB 1241 that element must be sent to the State Board of Forestry and local agencies for review. Essentially this allows local fire agencies to have influence over these two integrated plans. The *Fire Hazard Planning General Plan Technical Advice Series* advocates for integration or at minimum consistency throughout plans related to fire risk. Although there is no legislation to link a CWPP to an LHMP or safety element, consistency is still key throughout these three plans.

## **The California Fire Plan**

The State Board of Forestry adopted the California Fire Plan in 2010. The plan describes areas at risk of wildfire and ways the state may reduce that risk. It also has adopted fire safe regulations for counties with State Responsibility Areas (SRAs) that can help reduce fuel loads before a fire.

## **Community Planning Assistance for Wildfire (CPAW)**

The Community Planning Assistance for Wildfire comes from a partnership between Headwaters Economics group and Wildfire Planning International. This program provides communities with expertise in land use, forestry, risk assessment, all backed by research to help reduce wildfire risk. Communities are chosen to participate through a competitive application process. If chosen, they receive expertise and suggestions tailored to their specific needs. The outcomes are intended to be linked to other forms of fire risk mitigation such as hazard mitigation plans, Firewise Communities and even community wildfire protection plan.

This program offers expertise and advice from their team of professionals, and then leaves the community to implement. This could be a valuable resources for the

county or individual communities as the team can make suggestions on land use, risk modeling, and help develop community planning policies (perhaps for a CWPP).

## **Firewise USA**

Firewise USA is a program that helps communities create an action plan to guide fire risk reduction while encouraging neighborhood collaboration. The program has a five step process in order to be recognized as a “Firewise community” as listed below.

- Obtain a wildfire risk assessment in writing from the a state forestry agency or fire department
- Form a board or committee to create an action plan based on the assessment
- Conduct a “Firewise Day” event
- Invest a minimum of two dollars per capita in local Firewise actions annually
- Create a Firewise Portal account and submit an application to the state Firewise liaison for recognition

There are a number of benefits for communities that partake in the program listed on the Firewise USA website. The benefits include a framework for action, learning about wildfire, peace of mind, community-building, citizen pride, publicity, and access to funding and assistance. Some of these benefits are self-explanatory but overall the program empowers a community to come together and take action. Firewise communities are better equipped to deal with fire risk reduction because they have taken the necessary steps together, and set their community apart from others. There is no actual funding associated with becoming a Firewise community but they are sometimes given preference due to their initiative.

This is a voluntary program just like the Community Planning Assistance for Wildfire. However, the process is carried out entirely by the community seeking Firewise recognition. There are no outside experts that advise the community although a wildfire risk assessment is needed from state forestry agency or local fire departments. To remain a Firewise community, annual Fire Day events must occur as well as documenting annual investments.

## CHAPTER FIVE

### Interviews

In order to start the collaborative process of the CWPP as required by the HFRA local jurisdictions were asked some basic questions about the use or need of a community wide fire plan. Each person was asked the same questions regarding the CWPP. The interview answers are provided below.

#### Five Cities - Grover Beach, Arroyo Grande, and Oceano Community Service District (OCSD)

##### *What is the value of a CWPP for your community?*

The Five Cities Fire Authority services three communities; City of Arroyo Grande, City of Grover Beach and the Oceano Community Service District.

- Arroyo Grande has some urban interface areas on the east side and I believe the City of Arroyo Grande could find great benefit from the CWPP.
- Grover Beach is mostly surrounded by Arroyo Grande and Oceano, there is a small section of Grover Beach, on the Pismo Beach side, which is exposed to some undeveloped vegetation area and therefore, the City of Grover Beach may find some benefit from the CWPP.
- The Oceano Community Service District (OCSD), has a section which is next to San Luis Obispo County lands and also the State Parks / Beach area, and therefore, the OCSD may find great benefit from the CWPP.

##### *Is there any specific information that a CWPP could provide that would be helpful for the next update of the LHMP?*

- I would like to know how the communities are priorities and what it would take to benefit from this program. Who will be the individual(s) making the ultimate decision on which communities are to benefit.

##### *Is the LHMP integrated into the Safety Element? If not, why?*

- Yes the local hazard mitigation plan is integrated into a safety element. One of the elements is to identify and understand some of the local hazards and how to mitigate the situation as efficiently and effectively as possible. One would be that of a dam failure and the flooding issues. How and who should we safely evacuate, where should we evacuate these folks to

(shelters) and how do we provide them their needs during the time of disaster.

*Does your community have any unique issues regarding fire that a CWPP could potentially help with?*

- The City of Arroyo Grande has some major green belt areas with homes above steep slopes of woodlands.
- The City of Grover Beach is exposed to the natural preserve which borders between the City of Pismo Beach and the City of Grover Beach, there are neighborhoods which back up against this natural preserve, and these homes are exposed to potential fire hazards.
- The Oceano Community Service District has some areas which border county lands, and State Parks area, which exposes some of the Oceano Communities to potential fire hazards.

*Has the drought resulted in the creation of any new problems or intensified problems that need to be addressed?*

- As time went on during the period of drought, the growth of the vegetation has reduced, and each year we perform a weed abatement program which requires property owners to cut their weeds, reducing potential fire hazards as the summer becomes hotter and dryer. As of this year, we are fortunate enough to get some rains, and the precipitation has created more growth in natural vegetation (weeds), and because of this property owners are asking for extensions for having their weeds cut, most of the property owners are having a very difficult time finding contractors to cut their weeds.
- We have several diseased trees within our communities which have been affected by the drought and possibly insects, these trees pose a major fire hazard.
- We have also experienced several large eucalyptus trees falling this year. I believe over the past several years, these large trees have become stressed from lack of water, these trees have very shallow roots and the ground has been very dry. Once the rains began, the soil which have been holding these trees can no longer properly support the tree and its root system, once the winds begin to blow, the trees begin to fall.

*Do you think your community could benefit from participating in a county wide Community Wildfire Protection Plan?*

- Absolutely yes.



## San Luis Obispo

Keith Aggson, the Deputy Fire Chief for San Luis Obispo forwarded questions to the Fire Marshal Rodger Maggio. He responded with an attachment of the City of San Luis Obispo's Strategies and Tactics and response to the last CWPP. These attachments still need to be reviewed, however, they are both included into the City's LHMP as well as Safety Element.

### City of San Luis Obispo CWPP Response:

#### Strategies and Tactics:

##### Pre-Fire Management Strategies and Tactics:

###### Prevention (educational programs)

- Provide information for homeowners on city website.

- Provide public outreach and WUI self-inspection forms to residents in high risk areas.

- Promote wildfire awareness using cable channel 20.

###### Passive Protection (defensible space, fire-resistant construction)

- Enforce annual weed abatement ordinances on private property.

- Adopt recommended Local Very High Fire Severity Zone maps.

- Amend local building and fire codes to require elements of ignition resistant building materials and methods city-wide.

###### Fire suppression

- Identify water supply and access to WUI areas.

- Promote wildland and wildfire structure protection training opportunities for emergency responders.

- Provide and maintain appropriate firefighting apparatus in a state of operational readiness.

- Support existing Automatic and Mutual Aid agreements.

###### Fuel Bed Management (particularly in WUI)

- Require annual mowing of light vegetative fuels in open space areas within 100 feet of at risk neighborhoods.

- Promote grazing in city open-space areas where appropriate.

Identify properties where prescribed burning and/or mastication fuel modification can be utilized.

Provide shaded fuel breaks in eucalyptus groves in city-owned open space.

Identify vegetative communities

Provide vegetation surveys of each city-owned open space.

Establish vegetation maps for each open space area.

Establish a base for evaluating fuels

Maintain a database of fuel management projects and visits sites annually to determine an appropriate rotation period.

Evaluate hazards generated by these fuels in combination w/ other factors (fuel type, slope, etc.)

Methodology for analyzing assets as risk (AAR), and rank based on potential impacts of a large fire event

Evaluate places based on high value and high risk

Ensure adequate funding for fuel modification projects by actively pursuing grant opportunities.

There are several good ideas provided here to be considered for a county community wildfire protection plan.

## **Bob Neuman - Category Five Consultants - Cambria LHMP**

Bob was involved with writing the Local Hazard Mitigation Plan for Cambria. The plan has just been finished in collaboration with the Cambria Community Service District and the Cambria Community Healthcare District. Although I had some questions prepared for Bob he just wanted to start off by telling me some things he thought was important for a CWPP.

First we talked about Local Hazard Mitigation Plans for different communities. He explained how a city like Grover Beach, which has no real wildland fire threat, does not need an elaborate section on fire hazard. A community such as Cambria on the other hand with large stands of trees affected by disease and drought is much more vulnerable to a wildland fire. The LHMP for Cambria goes into much more detail with long range planning that details needs for more equipment, fuel reduction projects, prioritization, etc.

He also talked about the importance of stakeholder involvement pertaining to a CWPP and how it was not as important for a LHMP. He said that while he was writing mitigation actions in the LHMP for Cambria he was not particularly

concerned with stakeholder involvement as he was with just addressing the needs of the community. He transitioned into saying that stakeholders are vital for CWPP's in order to receive funds. As an example, when applying for a grant for a project in the Los Osos CWPP, the funding agency asked some questions regarding environmental issues that required consultation with a biologist. However, the biologist had already been contacted and signed off on the CWPP which sped up the funding process. This stressed the importance of involving stakeholders early on to sign off on the plan. The more "buy in" from agencies and stakeholders the easier it is to get grants.

Bob was asked if he thought Cambria would benefit from a county CWPP. He seemed to think that a county plan would not benefit Cambria in a major way but it would update the CWPP for Cambria in a way.

## CHAPTER SIX

### Conclusion

The intent of this section is to make recommendations for a county community wildfire protection plan based on the materials reviewed in previous sections. The three required steps for a CWPP in short are collaboration, prioritized fuel treatments, and recommendations to reduce structural ignitability. The plan can be broken down into three sections: process, analysis and action. The case studies, interviews, plans, and programs can be used to guide CWPP development in each of these sections.

### Process

The LHMPs and the Safety Element are both great sources to utilize for a CWPP for the analysis and action parts of the plan (for simplicity, it is assumed the LHMP is integrated into the Safety Element for these examples according to AB 2140). They already have a wealth of necessary data and subsequent actions that can be useful for a community plan. But they lack the collaborative approach a CWPP strives for. While some have actions to “enhance partnerships with local fire authorities”, a local hazard plan relies on a more technical or “top-down” approach. Meaning that the plan is created for a community, but not necessarily by a community. As seen from the case studies, a CWPP can be developed from a much more “bottom-up” approach, where members of a community come together to create a plan with the help of knowledgeable professionals. Of course the professional experience is still needed to create a successful plan, and this is where an LHMP, Safety Element, and other programs can come into play, to guide the development of a community plan.

To start the collaborative process a community must first recognize their need for a CWPP. This can happen from motivated individuals or even professionals approaching a community. A good way to spur on community involvement is to partake in programs such as Firewise USA and Community Planning Assistant for Wildfire. Both of these programs encourage community planning for wildfire protection and even make reference to utilizing documents such as a CWPP. Involvement in either of these programs could require community collaborations and could spur on the collaborative process needed for a CWPP. These programs could also come about as a result of an action plan from a LHMP or CWPP. The Cambria LHMP has a mitigation action to help update the county CWPP. Each jurisdiction could have this as a goal as well as encouraging enrollment in CPAW and Firewise.

## **Analysis**

The second requirement for a CWPP is that it must prioritize fuel reductions. Before this can happen there must be knowledge of where and how fuel treatments should happen. This is where the data from an LHMP can come in handy. Each LHMP already has information on fire history, nature of fire, and some plans even identify WUI areas and fuels in the area. Some plans did a better job than others but a community plan can use this information to prioritize fuel treatments where it is needed most.

A CWPP can help a community identify and define the WUI in their area. Again this is information that can be utilized from LHMPs. Some of them already describe the WUI, but none of them attempted to visually show the wildland urban interface. A visual representation of these areas in each community may prove to be very helpful for prioritizing fuel treatments.

Local knowledge is also a very valuable asset for prioritizing fuel reduction. A hazard plan can detail information on fire history and programs like CPAW can even help with risk modeling to determine locations for fuel treatments, but firefighters who have worked in the county for years should have extensive knowledge of fire history. Experienced fire officials can recall how and where fires have occurred all over SLO County and should be included in the planning process.

## **Action**

The last requirement for a CWPP is the recommendations to reduce structural ignitability or the action part of the plan. A common way to reduce structural ignitability is to enforce defensible space guidelines which are already encouraged throughout the county. Each LHMP encourages defensible space guidelines along with enforcing building codes already in place through mitigation actions. The CWPP can use these actions to reference necessary building codes and help further encourage these methods to reduce structural ignitability. Many actions from the LHMPs called for increased building standards within the WUI such as eliminating wood shake roofs and requiring fire sprinkler systems for new construction. These are all methods that a CWPP can borrow to reduce structural ignitability.

## **Recommendations**

After reviewing local hazard mitigation plans, informational guides, case studies, and conducting interviews recommendations can be made for developing a Community Wildfire Protection Plan. Some recommendations are mitigation actions taken from different LHMPs while others are best practices and ideas gathered from guides, programs and interviews. While these actions may have been created with specific communities in mind, they can serve as

recommendations for fire safety county wide. The recommendations are presented in a list below in no particular order.

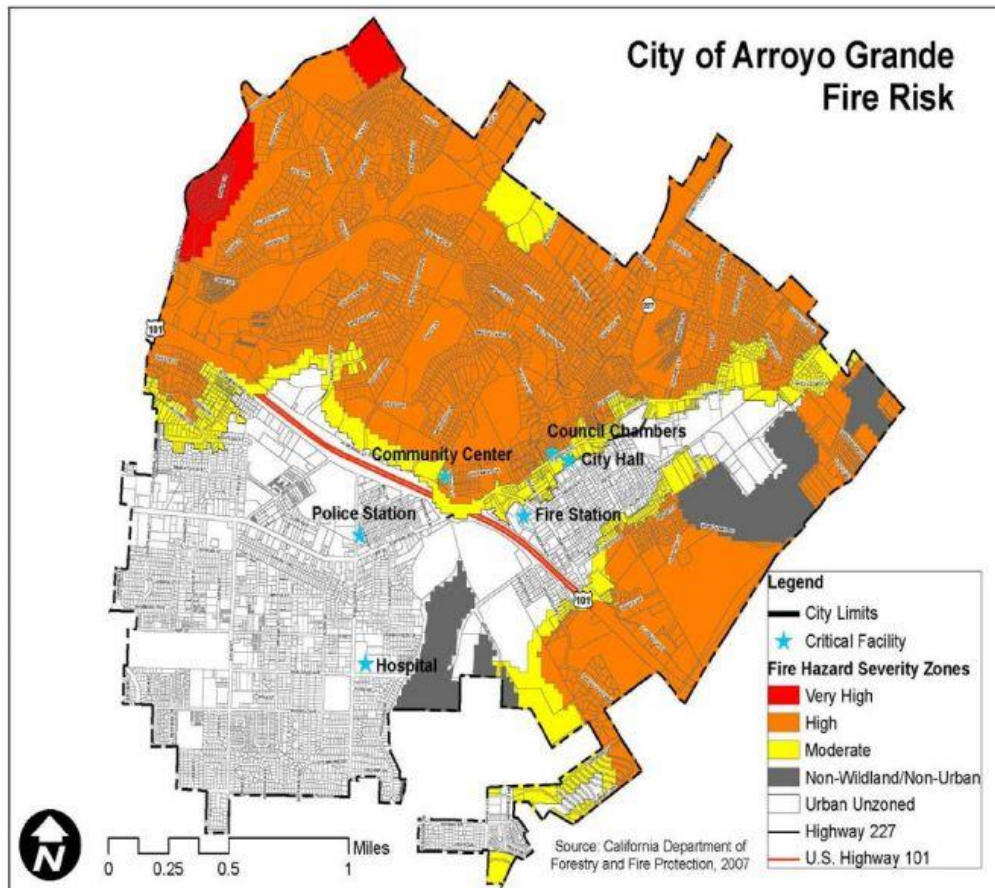
- Encourage defensible space guidelines.
- Create and enforce uniform standards for weed abatement and fuel reduction.
- Enforce building codes.
- Integrate Local Hazard Mitigation Plans into the corresponding Safety Element (AB 2140).
- Ensure consistency throughout all plans regarding fire safety (CWPP, LHMP, Safety Element, etc.).
- Create new vegetation management programs to help disadvantaged citizens such as the elderly, disabled and low income.
- Implement a fuel modification program for new construction requiring builders and developers to submit plans with proposed fuel modification zones prior to beginning construction.
- Create a GIS pre-application review for new construction or major remodels in hazard areas.
- Develop incentives to encourage defensible space such as free chipping days.
- Enhance partnership with CAL FIRE and Fire Safe Council for fuel reduction efforts.
- Continue urban forest maintenance and tree trimming.
- Improve automatic aid and mutual aid agreements with CAL FIRE.
- Increase water storage for firefighting.
- Utilize purple pipe for firefighting.
- Identify and prioritize areas for fuel treatment.
- Investigate additional funding methods for fuel reduction.
- Update local and county CWPP.
- Encourage participation in programs such as Firewise USA and Community Planning Assistance for Wildfire.
- Create maps of WUI areas.
- Establish and maintain relationships with landowners with large amounts of land, and work with them to reduce fire risk on their properties.

## Appendix

### Arroyo Grande Fire Hazard Severity Zone

Retrieved from Arroyo Grande Multi-Jurisdictional Local Hazard mitigation Plan.

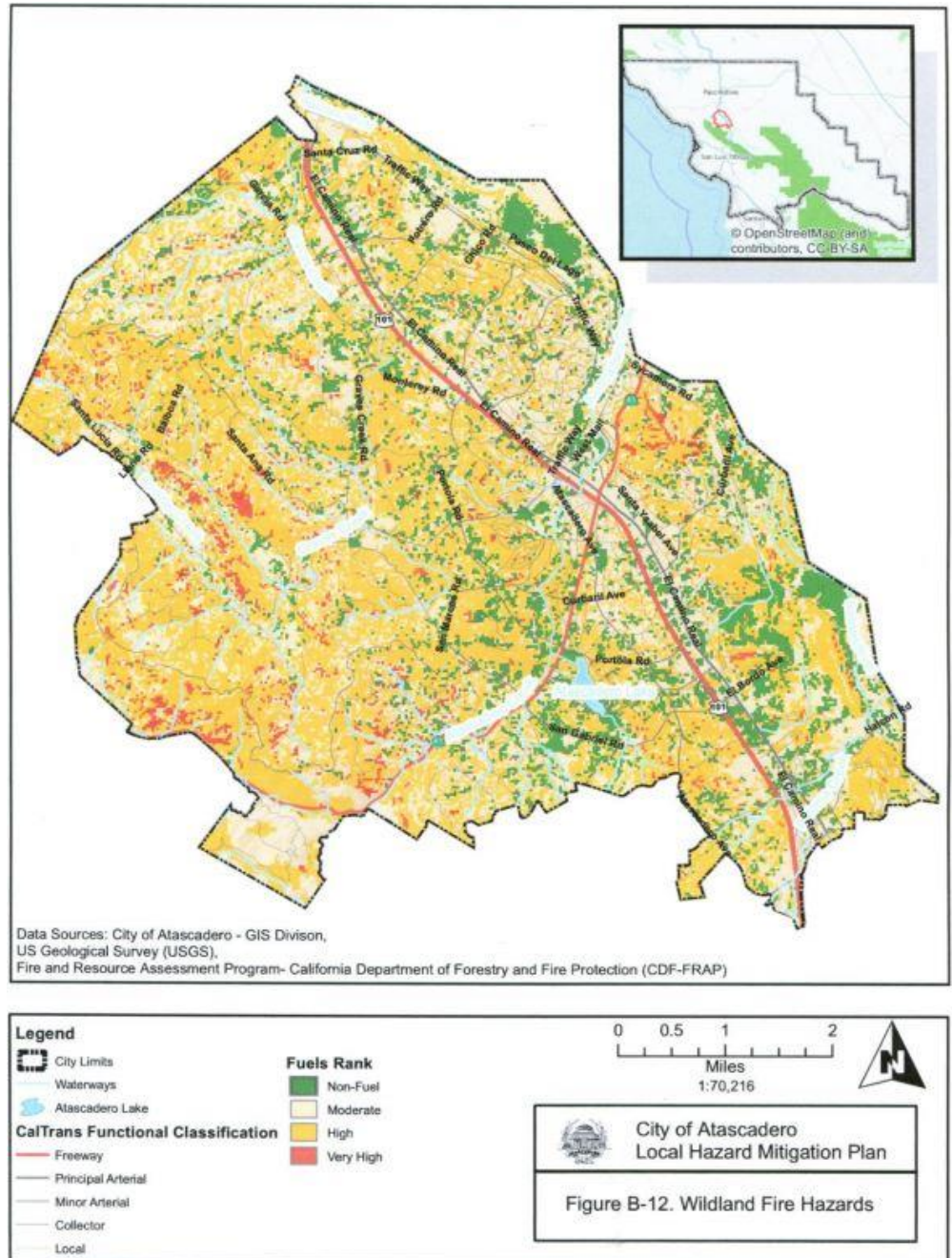
<http://www.arroyogrande.org/DocumentCenter/Home/View/3857>



## Atascadero Fire Hazard Severity Map

Retrieved from Atascadero Local Hazard Mitigation Plan.

[http://www.atascadero.org/files/FD/2014\\_07\\_24\\_Atascadero\\_LHMP\\_FINAL\\_DRAFT.pdf](http://www.atascadero.org/files/FD/2014_07_24_Atascadero_LHMP_FINAL_DRAFT.pdf)

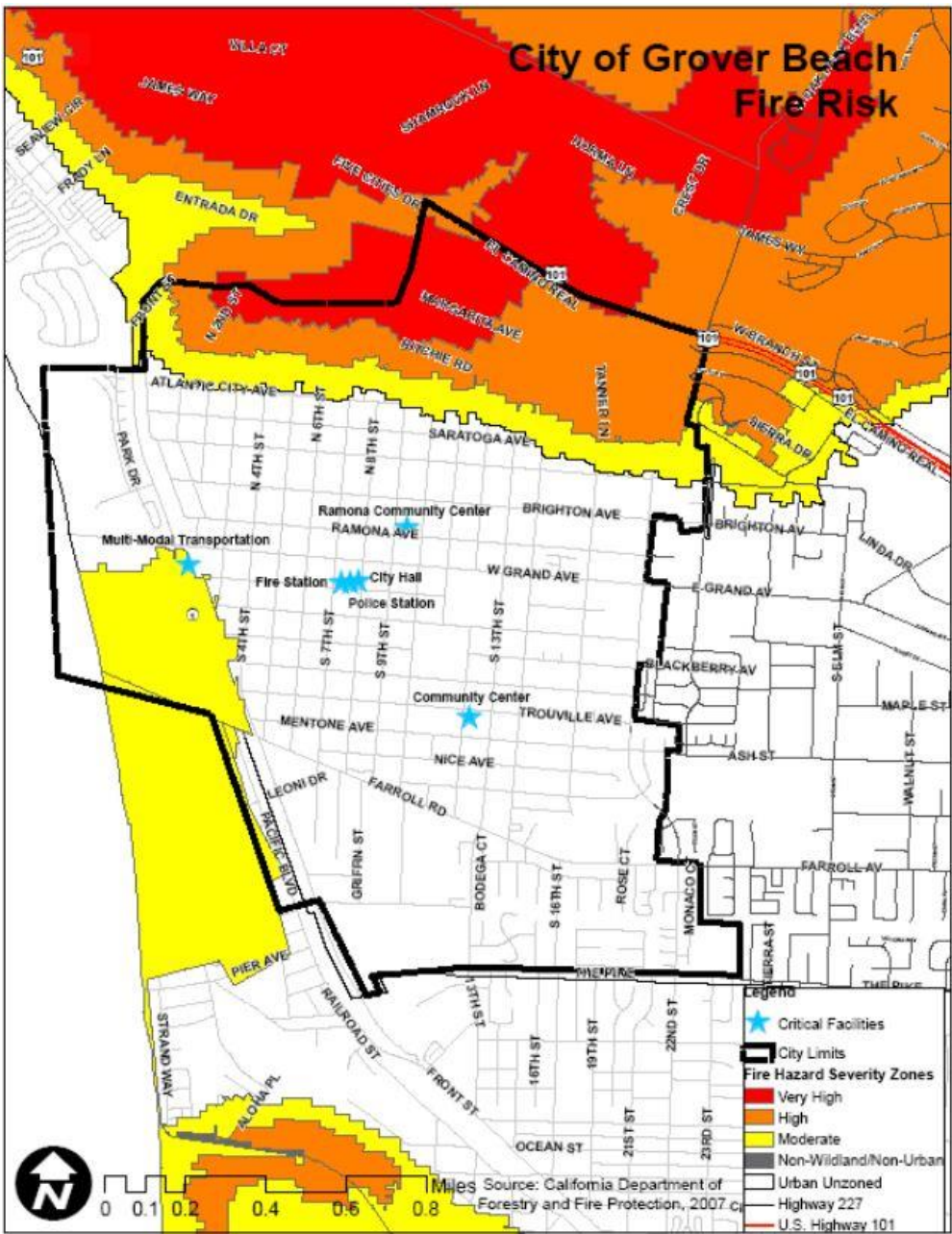




Grover Beach Fire Hazard Severity Map

Retrieved from Grover Beach Multi-Jurisdictional Local Hazard Mitigation Plan.

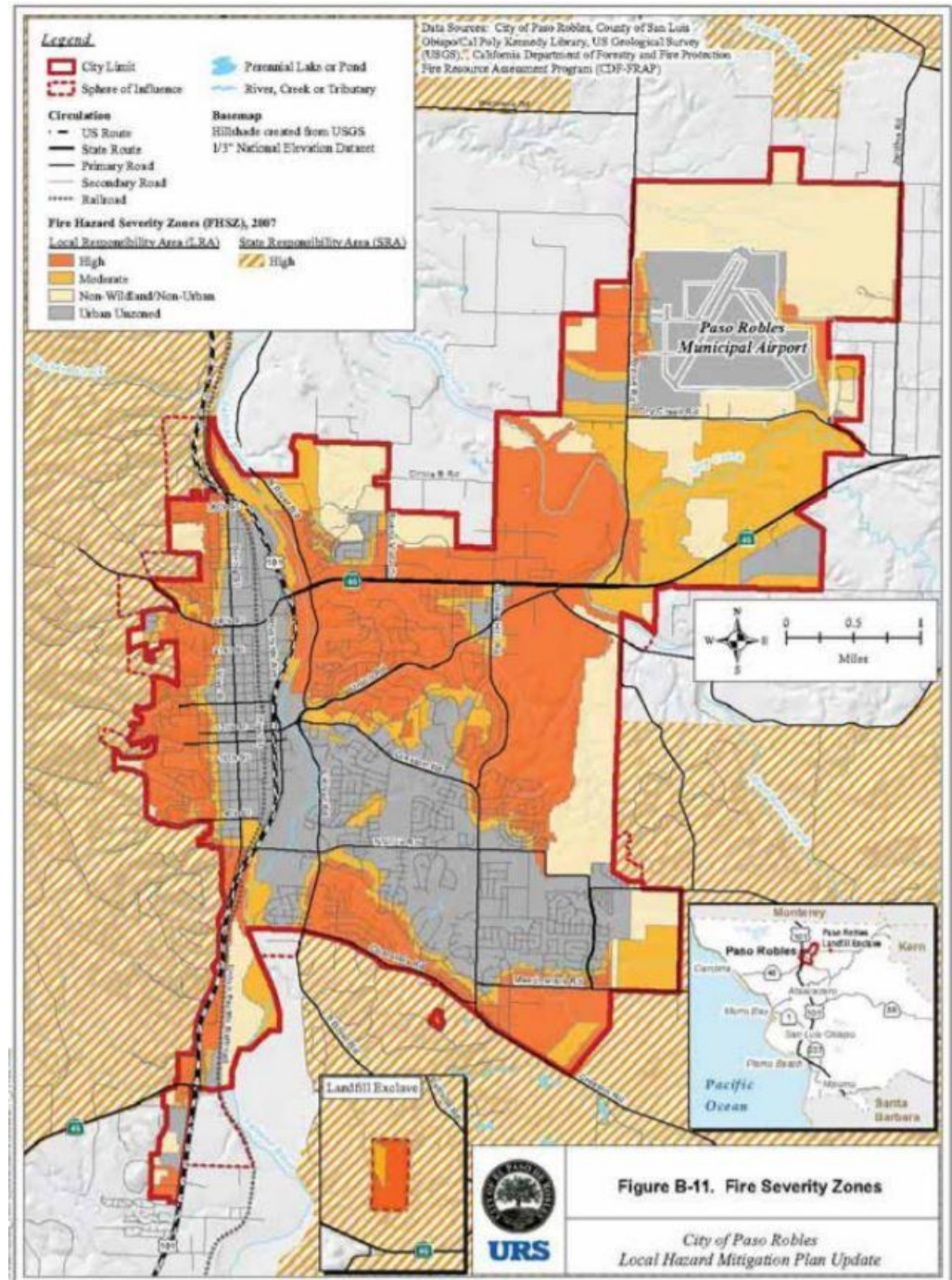
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## Paso Robles Fire Hazard Severity Map

Retrieved from Paso Robles Local Hazard Mitigation Plan.

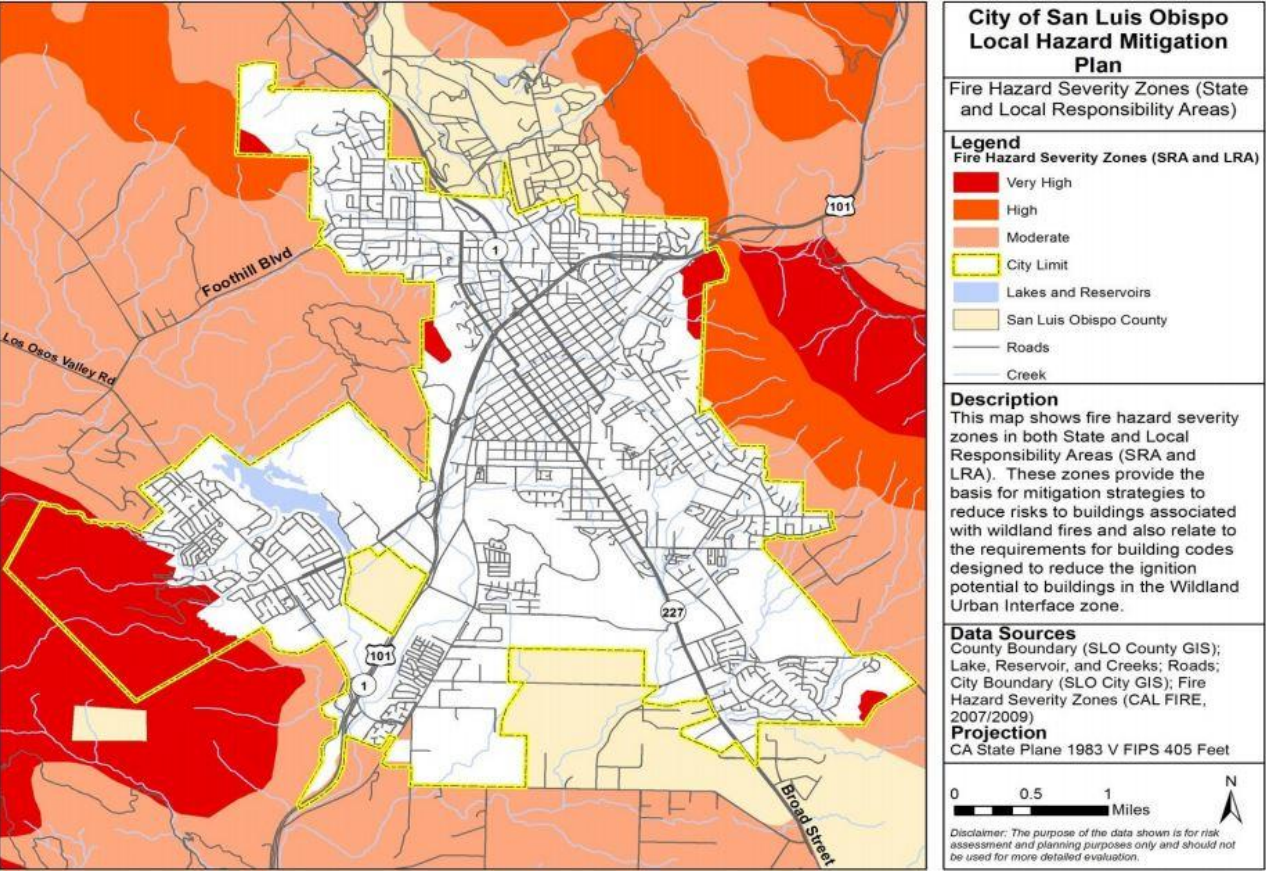
<http://www.prcity.com/government/pdf/LHMP-Feb2016.pdf>





# San Luis Obispo Fire Hazard Severity Map

Retrieved from San Luis Obispo Local Hazard Mitigation Plan.  
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