HIGHWAY 168 FIRE SAFE COUNCIL
COMMUNITY WILDFIRE PROTECTION PLAN
Updated 2018

PREPARED BY
Highway 168 Fire Safe Council
CWPP Update Committee

Howard Hendrix: Chair - Hwy. 168 FSC
Ryan Stewart: Vice Chair – Hwy. 168 FSC
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and
Craig Jones: Project Manager – Sierra RCD

- Funding provided by a grant from the Cooperative Fire Program of the U.S. Forest Service, Department of Agriculture, Pacific Southwest Region, through the California Fire Safe Council.
- This institution is an equal opportunity provider.
- The views and conclusions contained in this document are those of the authors and should not be interpreted as representing the opinions or policies of the California Fire Safe Council, U.S. Forest Service or the U.S. Government.
- Mention of trade names or commercial products does not constitute their endorsement by the California Fire Safe Council or the U.S. Government.
September 26, 2018

Mr. Steve Haze, District Manager  
Sierra Resource Conservation District - District Manager  
P.O. Box 693  
Auberry, CA 93602

Dear Mr. Haze:

This letter is being provided to the Sierra Resource Conservation District to confirm that the Fresno County Public Health Department, Office of Emergency Services has reviewed the Oak to Timberline and Highway 168 Fire Safe Councils' Community Wildfire Protection Plans (CWPP) for the required elements and technical content.

After reviewing both CWPPs and providing input to the final documents, we confirm that the plans contain the required elements and outline excellent strategies to address wildfire preparedness and mitigation activities and projects.

We appreciate the collaborative effort of the Highway 168 Fire Safe Council, the Oak to Timberline Firesafe Council, and the Sierra Resource Conservation District to complete these two Community Wildfire Protection Plans. The Department is committed to working with you and all interested parties to address the important issue of wildfire preparedness and mitigation in Fresno County.

Please contact me or Ken Austin if you have any questions or concerns.

Sincerely,

[Signature]
David Pomaville, Director  
Fresno County Department of Public Health  
Assistant Emergency Service Director

cc:  
Jean M. Rousseau, County Administrative Officer, County of Fresno  
Kenneth Austin, Emergency Manager, Fresno County Office of Emergency Services
Official Documentation
for the
Approval and Adoption
of
The Highway 168 Fire Safe Council’s
Community Wildfire Protection Plan

I. Background Information

The 168 Fire Safe Council has prepared its Community Wildfire Protection Plan (CWPP) in accordance with the guidelines and requirements of the National Association of State Foresters’ document, Preparing a Community Wildfire Protection Plan – A Handbook for Wildland-Urban Interface Communities.

This CWPP outlines the goals, objectives and strategies to guide wildfire mitigation and wildfire preparedness efforts. The overarching goal of the CWPP is to protect the communities, neighborhoods, citizens, assets and natural resources within the Fire Safe Council boundaries. It also outlines how collaboration and working with stakeholders and local, State and Federal agencies can help meet these critical goals and objectives. Components of this plan are contained within Fresno County’s Multi-Jurisdictional Hazard Mitigation Plan – Annex P via the Sierra RCD.

II. Review and Approval Signatures

The signatories below attest that they have reviewed and approve the Hwy. 168 FSC’s Community Wildfire Protection Plan as presented.

<table>
<thead>
<tr>
<th>Reviewed/Approved By</th>
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<tbody>
<tr>
<td>Mark A. Johnson, Unit Chief</td>
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<tr>
<td>Fresno-Kings Unit</td>
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<tr>
<td>CAL FIRE / Fresno County</td>
</tr>
<tr>
<td>Fire Protection District</td>
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<td>[Signature]</td>
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[Logo of CAL FIRE and Fresno-Riverside County Fire Protection District]
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Executive Summary

The threat of wildfire in the foothill and mountain portions of Fresno County is extensive and ever-present. The words now used by wildfire and forest management agency officials is “This is the new norm – wildfire season now is a twelve month a year reality.” For this reason, the Highway 168 Fire Safe Council (Hwy. 168) decided to renew its efforts, update its CWPP and continue to strive to meet the Fire Safe Council’s mission, goals and objectives.

To update this CWPP, it is once again following the guidelines of the National Associations of State Foresters publication, Preparing a Community Wildfire Protection Plan. Upon completion, review and approval, this CWPP will be presented to the Core Stakeholders, Community Stakeholders, landowners and residents to help implement the strategies, goals and objectives of this very important document.

Acknowledgements

Special thanks to Howard Hendrix, Chair of the CWPP Update Committee for his guidance throughout this process and the other CWPP Update Committee members. Thanks to the Highway 168 Fire Safe Council Board for their support of the CWPP Update Committee and its efforts. Also, a sincere thank you to Steve Haze, the Sierra Resource Conservation District, its board members and the California Fire Safe Council for the financial support towards the revision and updating of this Community Wildfire Protection Plan. And finally, thanks to our Core and Community Stakeholders for their assistance, support and input.

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Chapter 1: Introduction and Background Information

The Highway 168 Corridor is the gateway to several mountain communities. Diverse, beautiful and interspersed through landscapes of flat to rolling hills, to scenic forest and rugged terrain, the Corridor presents special challenges and opportunities for reducing wildfire hazard and risk. As recently as 40 years ago, several large cattle and logging operations were the mainstay of the local economy. Today there are still some small logging and cattle operations remaining, but the main thrust now is tourism/recreation and bedroom communities. Hydro-electrical production and the infrastructure associated with it is one of the highest assets at risk in this area.

Rapid growth in and around Prather, Tollhouse, Auberry, Friant, Meadow Lakes and Shaver Lake has resulted in an economy centered around the service industry. Because of this rapid growth, an increasing number of homes and businesses are now in the intermix where people and the wildland meet – the Wildland Urban Interface, known as the WUI. Due to these and a myriad of other factors, a plan is needed to address all the components of community wildfire mitigation and protection. This includes everything from individual defensible space to fuelbreaks – from information and outreach efforts to collaboration among all interested parties.

In response to this, the Highway 168 Fire Safe Council’s mission, since its formation, has been to educate and assist those residents interested in creating and maintaining a more resilient landscape and assets that are more resistant to the impacts of fire. The council made it possible for a diverse set of stakeholders to speak with one voice about fire preparedness and safety. The council distributes fire prevention educational materials to businesses and residences, evaluates legislation pertaining to fire safety, encourages grassroots groups to spearhead fire safety programs and activities, and sends its representatives to attend homeowner association meetings, providing those groups with information about defensible space, evacuation procedures, and working with neighbors to increase their mitigation efforts.

A. General Overview and Rationale

There are over 190 million acres of federal forest and rangeland in the southwestern United States that face high risk of catastrophic fire due to a human-impacted and deteriorating ecosystem. The reasons for the increasing number of these fires in the west is partially due to drought, increased insect and disease occurrence and the expansion of the wildland urban interface. However, the underlying cause is the buildup of forest fuel and changes in vegetation composition over the last century. These overgrown forests compete for a limited amount of water, space and nutrients, are at high risk of insect and disease epidemics, and can add to the spread of and/or ignition of intense wildland fire.

The severity of this problem was recognized by many observers. In 2001 the U.S. Congress funded the National Fire Plan to reduce hazardous fuel and restore forests and rangeland. In response, the Secretaries of Agriculture and the Interior, along with Western Governors and other interested parties, developed a 10-year strategy and implementation plan for protecting communities and the environment. This plan, along with the Federal Wildland Fire Management Policy, forms a framework under which federal agencies, states, tribes, and communities strive to reduce the threat of fire and improve the condition of the land, restore forest and rangeland health, and reduce risk to communities.
The Healthy Forest Restoration Act of 2003 contains a variety of provisions to expedite hazardous-fuel reduction and forest restoration projects on specified types of federal land that are at risk of wildland fire and insect epidemics. The act helps rural communities, states, tribes, and landowners restore healthy forest and rangeland conditions on private land as well.

Categorical exclusion may in certain instances allow certain fuel-treatment projects, such as mechanical thinning, prescribed fires and rehabilitation projects after a fire (including reseeding and tree planting) to proceed in full compliance with NEPA, but without lengthy environmental and sociological documentation. With this overview and rationale as a basis, the Hwy. 168 CWPP will:

1. Provide a comprehensive, locally sourced, scientifically-based and collaborative community analysis of wildfire related hazards and risks in the Wildland Urban Interface (WUI) within the Highway 168 FSC boundaries.
2. Use the results of the analysis, generate recommendations designed to prevent and/or reduce the damage associated with wildfire to WUI values in this portion of Fresno County.
3. Create a Community Wildfire Protection Plan (CWPP) document for the Hwy. 168 FSC which conforms to the standards for CWPPs established by the Healthy Forest Restoration Act (HFRA) and the State of California and local Fire Safe Council

B. National Fire Plan and the Healthy Forest Restoration Act

The idea for community-based wildfire protection is not a new or novel idea but with the enactment of the Healthy Forest Restoration Act (HFRA) in 2003, planning and prioritizing was given new and unprecedented impetus, which has given communities a leg up on wildfire planning. The HFRA provides communities with the opportunity to develop a Community Wildfire Protection Plan (CWPP) to influence where and how federal agencies implement fuel reduction.

Collaboration is critical in the CWPP development process. It is also a key requirement of the National Association of State Foresters’ (NASF) Community Guide as seen in Appendix A. The goal is to develop a CWPP in accordance with Congressional requirements, involving as many community agencies, groups, councils and residents as possible to address shared problems that no one entity could effectively resolve. The rationale is that the more inclusive the group and the greater the diversity of interests involved, the more likely the CWPP will be representative of the community resulting in broadly acceptable, mutually agreeable solutions.

<table>
<thead>
<tr>
<th>HFRA Requirements for a CWPP:</th>
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<tr>
<td>(1) Collaboration with Appropriate local and State Agencies</td>
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<tr>
<td>(2) Prioritized Fuel Reduction Projects</td>
</tr>
<tr>
<td>(3) Measures to Reduce Structural Ignitability</td>
</tr>
</tbody>
</table>

The HFRA requires that three entities mutually agree to the final contents of a CWPP:
- The applicable city or county government;
- The local fire department(s)
- The state entity responsible for fire and forest management.
C. Collaboration: Communities/Agencies/Councils

This CWPP was developed in collaboration with Fresno County (the applicable local government), local volunteer fire departments, Cal Fire (the state agency responsible for fire and forest management), and consultation with community stakeholders and federal land management agencies in the Hwy. 168 area. Meetings with these stakeholder groups were held to receive input and assist the Hwy. 168 FSC’s CWPP Update Committee in preparing this important document. A list of committee meetings and the two stakeholder group meetings can be seen in APPENDIX B. Agendas for these two meetings can be seen in APPENDIX C and D. The Community Stakeholder list can be seen in APPENDIX D-1.
This plan identifies and prioritizes areas needing hazardous fuels reduction treatments. It recommends the types and methods of treatment on non-Federal land that will protect the identified at risk communities including essential infrastructure and recommends measures for reducing structure ignitability throughout the at-risk communities.

Chapter 2: Goals and Objectives

A. Purpose and Goals

Developing and adopting a CWPP opens the door to significant local community benefits, which include: 1) Identifying and highlighting the boundaries of the communities and neighborhoods; 2) Identifying and prioritizing areas for hazardous fuel-reduction treatments; 3) Recommending the types and methods of treatment to be used for hazardous fuel reduction; and 4) Influencing how federal funds for projects on non-federal lands may be obtained and utilized.

The overall goal of the Fire Safe Council is to protect human life and the natural environment while reducing costs and losses from wildland fire on private and public land. Other goals include the identification and implementation of fuels reduction projects, the dissemination of information and educational material and the setting up of educational meetings and workshops with service organizations, home owners and others interested in the council’s message of “Defensible Space.” Its long-term goal is to promote the thoughtful reintroduction of fire to mimic natural fire cycles, promote environmental health and reduce wildfire hazard.

B. Objectives and Prescriptions

Objectives

1) Solicit stakeholders and community involvement in wildfire mitigation efforts through public education and outreach and through awareness of local projects.
2) Plan and implement fuel reduction programs on private and public land.
3) Expand the “Defensible Space” program throughout areas within the council’s sphere of influence.
4) Support and promote prescribed burning to mimic natural fire cycles and create wildlands which are less vulnerable to destructive wildfires.

Prescriptions

1) Educate stakeholders within their communities through the Fire Safe Council and partner agency programs.
2) Continue to seek funding and programs to facilitate fuel break construction and establish fuel reduction projects.
3) Encourage the utilization of public education materials provided by the Hwy. 168 FSC and partner agencies on a regular and continuous basis.
4) Represent community fire-safe values to elected representatives, agencies and the public during education and outreach events and meetings
KEY DEFINITIONS

**Wildland Urban Interface** is the area where wildland and rural development intermingle.

**Risk** is the likelihood of a wildfire occurrence, which is primarily determined by the fire history of the area.

**Assets at Risk** are identified by the stakeholders as being important to their way of life within the Hwy. 168 area. These include personal safety, property, community infrastructure, recreation areas, watersheds and wildlife habitat.

**Hazard Rating** quantifies the effects of a wildfire to the assets at risk. It is the combination of risk and hazard as influenced by “The Big 3” - fuels, weather, and topography.

**Hazard** represents the vulnerability of assets to a wildfire.
Chapter 3: The Highway 168 Fire Safe Council Planning Area and History

A. General History

Fresno County is in the middle of California, with a portion of the county located in the agriculturally rich and productive San Joaquin Valley. The remainder is located on the western slopes of the Southern Sierra Nevada Mountains. It is bordered by Tulare to the south, Madera County to the north, Mono and Inyo Counties to the north and east, and Merced, Monterey and San Benito Counties to the northwest and west. The county encompasses an area of more than 6,000 square miles (3.8 million acres). The major water courses in the Hwy. 168 service area (outlined on the base map above) include the Kings River and San Joaquin River. Secondary drainages are numerous, especially at the upper elevations. Some of these include Musick Creek, Jose Creek, Stevenson Creek, Dog Creek, Sand Creek, Dinkey Creek, Ordinance Creek, Dry Creek, Azalea Creek, Balsam Creek, Sycamore Creek, Big Sandy Creek and Big Creek.

The first Europeans to come to what is now Fresno County were explorers, trappers, soldiers and Spanish speaking settlers with Mexican land grants. Fresno was officially recognized as a County of the State of California in 1856.

Natural resources have always played a significant role in the development of Fresno County. Gold, silver and copper mines flourished in the 1840s. Settlements and small towns began developing along the creeks and rivers of the Sierra foothills to support the development of mines, communities, lumber industry, and hydro-electric generation. The heavily forested mountains provided a ready supply of trees and, before long, logging became the leading industry in the area.
Although a strong farming and ranching community soon emerged as the leading economic contributors to the valley portion of Fresno County, the logging industry continued to play a vital role in the mountain communities until the late 1970s and early 1980s. The Highway 168 FSC’s CWPP focuses on the grasslands, foothills and mountains of Eastern Fresno County north of the Kings River and south of Madera County.

Within this area of eastern Fresno County, extending from the Friant-Kern Canal on the West to Mono and Inyo County on the East and bounded by the Kings River on the South and Madera County to the North, are the communities of Tollhouse, Prather, Auberry, Shaver Lake and Meadow Lakes. These communities have been designated as Communities At Risk (CAR) to wildfire and they include more than 10,000 residents. This area contains large sections of High and Very High Fire Hazard Severity Zones. Tree mortality is catastrophic, creating extreme risk of widespread wildfire, loss of life and destruction of homes and area infrastructure. Some evacuation routes include well established highways and primary roads with excellent ingress/egress. Others, however, are narrow, winding and, in some spots, overgrown with hazardous fuels. There are also several youth camps and densely developed residential enclaves throughout the Hwy. 168 area of influence.

B. The Highway 168 FSC Environment

1. Topography, Slope, Elevation

Elevations in the Hwy. 168 planning area range from just over 300 feet above sea level at the western side of its boundary to more than 14,000 feet at the crest of the Sierra Nevada Mountains.

Major river drainages and their tributaries traverse the county and sharply divide the foothill and mountainous portions of the county into valleys with steep canyon walls. The topography varies from gently rolling hills to very steep terrain. Slopes are greater than 45 degrees (100%) over a large portion of the area and slopes of 35 to 50 degrees (70 – 120%) are common throughout much of the remaining landscape.

2. Meteorology, Climate, Precipitation

Summer in Fresno County brings hot dry weather to essentially all elevations. The Central Valley and lower foothill temperatures average close to 100 degrees in the daytime and 62 degrees at night in July with the humidity averaging between 17 and 22%. Temperatures decrease, and the humidity increases slightly as the elevation increases. At 4,000 feet, average summer daytime temperatures are in the mid 90’s with the humidity averaging between 25 and 35%. Temperatures at night can cool off to a comfortable mid 60’s with humidity ranging from 50% to 80%. Rainfall is generally non-existent from May until mid-October, except for an occasional thunderstorm. These thunderstorms are generally over the higher elevations of the Sierra.

Winter months bring the rainy season with most of the rainfall occurring in the months of December, January and February. An average yearly rainfall has been 12 inches for the valley and historically has been between 20 and 45 inches in the mountains. Yearly rainfall has decreased significantly with the onset of the drought associated with climate change. Snowfall averages around seven inches at the 3,000-foot elevation. The average snowfall has been more than seven inches above 5,000 feet. Winters can be severe, with year-round snow cover at the highest elevations.
Winds throughout the Hwy. 168 area are generally predictable. The Mono winds, however, which are down-sloping winds, cause a hot, low humidity environment. Depending on rainfall this can increase fire ignition potential. These winds can also cause erratic fire behavior. During the fire season the diurnal surface winds are up canyon by day and down canyon by night. Prevailing upper level winds are out of the west-northwest. These winds can be more intense when they drop to the surface at lower elevations and they can greatly impact fire behavior there. The most dangerous winds for firefighters are associated with thunderstorms. Winds within the vicinity of a storm cell can be extremely gusty, erratic and unpredictable.

3. Hydrology

There are two major watersheds in the Hwy. 168 FSC service area, the Kings River and the San Joaquin River. The primary drainage within the CWPP planning area is the Kings River, which forms most of the southern boundary of the area. It is fed by numerous smaller drainages and tributaries, some of which were listed in Chapter 1, Section Most of the Hwy. 168 area lies between these two important rivers. Several lakes and reservoirs also are present. The largest are Millerton Lake Pine, Flat Reservoir, Shaver Lake and Huntington Lake. Other bodies of water include Courtright Reservoir, Wishon Reservoir, Redinger Lake and Thomas A. Edison Lake. There are numerous small lakes near the crest of the Sierra. There are also many small farm ponds scattered throughout the area.

4. Threatened and Endangered Habitat

Fresno County is home to approximately 80 plant and animal species that are categorized as endangered, threatened or are candidates for such listing. These species can be readily identified by type and location through U.S. Fish and Wildlife Service and California Department of Fish and Game web sites. When a plant or animal’s habitat is exposed to fire, it is important to understand the short and long-term effects as those effects relate to the survival of the species. An excellent reference source for obtaining information on plant and animal species as that information relates to fire exposure is FEIS (Fire Effects Information System). FEIS was developed by the U.S Forest Service and provides up-to-date information about fire effects on plants and animals. See website listing in Chapter 7, Section A.

### Brief Fire History

<table>
<thead>
<tr>
<th>Year</th>
<th>Fire Name</th>
<th>Location</th>
<th>acres</th>
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<td>1931</td>
<td>Tollhouse Fire</td>
<td>Lodge Road to Shaver Lake</td>
<td>thousands of acres</td>
</tr>
<tr>
<td>1989</td>
<td>Burrough Valley Fire</td>
<td>Tollhouse Road to Teresa Springs Road</td>
<td></td>
</tr>
<tr>
<td>1989</td>
<td>Power House Fire</td>
<td>Auberry, from the river into Meadow Lakes</td>
<td>2,022 acres</td>
</tr>
<tr>
<td>1994</td>
<td>Squirrel Fire</td>
<td>Big Creek</td>
<td></td>
</tr>
<tr>
<td>1986 / 1987</td>
<td>Sycamore Rancheria Tollhouse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>Rough Fire</td>
<td>151,623 acres</td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>Green Fire</td>
<td>Auberry Road &amp; White Thorne Road. / 123 acres</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>Goose Fire</td>
<td>Black Mountain Tollhouse, 2015, 2,019 acres</td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>Music Fire</td>
<td>Auberry / 320 acres</td>
<td></td>
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**NOTE:** Jim McDougald of Cal Fire provided an Excel Spreadsheet of all fires 10 acres and greater since 1900. This is a brief summary of some more notable fires.

**NOTE:** The complete Fire history document is available upon request.
C. Communities at Risk

In 2001 a field validation process was conducted in the Fresno-Kings County area to identify and validate communities at risk. This process was conducted by the Department of Interior in accordance with Title IV of the Department of the Interior and related Appropriations Act, 2001 (114Atat. 1009) (66 Fed. Reg. 753, January 4, 2001). Title IV called for a list of “all urban wildland interface communities, within the vicinity of federal lands that are at high risk from wildfire”. After receiving input from the USDA Forest Service and National Park Service, the following communities in the sphere of influence of the Highway 168 Fire Safe Council in Fresno County were identified as communities at risk and were placed on the National List in the Federal Register. These communities include Friant, Prather, Tollhouse, Auberry, Meadow Lakes, Shaver Lake, Dinkey Creek, and Lakeshore (Huntington). Other communities are similarly identified as “at risk” because they lie within proximity of a noted community. Another important community and stakeholder is the Cold Springs Rancheria. See APPENDIX D-1.

D. Increased Fire Risk

In addition to the factors stated in Chapter 1, Section A, there are specific factors within the Hwy. 168 FSC area that have exacerbated the fire risk situation. These include:

1. Increased population in the Wildland-Urban Interface
2. A continual buildup of heavy fuels
3. Severe drought and the ensuing beetle infestation which has resulted in millions of trees dying. The tree mortality issue is discussed in subsequent sections of this plan
4. Increased transportation and recreational usage

E. Local Fire Environment

1. Priority and Class Definitions

Priority areas are noted by the types of values at risk, amount of fuel available (fuel loading), topography, access population density and fire history. The fire class condition in the Fire Safe Council’s sphere of influence is a three, a number is determined by fire regimes on the land having been significantly altered from their historical range of variability.
In some areas, a high risk of losing key ecosystem components (habitat, forest type and structure, overall diversity, and resilience to insect and disease occurrence) is attributable to fire. Fire frequencies have departed from historical frequencies, resulting in dramatic changes to the size, frequency, intensity, or severity of fires on federal and private land. Consequently, landscape patterns and vegetation attributes have been significantly altered from the historical range attributes.

2. Current Fire Hazard Severity Zones in Fresno County

While all of California is subject to varying degrees of fire hazard, there are specific features that make some areas more hazardous. Consequently, a scale of Fire Hazard Severity Zones (FHSZ) was developed using computer models to help predict the physical damage a fire is likely to cause. To determine fire likelihood and behavior many factors are considered. Some of these are fire history, existing and potential fuel (natural vegetation), flame length, blowing embers, terrain, and typical weather for the area.

The Hwy. 168 SRA area contains communities, neighborhoods and wildland that possess all levels of fire hazard severity. In the most recent (2017) FHSZ map (see below), most of this area is classified as High Hazard, however, a sizable portion at the highest elevations in the SRA is Very High Hazard. Based on our extensive knowledge of our service area and the criteria listed for the different zones, we believe that much of the limited yellow (Moderate Hazard) areas at the higher elevations would be judged at least High Hazard due to increased chaparral cover, fuel continuity and tree mortality.

Fire Hazard Severity Zones are categorized into three categories:

**Moderate** Hazard Zones include wildland areas of typically low fire frequency and relatively modest fire behavior or developed/urbanized areas with a very high density of non-burnable surfaces (including roadways, irrigated lawn/parks, and low total vegetation cover (<30%) that is highly fragmented and low in flammability).

**High** Hazard Zones include wildland areas supporting medium to high-hazard fire behavior and average burn probabilities or developed/urbanized areas with moderate vegetation cover and more limited non-burnable cover. Vegetation cover typically ranges from 30-50% and is only partially fragmented.

**Very High** Hazard Zones include wildland areas supporting high to extreme fire behavior resulting from mature fuels typified by dense surface fuels (e.g., mature chaparral) or forested systems where crown fire is likely or developed/urban areas typically with high vegetation density (>70% cover) and associated high fuel continuity. This allows for flames to spread over much of the area impeded only by isolated non-burnable areas.

Fuel type descriptions and photos of those found in the Highway 168 FSC area are shown in APPENDIX F.
Much of the Hwy. 168 FSC area is in the high to very high hazard severity zones.

Tree mortality and increase chaparral and ladder fuel buildup has exacerbated the fuel hazard situation.

For More information go to the following link:
http://www.fire.ca.gov/fire_prevention/fhsz_maps_fresno
Chapter 4: Values and Assets at Risk

The identification of values and assets at risk must consider the responses shared by communities and their members, for through their lived experiences in this area, they understand the values at risk in ways distinct from the values determined by insurance companies, ecologists, land managers, and other experts.

Not only must people, homes, and special places be protected but consideration and actions/provisions must be made for clean air, water and other natural resources that are also impacted by wildfire. This document attempts to prioritize all these values, including those of human life and safety.

Assets and values at risk are a key component of hazard assessment. Impacts from wildfire can range from moderate to severe. Some of the impacts include:

- Injury and loss of life
- Structural damage to residential, commercial and public buildings
- Decreased water quality in area watersheds (lakes, streams, reservoirs and ponds)
- Increase in post-fire hazards, such as flooding, sedimentation and mudslides
- Damage to timber and rangelands and natural resource habitats
- Damage to infrastructure (e.g. water, power, roads, phones and transportation), which would impact, strand and impair mobility for emergency responders and area residents
- Economic losses (jobs, sales, tax revenue and tourist revenues)
- Negative impact on commercial and residential property values
- Loss of community structures, which would severely impact the social fabric of the community
- Loss of schools, which could severely impact the entire school system and disrupt families and teachers, as temporary facilities and relocations would likely be needed

A. Structures, Facilities and Infrastructure

The value of all structures, uninsured losses, lost wages, and other costs citizens may face following a fire should be considered a significant asset. The value of structures will vary depending on their location, and function. Loss of infrastructure can affect areas well outside the fire perimeter.

B. Air Quality

Pollution from large wildfires significantly affects air quality. Smoke decreases visibility and creates breathing hazards for humans and emits harmful gases - some which add to the greenhouse gas and ozone emission problem. This affects the area not only around the fire perimeter, but for many miles around the fire. While the Ferguson Fire was not in Fresno County, it is a perfect example of how wildfires can significantly affect air quality from a distance. And, when many fires occur as happened in 2018, the results can be extreme over a larger area and can pose serious health implications.
C. Recreation Areas

Recreational facilities must be considered as a critical value at risk. The loss of such facilities and loss of use of such amenities, impacts forest values, local economies, infrastructure, habitat and local history. A prime example of this occurred in 2018 when the Ferguson Fire shut down Yosemite National Park for several weeks. This resulted in economic consequences and the obvious recreational setbacks.

D. Wildlife and Habitat

Though it is difficult to state the economic value of wildlife and wildlife habitat, it is a critical value at risk. Wildlife biologists have studied the impact of wildfire on wildlife/wildlife habitat and many examples of such impacts are well documented. There are human and economic impacts associated with the loss of wildlife/wildlife habitat. An excellent source of information on the effects of wildfire on flora and fauna, the UDA FS website, is shown Chapter 6, Section D. It is the USDA – Forest Service’s Fire Effect Information System web site.

E. Range

The range category measures the value of vegetation as forage. This value should be based on the replacement of food for livestock in oat, hay or alfalfa.

F. Watersheds and Water Resources

The value of watersheds and water resources can NOT be overstated. Significant research and attention are now focused on watersheds as the critical component for numerous values – both within watershed boundaries, downstream and well beyond. The valuation of these resources should be based on environmental and societal values. As water is utilized to produce electrical power which is sold as a commodity for agricultural and industrial use, it is imperative that we protect these watersheds. Fire has a number of beneficial aspects within and for watersheds. Wildfire can temporarily increase water runoff into rivers but also removes the vegetation and exposes mineral soil. Wildfire also impairs water from percolating into the ground as it can create hydrophobic soil. The cost of reseeding grasses and planting trees should be considered in the overall value assessment.

G. The Timber

Standing trees that may be harvested for lumber or other wood products have an economic and environmental value that should be considered in the overall value assessment. Trees that cannot be harvested and are left in place, contribute to slope stability, soil building, nutrient recycling and erosion control. They also have significant environmental, aesthetic and emotional value.
H. Reducing Structure Ignitability

Home Mitigation

Education and outreach is a critical and ongoing element in helping prepare private residences, surrounding landscapes and driveways for a wildfire event. Defensible Space is the primary way to accomplish this. The components of effective and comprehensive D-Space include vegetation management, home modifications and hardening your home against ember deposition. This will continue be an important priority of the Hwy. 168 Fire Safe Council. This will occur in a variety of ways, some of which are listed in Chapter 6, Section B.

Most Effective Changes to Home Ignition Zone

1. Class A roofs: any roof covering that does not self-sustain an ignition and spread fire is an appropriate 'non-ignitable' roof covering
2. Screen openings to prevent ember intrusion
3. Install non-flammable siding
4. Install double-paned windows
5. Reduce fuels around structures
   a. Zone 1A = 3 to 5 feet around entire structure (no flammable material)
   b. Zone 1 = 30 feet from structure (thin to reduce crown density, remove ladder fuels)
   c. Zone 2 = 30 to 100 feet from structure (thin to reduce crown density, remove ladder fuels)
6. Maintain vegetation modifications

The following Cal Fire web site lists all the codes and standards for homeowner fire prevention and loss reduction. These include but are not limited to road standards, clearance and defensible space requirements and driveway standards. For a complete list go to the web sites shown here.


You can also refer to Fresno County Title 15, Section 15.60. This Title/Section states in part:

As required by Fresno County Code of OAs required by Fresno County Code of Ordinances Title 15 – Building and Construction, Chapter 15.60 – State Responsibility Area Fire Safe Regulations of the County: new construction located within the State Responsibility Areas (SRA) of Fresno County is required to meet certain minimum uniform standards for basic emergency access, perimeter wildfire protection measures, signing and building numbering, private water supply reserves for emergency fire use, and vegetation modifications.

For details on these regulations, visit the web sites by going to these links.

Chapter 5: Community Descriptions and Projects

A. Communities Within the Highway 168 FSC Boundaries

1. **Friant** is located at the lowest elevation of Highway 168 Corridor at 900 feet. The town sits along well traveled Friant Road which is one of the major access routes to the higher elevations. Millerton Lake Park Recreation Area and Table Mountain Casino are also located in Friant.

   Millerton Lake is a warm water lake and draws boaters and fishermen all year. During the summer there can be one hundred or more boats in or around the lake, with a couple of thousand people picnicking, visiting the “Old Court House” (the first county seat of Fresno County over 100 years ago), or sun bathing. Traffic can be quite heavy, and the likelihood of a fire being started by one of these travelers is possible. Typically, there are multiple fire starts in this area.

   Friant flanks Friant Road on the east and west. On the east of Friant Road, the terrain begins to change to gently rolling hills with annual grass as the main source of fuel, and brush patches that could add to the spread of a fire. Because homes in Friant sit close together and are older, there is a possibility of a wildland fire sparking a structure fire that could travel from home to home, or a structure fire, conversely, could cause a wildland fire. Little can be done about the type of material used to build these homes. When up-grading these homes, education materials from FSC about the desired flame-resistant materials can prove beneficial to the home owners in their fire safe decisions.

   Table Mountain Casino draws thousands of people daily all year round. The Casino is surrounded by paved parking areas but beyond that, it is surrounded by the same grass and brush make-up as Friant and Millerton Lake area. There have been many car accidents along this route to the casino and some have resulted in vegetation fires.

   The Fire Safe Council has helped educate the homeowners in this community about the importance of defensible space and fire-resistant construction materials. An outreach program directed at the residents of this area, including the park and the casino, will provide the needed information to enhance the safety of the citizens living and traveling this road.
2. **Millerton Lake Recreation Area** is located just above Friant on the north side of Millerton Road between Millerton Dam and Wellbarn Road, along the San Joaquin River. The elevation varies from 500 to 2,300 feet and this area has a long fire history. The vegetation consists of a mix of grassland, live oak, blue oak and foothill pine woodlands.

The topography at the lower elevations is covered with annual grasses and is relatively flat before changing to rolling hills with a westerly aspect. This fuel promotes a surface fire that moves quickly, endangering homes, the watershed and wildlife habitat. Appropriate action will help stop the annual grass fires from spreading into the dense vegetation.

The Fire Safe Council has provided a program of education concerning hazard fuel reduction around homes and property in this area. This was accomplished by meeting with the homeowners and helping them develop a hazard reduction plan. This continues to be an area of concern for the Hwy. 168 Fire Safe Council.

3. **Prather** is the busiest commercial area in the Highway 168 Corridor and is situated at the top of intersecting low ridges at 1100 feet in elevation, at Highway 168 (Morgan Canyon) and Auberry Road. There is moderate to dense housing development surrounding the main business section.
The average age of homes in this area is 30 years. A building boom in 2005 saw some modern homes built with fire retardant materials around the main business area in Prather. Many are secured behind screens of vegetation for privacy. To ensure defensible space, the Prather residents need to reduce the fuel loading around their homes and clear for the safe deployment of fire personnel in the event of fire in and around their homes.

Annual grasses and brush are the primary fuel in this area; there are also some oaks and pines. Reducing the amount of brush and ladder fuels leading to tree crowns is recommended. Establishing turnouts along roadsides leading to homes along with thinning, is a critical mitigation action.

The Fire Safe Council is the key to providing expertise and education to the citizens of this community. The Fire Safe Council continues to outreach to this community through educational materials and homeowner meetings. This area is listed in the Federal Register for Communities at Risk.

Starting at this elevation, clearance requirements of 100 feet from structures, regardless of vegetation type, become more critical due to heavier fuels (brush/other vegetation). This can influence fire behavior significantly. Clearance requirements is proving to be a burden to some elderly and disabled residents. A program to help some of these residents could allow them to stay in their homes thus greatly improving community spirit and fire fighter safety.
4. **Tollhouse** has a western aspect at 2,200 feet elevation and is located on the old Tollhouse Road just below where the foothills rise to higher elevation. This area has an extensive fire history. The most recent large fire (Burrough Fire) took place in 1989 when several arson fires were set on Tollhouse Road just below the Burrough Valley turnoff.

The Burrough fire burned across a wide drainage off Tollhouse Road. It then proceeded up a steep slope burning into back yards, destroying wooden fences and threatening many homes in the Burrough Valley area. Since that fire, there has been little or no vegetation management in the area. The fuel is mostly Buckeye, Manzanita, Oak, Bull Pine and annual grasses.

A hazard fuel reduction project in a strategic location near the top of the drainage and a shaded fuelbreak would aid in the defense of the homes located at mid-slope. The Fire Safe Council has reached out to these home owners to educate them and help them devise a plan that would provide safety zones for residents and firefighters.

In Tollhouse, several fires caused by downed power lines, hot equipment and arson have burned around homes causing the town to be evacuated. The homes in Tollhouse sit close together on small lots with dense fuel around them. The homes surrounding Tollhouse are separated by large amounts of land with heavy fuel, annual grasses, tall brush and oak woodland. The Fire Safe Council has met with several of these residents with the goal of reducing fuel loading by clearing brush, pruning trees and thinning trees and removing dead materials from around the homes for a minimum of the required 100 feet. This is a good area for a chipping and masticating project and is on the Council’s list of future projects. This area is listed in the Federal Register for Communities at Risk.

Above the community of Tollhouse is Linson Lane and Shaver Springs. These two communities sit at the 3,800-foot elevation near mid-slope. Both have a westerly aspect and sit at the transition zone from brush to timber. Linson Lane was the site of a Vegetation Management Project (VMP) conducted by Cal Fire for fuel reduction at the road side, which provided travel clearance and turnouts for emergency traffic and residents in the event of a fire. Now, as thousands of trees in this area have died as the result of the bark beetle, companies such as Pacific Gas and Electric have removed trees to protect the power lines. Private companies have also responded to cut trees that are endangering homes.

Shaver Springs needs a fuel reduction program, but the homeowners in this subdivision have been resistant to change. In the past few years however, their thinking has begun to change due to the bark beetle epidemic. The residents are now clearing more brush and are falling dead trees.

A roadside fuel reduction project would provide safe escape routes for residents and safe deployment zone for fire equipment and crews. Because of the closeness of buildings and topography, hand crew work has been recommended here. Surrounding the subdivision, is Forest Service land that is heavy with continuous dead trees and brush. A fuel break connecting the private property with a fuel break on adjoining Forest Service lands is critical in protecting these homes.
5. **Auberry** is located at the 1,700-foot elevation and sits below the intersection of Power House Road and Auberry Road, located adjacent to the most fire prone area in the Fire Safe Council’s sphere of influence. Auberry is an old community with many older homes that are not built to today’s standards. There are many mobile home dwellers in this area as well. The residents around Auberry sit mostly on lots of five acres or more and most appear to have achieved acceptable fuel reduction levels, the 100-foot clearance.

   In 1989 an arson fire traveled out of the canyon of the San Joaquin River, impacting this community, destroying wildlife habitat, damaging the watershed and sending large amounts of sediment into the river.

   The elevation varies from approximately 1,700 feet to approximately 2,700 feet. The vegetation consists of a mix of manzanita and oak woodland. The fuel is thick and continuous; fires from this area spread rapidly on seasoned slopes and threaten some other priority areas such as Jose Basin, Meadow Lakes and Shaver Lake Basin. The area is a mix of public (Federal) and private lands, is moderately developed and has an extensive fire history.

   This area is identified as a priority due to its high fuel hazard ranking, many assets at risk and extensive fire history. The Fire Safe Council is in the planning stage for a fuels reduction project in the Power House Road area, starting at Road 222 at the Redinger Bridge crossing from Madera County to Fresno County. The project would be approximately six miles long and consist of a 200-foot-wide break. The ideal method of fuel reduction would be a combination of tree felling, mastication and hand work. A prescribed burn could later be carried out to complete the overall effort. This area is listed on the National Register as a Community at Risk.

6. **Big Sandy Rancheria** (Jose Basin) is located northeast of Power House Road on Auberry Road. There are several concerns here. One is the area of the San Joaquin River drainage adjacent to Jose Basin Road. This is the only means of travel into and out of the Rancheria. If a fire were to approach this point, it could cut off any escape route for the residents living east of the Big Sandy Mission and endanger the settlement, the residents, and a large casino within the Rancheria. The continuous vegetation consists primarily of grasses, manzanita and oak woodlands. The fuel type then changes to a mixed conifer forest as the elevation increases.

   Thinning and mechanical treatments throughout the drainage are needed. A 200-foot fuel break constructed across the top of the drainage could help stop a fire from traveling into the community and further uphill, eventually endangering the Meadow Lake Community. There is the remnant of an old fuel break running through this drainage.

   It is proposed that a fuel break be created along Jose Basin Road for about three miles ending near Forest Service property at Italian Bar. This could connect to the Lerona Fuel Break that extends off Sugarloaf Road where a fuel break was completed about 11 years ago by the Fire Safe Council. This section has recently been worked on by Cal Fire. The fuel along Jose Basin Road is thick and continuous. Residents along this road would be trapped if a fire were to travel through this area.
A meeting with the Rancheria’s Fuels Officer is an important next step to gather support from
the residents and draft a pre-fire management plan. The proposal would include mastication, hand
felling, dead tree removal and subsequent slash burning. This location is within the sphere of
influence of the Bureau of Land Management.

7. **Pine Ridge** is located off Highway 168 between the communities of Shaver Lake and Tollhouse.
The area’s elevation ranges from 2,000 feet to 5,600 feet. The vegetation ranges from mixed tall
brush to mixed conifer. This area also includes Cressman Road and Peterson Mill Road. There are
several developments in the Pine Ridge area. The Pine Ridge subdivision on Cressman Road
consists of approximately 75 seasonal and year-round residents on 113 parcels. Below that is the
subdivision of Peterson Mill Road, also a mix of about 75 seasonal and year-round residents. Shaver
Springs and Linson Lane are below Peterson Road. These communities are located near mid-slope
with a south west facing aspect. These developments are in close proximity to the community of
Meadow Lakes, and all have a high to very high fuel hazard rating. This area has potential for
cooperative projects on private land.

The Fire Safe Council has conducted a community assessment, and, with the help of residents,
a fuel reduction project can be completed. Because of the terrain, mastication or chipping can be
accomplished with some hand cutting and pile burning. The values at risk are high and residents
are in a precarious position. A fuel reduction project for this area is a priority. The Fire Safe Council
attended a meeting sponsored by the Bald Mountain Volunteer Fire Department at Pine Ridge
School along with Cal Fire advising the residents of their situation and options. The Council
supplied handout information. This area is on the Federal Registry as a Community at Risk.

8. **Meadow Lakes** is located along the Auberry Road corridor at the 4,400-foot elevation. It lies
between the communities of Auberry and Shaver Lake. The area is bounded by National Forest
System Lands and Highway 168 to the south, Auberry Road to the east, and the community of
Auberry on the west.

Along Auberry Road and below Meadow Lakes, the vegetation varies from oak woodland and
manzanita to mixed conifer. This area includes several residential developments of approximately
400 dwellings is a mix of seasonal and year-round use. The developments are located along or close
to the ridge top of Bald Mountain on Auberry Road. The area has a significant fire history and has
been threatened by wildfire several times within the last two decades. Meadow Lakes is an area
with assets at risk and a high fire hazard rating, due to the presence of thick brush and understory
vegetation.

This area includes the Beal Fuel Break Vegetation Management Project (VMP) and Linson Lane
VMP project. These were conducted in cooperation with the Sierra National Forest and Cal Fire.
The Fire Safe Council received grant money for a fuel reduction project around the lower edge of
Meadow Lakes down Radio Lane. This location contains many local television and radio towers
and cell phone repeaters. The Fire Safe Council has worked in this area on two occasions. Both
efforts have been funded by Pacific Gas and Electric and the State Fire Safe Council. There is some
clearance around these towers but due to dense fuels here, a wildfire event could significantly
impact Fresno County’s communications and alert systems.
In 2018, Cal Fire began falling dead trees in the area along with Pacific Gas and Electric. Meadow Lakes is a historical area and is known for being the first registered subdivision in California. Portions of the 100-plus year-old Shaver Flume leading from Shaver Lake to Clovis some 40 mile away can still be found. This area has been identified as a priority due to its high fuel hazard rating, assets at risk and extensive fire history. It is listed on the Federal Registry as a Community at Risk.

9. **Peterson Road**, the main road through the subdivision, is a long winding narrow paved road through a mix of heavy brush and dense forest understory. Wooden homes sit on property of about five acres each surrounded by brush with little or no clearance. There is only one way in and out. This would hamper travel in and evacuation efforts. Road side thinning and clearing of at least 200 feet on either side of the road with turnouts are needed. Because the main road is a County Road, the Fresno County Board of Supervisors will have to be contacted for permission to construct turnouts.

10. **Dogwood/Routt Mill Roads** are located below the Dogwood Subdivision off Highway 168 three miles below the town of Shaver Lake. The area consists of 200 acres with much of the land undeveloped. Routt Mill has a few homes that sit in heavy forested lands now covered with dead trees due to the California drought and bark beetle infestation. PG&E is in the process of clearing trees that could fall on their power lines, but work needs to be accomplished around homes. This area is the last line of defense against a fire coming from the Jose Basin area ten miles to the northwest. The Fire Safe Council has conducted mastication and dead tree felling in this area over the past three years and advised the homeowners of their situation and have had full cooperation from them. The work here continues. The area is a major fire threat to upper Dogwood, the western flank of Shaver Lake, and beyond.

The Hwy. 168 FSC area covers a large portion of eastern Fresno County. The values, assets and infrastructure are diverse and spread out over multiple fuel types.
11. The Dogwood Subdivision is located within the Shaver Lake Basin Property Area. The subdivision is located at mid-slope above Jose Basin. Jose Basin is considered a high hazard area due to its high recreation use, fuel complexes and rapid elevation change from 1,500 feet to 5,000 feet.

This subdivision is located off Highway 168 between Pine Ridge and the Shaver Lake Basin and lies near the communities of Shaver Lake and Meadow Lakes. It is at extreme risk from a fire coming upslope out of Jose Basin through Forest Service lands and any of the several subdivisions below. There are about 42 full time residents living in Dogwood. Some fire hydrants are scattered throughout the subdivision. Northwest of the subdivision is county-owned property where several sewer ponds are maintained. A meeting with the Dogwood Homeowners Association and the Fire Safe Council has led to a fuel reduction effort on individual properties by the homeowners.

Suggestions made by the council were made that included implementing their 100-foot clearing around homes, having better signage and hydrant locations marked and installing turnouts to improve ingress/egress for residents and first responders. Dogwood has a steering committee to address mitigation efforts and has been working with the Fire Safe Council to prepare and implement a plan. The project implemented by Dogwood residents covers seven miles. Residents also cut excess brush, removed saplings and dragged them to the road where they were chipped. Some of the chips were captured while others were broadcast over the forest floor. Some of the larger trees were felled and cut into manageable lengths and left for use by the homeowners. The Fire Safe Council continues to work with this group.

12. Shaver Lake Village sits at an elevation of 5,632 feet and is the hub of the summer and winter recreational community. Hundreds of small cabins and large year-round homes are settled in the mixed conifer forest fuel type. Many of the lots are small and the homes are close together. This does not allow for much clearance between structures. A structure fire could easily spread to other homes and/or the forest vegetation.

The western edge of Shaver Lake (West Village) would be exposed to any wildland fire that might come up-slope from Jose Basin or one of the fast-developing subdivisions being built below. There is some private land between the forest and the village where a fuel reduction project could be implemented. This project would utilize mastication with some hand work needed around rocks, roadsides and other natural barriers and anchor points. A fire in the Shaver Lake priority area could close Highway 168, the only road leading into and out of the area. This would trap residents and visitors.
Water is a concern in the Shaver Lake area. Many of the subdivisions are situated in water districts. New housing developments will add hundreds of new homes, creating an even larger shortage of water for the residents to drink and emergency responders to fight a wildland fire. A common fire hazard in Shaver Lake is the pine needles that are abundant on roofs, in yards and the streets of the community.

These highly flammable needles have been collected in the past and taken to a central burn site operated by the Southern California Edison Company; however, this community service has been closed by the Air Pollution Control District (APCD), leaving a hazardous product for residents to clear through “door yard burning”. These individual fires cause even poorer air quality than the large burns conducted at Edison and risk a greater chance of an escaped fire.

In the Town of Shaver Lake, the forest is overgrown with dense understory of brush and mostly young flammable trees. A much-needed hazard reduction program would relieve some of the concern that homeowners and fire officials have about this community. Chipping the thinned vegetation would remove some of the hazard and help eliminate the need for pile burning. A series of interconnected fuelbreaks surrounding this community and subdivisions will be the most cost-effective way to protect this area. An estimated 2,000 homes and businesses are in and around this area with the value of many homes above a million dollars. The average is about 400 thousand dollars. A map of the Shaver lake area is shown in APPENDIX H.
Thinning and hazard tree removal along primary and secondary transportation routes is needed. Education through the Fire Safe Council concerning fire in this majestic area has been offered and this is an ongoing effort by the Council. This is a Community at Risk and has been placed on the Federal Registry.

13. **Shaver Lake Forest Area** is owned by The Southern California Edison Company, the largest stakeholder in the Hwy. 168 FSC area. The Edison Company owns and manages 20,000 acres of the forest in Shaver Lake and Dinkey Creek area. The area lies at 5,600-foot elevation, approximately 45 miles east of Fresno.

The Edison Company purchased the prime timberland property in 1917 to construct a reservoir for hydroelectric generation. The dam was completed in 1927. For more than 50 years, the Edison Company’s role in their forest was custodial. In 1980 new leadership at the company initiated the writing of the first land management plan to restore the forest to its pre-European condition. Today, Edison foresters and biologists manage the forest in what is called “uneven-aged management”. This process doesn’t take the understory out of the forest, but trees of all sizes, leaving a natural progression. Edison foresters look at a stand of trees and decide what needs to come out to make the stand look as it might have more than a hundred years ago and are thus practicing restoration forestry.
Edison foresters use “broadcast burning” in their forest to reduce the understory that can assist fire into trees. This simulates a natural fire. Low intensity fire is good; it doesn’t destroy the trees, but promotes some plant materials that depend on fire, such as the Carpenteria that grows only between the San Joaquin and Kings Rivers. Wildlife depends on the plants for food and follow fires because of the re-growth. Edison currently hosts three-quarters million visitors per year in this high value recreation area. Lightning and recreation use are the primary causes for fire in this area. The Fire Safe Council supports the efforts and accomplishments of the Edison Company. The council works in partnership with SCE and is in agreement with their ideas.

14. **Big Creek** is a community that is situated northeast of Shaver Lake off Highway 168. The town is in a deep canyon and is surrounded by heavy brush and mixed conifers. Big Creek is an Edison Company town that was built to house Edison employees. It has hydro-generation facilities as part of its landscape. Since it was established, the town has burned to the ground on two occasions.

In 1994, the Big Creek Fire burned directly north of the town. Big Creek survived this fire, but major damage was sustained in the forest, watershed and wildlife habitat because of the fire.

This community needs continuous fuel reduction work around the homes and hillsides surrounding the community. Reduction of the brush, pruning trees that hang over homes and some tree removal would allow more defensible space around the homes in the event of wildfire. Wood shingle roofs are still found here; this situation should be corrected as home owners repair their roofs. The Big Creek Volunteer Fire Department has been contacted for town meetings, and assistance in promoting fire safety within the community. A community fire break project in conjunction with USFS is needed. This is a Community at Risk and has been placed on the Federal Registry.

The Fire Safe Council Coordinator is checking into how much private land is available and what method could be used to treat the vegetation around Big Creek. Because of the steep slopes surrounding Big Creek, this effort would likely be a hand cut and burn project. A community fire break project in conjunction with USFS is needed. This is a Community at Risk and has been placed on the Federal Registry.

15. **Tamarack Ridge** is a remote area located above Shaver Lake near Huntington Lake where many valley residents choose to build their summer homes. One such development is overseen by the Huntington Manor Home Owners Association. The area is located at the 8,000-foot elevation.

The homes represented in the association at this time are a mixture of tents, mobile homes, and large redwood and fir dwellings of two to three thousand square feet. They are located off Highway 168 at the 61-mile marker between Tamarack and Sierra Summit. There are a few full-time residents; about half live in Fresno, others in the western states more generally. This community of thirty-one lots is surrounded by a mix of Lodgepole Pine and other conifers which hides the community from view.
Turning off Highway 168 onto Tamarack, it’s immediately apparent the road is a safety issue. First, the opening of the road is so overgrown, it’s difficult to find. The road is paved for about one-half mile then turns to rock and big holes. Trees in various stages of growth are immediately next to the road, allowing room for one vehicle. This is the only ingress/egress route to this area.

A hazard fuel reduction project along the road is needed for evacuation and fire fighter safety. 100-foot clearance around structures needs to be completed by cabin owners with USFS cooperation on the non-private land portions. If a fire were to burn through here, the narrowness of the road would be a hazard to those trying to escape, and hamper the large firefighting equipment responding to fight the fire. These homes are on private land adjacent to the National Forest. The nearest fire protection comes from a volunteer fire department at Huntington Lake some 15 minutes away. Other agencies available to respond are Big Creek and Shaver Lake Volunteers, the California Department of Forestry and Fire Protection (Cal Fire) at Shaver Lake, and the United States Forest Service (USFS) located in Big Creek, Dinkey Creek, Blue Canyon and Mountain Rest. All of these responders are more than 30 minutes away. The Fire Safe Council Coordinator has met with the residents of the subdivision and presented information about the “Home Ignition Zone” and the “Defensible Space Zone”.

16. Huntington Lake is located at the 9,000-foot elevation. Much of the land around the lake is Forest Service and depends on the Huntington Lake Volunteer Fire Department for structure protection. The USFS, Cal Fire and other local volunteer companies respond to wildfires here.

There are housing tracts and privately-owned cabins located in and around Huntington Lake. Over half of these cabins and locations are considered historical. Many of the cabins date back to the early 1900s and were built to house workers that constructed the nearby Shaver Dam. They are of great sentimental value to the residents in Huntington and the surrounding mountain communities.

This is a conditional use area and residents may have problems getting grant money for projects. The homes are occupied in the summer and rarely in the winter, due to heavy snow. These homes are surrounded by the Sierra National Forest, which is a mixture of pine and fir forming a dense forest condition. The Fire Safe Council could be of value to Huntington Lake residents by providing educational materials and guidance concerning wildfire mitigation and vegetation management.
B. Projects within the Highway 168 Fire Safe Council Boundaries

1. Completed and Existing/Ongoing Projects

   a. Southern California Edison Company Ownership

   The largest private stakeholder in the Fire Safe Council’s sphere of influence is The Southern California Edison Company. The Edison Company owns and manages 20,000 acres of the Forest in Shaver Lake and Dinkey Creek, at the 5,600-foot elevation, approximately 45 miles east of Fresno.

   The Edison Company purchased the prime timberland property in 1917 for the purpose of constructing a reservoir for hydroelectric generation. The dam was completed in 1927.

   SCE manages its forestlands for resilience and diversity, applying treatments which mimic historic natural disturbance regimes. Since 1980, SCE has utilized prescribed fire, timber harvests, pre-commercial treatments, mastication, piling and burning, and site preparation to enhance and maintain its forestlands. The Forestry Department also operates a tree nursery in Auberry which produces roughly 20 to 30 thousand seedlings per year from seed collected on SCE lands.

   Camp Edison is extremely popular, hosting over 100 thousand campers per year. During the summer, it is not uncommon for the campground to have limited vacancy, hosting over 1500 campers per day within a 140-acre peninsula on Shaver Lake. The property hosts approximately one million dispersed recreation visitor use days per year. SCE Forestry does not allow camping or fires outside of its developed recreation areas at Camp Edison, Roads 1 and 2, and Eagle Point. The Forestry Department patrols the property regularly, enforcing company policies as well as State and Federal fire laws.

   Lightning and collateral effects of recreation use are the primary causes for unplanned fire in this area. The Fire Safe Council supports the efforts and accomplishments of the Edison Company.

2. Tree Mortality

   Beginning in 2012, the region experienced a series of winters with less than average precipitation. By 2014 the State had declared drought conditions and began initiating water conservation measures. Extreme drought continued through 2015. The winter of 2016 yielded average precipitation and the winter of 2017 produced precipitation well above average. However, the impacts of the five-year drought on the forest served as a catalyst for unprecedented bark beetle tree mortality and has left an overwhelming fire threat on the landscape. Much of this threat remains on USFS lands, where overstocked contiguous stands of dead trees remain untreated.

   In fall of 2014 trees began dying at lower timberline (~4000’). By March of 2015 tree mortality had become widespread on lower elevation USFS lands, and Shaver lands began showing impacts. By fall of 2016 tree mortality was evident on a landscape level, eventually reaching the red fir and lodgepole pine forests above Kaiser Pass.
On October 30, 2015 Governor Brown issued an emergency proclamation. This established the California Tree Mortality Task Force (TMTF), as well as redirected funding for various grants and agencies for application within the area of proclamation, which included the Highway 168 FSC’s region. The TMTF is made up of all agencies, utilities and FSCs with a direct role in addressing mortality. The Task Force has initiated cooperation and communication, which has resulted in excellent response in treating State and County projects and easements focused on reducing the fire and safety hazard.

In 2016 and 2017 the FSC was able to secure grants from SCE and PG&E. The SCE grant was used to issue coupons to landowners to discount the dump fee at regional chip yards operated by Right A Way Construction. The SCE grant was also used to remove log decks that remained on private parcels from the large fuel break established along Radio Lane. The PG&E Grant was applied to the Routt Mill fuel break, which is currently being treated.

Utilities (PG&E and SCE) have spent millions on clearing transmission and distribution right of ways. In remote areas the utility contract tree crews have been felling hazard trees and leaving the material untreated. This decreases the threat of lines being struck by falling trees, but significantly increases the fuel loading along powerline corridors. Where power lines run parallel to roads with access, hazard tree logs within reach of a boom dump truck are removed, and slash and debris are chipped and removed or spread. Most of the logs and chips are hauled to the regional chip yards where they are ground and shipped to the Rio Bravo biomass plant. These operations have been a saving grace for many private property owners and businesses that would not have been able to afford the cost of removing dead trees.

Some landowners have been able to sell dead timber to the local lumber mill or to a late-in-coming export market that ships wood to China. However, the limited lumber market has left many property owners paying out of pocket or seeking grant funding for assistance in tree removal. Most of the grant funding for landowners has been sourced through CFIP, EQIP or PG&E.

Cal Trans and Fresno County Road right-of-ways have been addressed through State funding, emergency assistance, and grants. Cal Fire was able to secure grant funding and initiate several fuel breaks throughout the region. The USFS Sierra National Forest has conducted some roadside hazard tree removals and has been able to perform several prescribe burn projects. Below is a chart which describes the majority of County, Cal Fire, Cal Trans and USFS projects that occurred in response to the tree mortality.
b. Highway 168 Corridor Mortality and Fuels Reduction Related Projects

<table>
<thead>
<tr>
<th>Project Name/ Location</th>
<th>Lead Agency or Authority</th>
<th>Treatment</th>
<th>Acres</th>
<th>Veg Type</th>
<th>Last Treated</th>
<th>Recommended Recurrence [yrs]</th>
<th>Treatment Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comstock</td>
<td>CalFire*</td>
<td>Fuel Break</td>
<td>174</td>
<td>Foothill Woodland</td>
<td>2016</td>
<td>7</td>
<td>2023</td>
</tr>
<tr>
<td>Acorn/ Sugarloaf Extension</td>
<td>CalFire*</td>
<td>Fuel Break</td>
<td>34</td>
<td>Foothill Woodland/ Ponderosa</td>
<td>2016</td>
<td>7</td>
<td>2024</td>
</tr>
<tr>
<td>Acorn</td>
<td>CalFire*</td>
<td>Fuel Break</td>
<td>143</td>
<td>Foothill Woodland/ Ponderosa</td>
<td>2016</td>
<td>7</td>
<td>2023</td>
</tr>
<tr>
<td>Meadow Lakes North</td>
<td>CalFire*</td>
<td>Fuel Break</td>
<td>36</td>
<td>Ponderosa</td>
<td>2014</td>
<td>7</td>
<td>2021</td>
</tr>
<tr>
<td>Alder Heights</td>
<td>CalFire*</td>
<td>Fuel Break</td>
<td>35</td>
<td>Ponderosa/ Mixed Conifer</td>
<td>2018</td>
<td>7</td>
<td>2025</td>
</tr>
<tr>
<td>Cressmans Road</td>
<td>CalFire*</td>
<td>Fuel Break</td>
<td>237</td>
<td>Mixed Conifer</td>
<td>2016</td>
<td>10</td>
<td>2026</td>
</tr>
<tr>
<td>Shaver South</td>
<td>CalFire*</td>
<td>Fuel Break</td>
<td>416</td>
<td>Mixed Conifer</td>
<td>2016</td>
<td>10</td>
<td>2026</td>
</tr>
<tr>
<td>Sugarloaf</td>
<td>CalFire* / USFS</td>
<td>Fuel Break</td>
<td>145</td>
<td>Foothill Woodland/ Ponderosa</td>
<td>2016</td>
<td>7</td>
<td>2023</td>
</tr>
<tr>
<td>Beal</td>
<td>Fire Safe Council</td>
<td>Fuel Break</td>
<td>247</td>
<td>Foothill Woodland</td>
<td>2006</td>
<td>7</td>
<td>2012</td>
</tr>
<tr>
<td>Radio Lane</td>
<td>Fire Safe Council</td>
<td>Fuel Break</td>
<td>65</td>
<td>Ponderosa</td>
<td>2015</td>
<td>7</td>
<td>2013</td>
</tr>
<tr>
<td>Shaver Springs</td>
<td>Fire Safe Council</td>
<td>Fuel Break</td>
<td>67</td>
<td>Mixed Conifer</td>
<td>Proposed</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Peterson Road</td>
<td>Fire Safe Council</td>
<td>Fuel Break</td>
<td>145</td>
<td>Ponderosa/ Mixed Conifer</td>
<td>2014</td>
<td>10</td>
<td>2024</td>
</tr>
<tr>
<td>Shaver West, Route Moll</td>
<td>Fire Safe Council</td>
<td>Fuel Break</td>
<td>551</td>
<td>Mixed Conifer</td>
<td>In Progress</td>
<td>10</td>
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</tr>
<tr>
<td>Exchequer</td>
<td>Fresno County/ SCE/ CalFire</td>
<td>Fuel Break</td>
<td>Proposed</td>
<td>Mixed Conifer</td>
<td>Proposed</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Powerhouse</td>
<td>USFS</td>
<td>Fuel Break</td>
<td>134</td>
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<td></td>
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<tr>
<td>Lerina</td>
<td>USFS</td>
<td>Fuel Break</td>
<td>234</td>
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<td></td>
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<td>Burrough Mountain</td>
<td>USFS</td>
<td>Fuel Break</td>
<td>1663</td>
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<td>7</td>
<td></td>
<td></td>
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<td>Vincent</td>
<td>USFS</td>
<td>Fuel Break</td>
<td>1275</td>
<td>Foothill Woodland</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beal</td>
<td>USFS</td>
<td>Fuel Break</td>
<td>441</td>
<td>Foothill Woodland</td>
<td>7</td>
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<td>Auberry Road</td>
<td>Fresno County</td>
<td>Roadside Hazard</td>
<td>NA</td>
<td>Ponderosa/ Mixed Conifer</td>
<td>2018</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Toluhouse Road</td>
<td>Fresno County</td>
<td>Roadside Hazard</td>
<td>NA</td>
<td>Ponderosa/ Mixed Conifer</td>
<td>2017</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Peterson Road</td>
<td>Fresno County</td>
<td>Roadside Hazard</td>
<td>NA</td>
<td>Ponderosa/ Mixed Conifer</td>
<td>2018</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Huntington Lake Road/ Big Creek</td>
<td>Fresno County</td>
<td>Roadside Hazard</td>
<td>NA</td>
<td>Mixed Conifer</td>
<td>2015</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Highway 36</td>
<td>CalTrans</td>
<td>Roadside Hazard</td>
<td>NA</td>
<td>Foothill to Mixed Conifer</td>
<td>2017</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Bretz Hazard/ Blue Canyon</td>
<td>USFS</td>
<td>Roadside Hazard (Fuel Break)</td>
<td>NA</td>
<td>Mixed Conifer</td>
<td>2017</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

**c. Beal Project**

This fuelbreak has been in place for many years. It is a joint venture of the Fire Safe Council, Cal Fire, USFS and local homeowners. The fuel break extends from Auberry Road across the front of Bald Mountain, then reaches Highway 168 before resuming on the south side. The break then runs south and ends near the 3,500-foot elevation marker. The purpose of the project is to provide a defensible space for suppression forces to take a stand in the event of wildfire, and to protect the natural resources, including wildlife habitat and endangered plant species in the Beal Fuel Break area. Future needs for the Beal Fire Road include placement of cement water tanks at strategic points along the road for fire suppression use, and more education provided to the residents living in the fuel break area. This fuel break has proven its sustainability during wildland fires and is a priority to the council and local agencies.

**d. Cressman Road Project**

The goal of this project was to reduce fuel loading along the main roads in the Cressman subdivision. This project has enhanced emergency exits for residents provides easier access for emergency equipment responding to the area. The fuel break has been tested with a few fires in the subdivision and has been successful in halting the forward progression of a 75-acre fire that started on Peterson Road in July 2004. The Peterson Fire, human-caused, raced uphill to Cressman. Firefighters on the ground ready to fight the fire said the fire was crowning and moving fast and was going to be a battle. However, the fire dropped to the ground when it hit the Cressman Fuel Break and firefighters were able to take control of the fire more quickly.
The values at risk are high in this area; about 70 homes valued at $450,000 sit in this mix. Residents have located several 10,000-gallon water tanks strategically throughout the area; street and address signs have been improved. A large safety zone was cleared and made available for residents in the event of a fire or other emergency, and a 200-foot clearance was completed on both sides of the road with turnouts allowing better traffic flow in the event of emergency. A request for a maintenance grant was picked up by the Forest Service and completed. The work was done on lower Cressman Road.

e. **Sugarloaf Fuelbreak**

The Fire Safe Council, recognizing the potential danger along the Sugarloaf/Acorn Road in the Pine Ridge priority area at about the 4200-foot elevation, added this Road to their CWPP as an area that needs to be addressed. People living on this road travel off the hill to either Clovis or Fresno to work some 40 miles away. The area has a southwesterly aspect and can reach temperatures of 90-plus degrees in the summer months. There are approximately 25 homes and one 100-acre conservancy sitting in the dense fuel mixture of conifers and brush. The fuel is continuous and thick with few natural barriers. This project is designed to connect to the Cressman Road and Vincent fuelbreaks. It will help defend both subdivisions of Wildflower and Sierra Cedars.

2. **Proposed Highway 168 FSC Projects**

   a. **Power House Road**

   This area is strongly being considered for a fuels reduction project. This is a rugged area and it would take a couple of years to accomplish. Hand work, mastication, burning and pruning all would be required elements for a successful outcome. A priority is the Burrough Valley area of Tollhouse, listed in the Federal Register as Communities at risk. At this time (2018) no work has been done in the area. The Fire Safe Council has distributed educational information to these residents.

   b. **Burrough Valley Area – Tollhouse**

   This area is listed in the Federal Register as a Community At Risk. At this time (2018) no work has been done in the area; however, the Fire Safe Council has distributed educational information to these residents. A meeting with residents and presentation of mitigation action will be the first step in getting this project implemented.
c. Wildflower/Ridge Top/Granite Ridge/Bretz Mill

These subdivisions are adjacent to National Forest System lands on several sides. Developers label such properties as “out-lots” – that area between the homes and public land. The Fire Safe Council has presented a plan to the homeowners and the association board of directors outlining how each of the developments could create a defensible space in these out lots. The subdivisions share some boundaries thereby allowing a wider fuelbreak. The possibility of fire coming from the forest is high because of the recreation activities in and around Shaver Lake, Dinkey Creek and the subdivisions below. One significant factor is car fires. The climb up hill to Shaver Lake is steep and has, in the past, taken a toll on many automobiles. Several turnouts are located next to portions of the out-lot properties. Overheated cars, brakes or exhaust pipes could cause a fire that might start in the finer fuels and brush from these turns and then travel up slope quickly. Most of the work to address this can be done with mastication, hand work and burning. There are one or two areas that might require hand work only due to topography.

The developers of these areas have taken some precautions to attempt to safe guard those who have purchased land. They have put in hydrants throughout the subdivision. Miles of walking trails have also been created and are maintained by the association.

This area is a County Service Area (CSA) with water supplied by Fresno County. One such water source alone provides over a million gallons of stored water. These residents have earned a leg up on safe guarding the area they live in. They have agreed to continue the maintenance on the out lots and to support the Fire Safe Council in their grant efforts.

d. Springs Road – Tollhouse Area

This priority area is located off Lodge Road just south of the bottom of Highway 168 at an elevation of about 1,800 feet. As the road climbs, the road narrows and becomes difficult with no turn outs and a significant brush fuel component along the road side. This road terminates at a ridge top at the 2,250 elevation. The road then splits a few hundred yards in with both roads traversing in a westerly direction, with one below the other. There is only one way out and that is this lower road. All along this two plus mile road is homes with some open spaces.

Since 1980 there have been several fires in this area that have threatened life and property. As recently as 2016 the “Goose” fire raced through and around this populated area requiring an evacuation order. The fire moved through dense brush and travelled up to a gated subdivision to the south, threatening the area. A fuel reduction project in this community is needed.

The slope of Black Mountain is southwest of this location and houses the repeaters for Cal Fire and the historical Black Mountain Look Out. Less than a mile away to the south is the campus of Sierra High School. There are many values and assets at risk that could be threatened from a fire originating in the Whispering Springs area. A fuel reduction project has taken place in this area but needs maintenance. Such a maintenance project would clear brush, thin and prune trees and remove ladder fuels 100 feet on both sides of the road. This needs to be an ongoing effort. Most of the work would utilize mastication and hand work.
c. **Jose Basin Road Project**

This proposed project is in the Auberry priority area at an elevation of 1,800 feet. This area has had numerous fires over the years and conditions are ripe for a catastrophic fire to originate from this area. Jose Basin Road is well traveled by homeowners and recreation users. The road is narrow with little visibility ahead due to curves and brush along the roadside.

On the west is a wide drainage that leads to the San Joaquin River where heavy boating activity takes place. About one mile in on Jose Basin, a dirt road takes off to the west and turns north leading to the low elevation (1,400 feet) Redinger Lake. A fire originating in this area along the San Joaquin River could spread to the higher elevations, through forest service land onto Sugarloaf Road. It could then move into “Sweets Mill” and on to Acorn Road. There has been fuel reduction work completed in Sugarloaf and Acorn areas.

The council proposes to clear a total of 300 feet - 200 on the west side and 100 on the east. Mono Indian Rancheria is located just off this road. This area is on the Federal Register of Communities at Risk.

More fuels work is needed along the road but due to this land being inside Forest Service boundaries, the council’s options are limited. Mastication can be used on much of the area. A small hand crew will be needed to complete areas where the masticator could not operate. The hand crew could also remove ladder fuels. The estimated area of this project is approximately 170 acres. We propose the project be done in two phases of 85 acres each.

3. **Other Non-Vegetation Management Projects**

a. **Senior And Disabled Residents**

Many of Hwy. 168’s mountain residents moved to their homes over the past several decades when rules for clearing were not in place or did not have the extensive guidelines that are now in place. At this time, many of these residents do not have the finances or physical abilities to keep their 100-foot clearance up to required specifications. The Fire Safe Council will continue to assist these residents as funding allows in their effort to maintain their defensible space. Future grants and other outside funding sources for this critical objective are being considered at this time.

b. **Home Address Signs**

Home addressing is a project that the Highway 168 Fire Safe Council has become involved with because of ongoing problems in our foothill and mountain communities. Inadequate signage has resulted in difficulties for emergency responders when attempting to find the homes of those who call 911 for help. Cal Fire Battalions are already working on this problem with their 4290 Program. The Fire Safe Council began creating and selling the address signs. This has proven to be quite successful. The signs are the type approved in the 4290 Program conducted by Cal Fire.
They are a 6 x 24-inch metal sign with green vinyl covering displaying four-inch white lettering. The lettering is reflective and weather proof. They are sold for $25.00. A grant or some other outside funding is being sought to help offset the cost to homeowners/landowners. This would significantly increase the number of people participating in this endeavor.

c. Evacuation Information
Evacuation procedures, warnings and other important elements of the evacuation process is a critical element that the Hwy. 168 FSC strives to inform our citizenry about. This is done through numerous education and outreach activities. These elements include:
- Knowing evacuation procedures and evacuation routes
- Preparing a Home Emergency Kit
- Ensuring families and neighbors have a communication plan
- Having a plan in place for pets, livestock and other animals
- Signing up for Fresno County’s alert system

Information on these topics can be seen in APPENDIX I-1 and I-2.

d. Pet and Animal Evacuation
Pets and livestock are a large part of the lives of residents in the Hwy. 168 planning area. These animals are totally dependent on their owner’s preparedness for their safety. While there is nothing mandated by State or County with respect to pet and livestock safety in the instance of a wildfire incident, there are strong recommendations put forth by Cal Fire and the Fresno Co. Office of Emergency Services (Dept. of Public Health). Animal evacuation will be a critical component of Hwy. 168's public education effort to ensure that the components for a successful animal evacuation as well as family evacuation are in place.

e. Projects of Mutual Interest and Cooperation
In addition to the fuels reduction projects, education and outreach efforts and other wildfire mitigation activities, the Hwy. 168 Fire Safe Council will continue to work with Cal Fire’s Fresno-Kings Unit to help identify an implement projects and activities outlined in the Fresno-Kings Unit Fire Plan. This cooperation is critical to the overall success of implementing this Community Wildfire Protection Plan. This plan can be seen in its entirety by visiting the following web site.

http://cdfdata.fire.ca.gov/pub/fireplan/fpupload/fpppdf1479.pdf

This will be done by working with their Protection and Planning Chief and local Battalions 11 and 12 personnel.
Chapter 6: Other CWPP Components

A. Partners and Supporters

1. Core Stakeholder Group
   A Core Stakeholder Group was formed at the beginning of the CWPP update process. This was mentioned in Chapter 1, Section C. This is one of the three key requirements for a complete and approved CWPP. The Core Stakeholder Group includes representatives from Cal Fire, Fresno County, USDA – Forest Service and the Sierra Resource Conservation District. APPENDIX C-1 shows the members and contact information.

   ![Core Stakeholder Group Members]

2. Community Stakeholder Group
   This group was identified by the CWPP Update Committee early during the update process. These stakeholders are also mentioned in Chapter 1, Section C. and is a diverse collection of businesses, civic and non-profit groups, schools, churches and governmental entities. The Community Stakeholder List is shown in APPENDIX D-1.

3. Grants and Cost-Share Programs
   The Hwy. 168 Fire Safe Council has utilized funding from a variety of sources to help meet its overall mission, goals and objectives. Some of the resources used to implement projects of all types are Cal Fire Grants, Environmental Quality Incentive Program funds (EQIP), a program of the Natural Resources Conservation Service (NRCS), California Forest Improvement Program funding (CFIP), a California Department of Forestry and Fire Protection program, PG&E grants and other sources. Highway 168 FSC has also benefitted significantly from projects conducted through partners such as Fresno County’s Public Works Department and the California Department of Transportation (Cal Trans).
B. Education and Outreach in Action

1. Introduction and Background
Members of the Highway 168 Fire Safe Council are a dedicated and well-balanced team that is active in promoting fire safety and wildfire prevention. One member is a former fire fighter, one is a forester with years of experience in the wildfire management and wildfire mitigation field and one is an educator and long-time resident and member of the Fire Safe Council. The other members bring a diverse background to the council to assist with this important CWPP component. The group is keenly aware of the importance of promoting fire safety in the Hwy. 168 corridor of the Fresno County foothills. By living in the Hwy. 168 planning area, members understand the relevant issues and threats and can speak neighbor-to-neighbor and to landowners when seeking landowner agreements and promoting local fuel reduction projects.

2. Public Involvement and Outreach
These outreach efforts have had significant public support, particularly in securing the necessary landowner agreements to implement work. Project grants to reduce hazardous fuels will continue to be an important effort for the FSC members. This requires a strong and robust outreach effort.

3. Ongoing Efforts
The Hwy. 168 FSC has continued to provide the community with numerous educational opportunities to become informed of fire prevention and evacuation strategies, the prepping of residences and surrounding landscapes to minimize wildfire losses (meeting Cal Fire requirements), fire incidents, emergencies, and Hwy. 168 FSC projects through various means. Many of these are annual, demonstrating an ongoing education and outreach approach. Some of these include:

- Bi-monthly Hwy. 168 meetings, including quarterly public lecture meetings
- Mailings and other means to reach out to community members
- Postings on the Hwy. 168 web site
- Information booths and talks at community events
- Postings on local bulletin boards and post offices
C. Resources

To further the overall effort of this CWPP and provide the most accurate and timely information to the citizens, landowners, stakeholders and partners involved with implementing the goals and objectives, a variety of resources are shown below.

1. Website Listings

https://www.oaktotimberline.org/
https://anrcatalog.ucanr.edu/pdf/8393.pdf
http://wildlandfirersg.org/
https://www.nfpa.org/Public-Education/By-topic/Wildfire/Firewise-USA
http://wildfiretoday.com/tag/jack-cohen/
http://www.readyforwildfire.org/Hardening-Your-Home/
www.readyforwildfire.org/Ready-Set-Go-Campaign/
http://www.blm.gov
http://www.cafirealliance.org/
http://www.fire.ca.gov/
http://www.fire.org/
https://www.fs.fed.us/database/feis/AboutFEIS/about.html
http://www.firesafecouncil.org/
http://firewise.org/ Firewise
http://www.nfpa.org/codes/
http://www.oes.ca.gov/
http://www.osfm.fire.ca.gov/
http://www.redcross.org/services/disaster/
http://www.sierranevadaalliance.org/
2. Glossary

**Aspect** – The direction toward which a slope faces (e.g. south facing or north facing)

**Chaparral** – A drought resistant mixture of brush and shrubs that usually contain species of Manzanita.

**Chimneys** – Canyons and draws acting like chimneys or stove pipes by funneling heated air up canyon creating strong upslope drafts. This accelerates the rate that a fire spreads up the canyon.

**Conflagration** – A large disastrous fire or catastrophic wildfire.

**Conifers** – Softwoods such as sugar pine, ponderosa pine, digger pine, Douglas-fir, and incense cedar.

**Conservation** – Planned management of natural resources to prevent exploitation, destruction or neglect.

**Decadent** – In the context to vegetation, refers to plants of declining vigor and deteriorating health.

**Defensible Space** – The area that lies between a house and an oncoming wildfire where the vegetation has been modified to reduce the wildfire threat, and in which firefighters can safely establish themselves to defend a structure.

**Federal Lands** – National forests, national parks, Indian reservations, military facilities, wildlife refuges and other public lands under federal management

**Firebrand** – Any burning material such as leaves, wood, glowing charcoal or embers that could start or help spread a forest fire.

**Firebreak** – A barrier, from which all or most of the flammable materials have been removed, designed to stop or check creeping or running but not spotting fires.

**Fire Environment** – The surrounding conditions, influences and modifying forces of topography, fuel and weather that determine fire behavior.

**Fire Hazard Mitigation** – Measures that are prescribed to reduce potential for a fire.

**Fire Season** – The period when vegetation cures, dries out and is most flammable.

**Flash Fuels** – Small fuels (1/2 inch diameter or smaller) loosely arranged, such as grass, pine needles, etc.

**Fuel** – Any combustible material. Regarding wildfire, fuel typically refers to both living and dead vegetation

**Fuelbreak** – A strategically located wide block, or strip, on which a cover of dense, heavy or flammable vegetation has been permanently changed to one of lower fuel volume or reduced flammability, allowing for safe access by firefighters. A fuel break is usually constructed on a ridge and the fuel break width varies with the height of the heavy fuels. A shaded fuel break is a fuel break located in forest or woodlands where the trees are pruned up to 20’, and the intermediate shrubs, brush and dead fuels are removed and replaced with grasses and forbs.

**Fuel Treatment** – The rearrangement or removal of fuels to reduce fire hazard or to accomplish other resource management objectives.

**Hardwoods** – Oak (blue oak, black oak, live oak), alder, willow, madrone and cottonwood.

**Horizontal Continuity** – The degree to which fuels form a continuous layer on a horizontal plane (e.g. a brush field, contiguous tree crowns, a grassy field or bed of leaves)

**Infrastructure** – Basic facilities such as roads, power plants, waterways, and transportation and communication systems.

**Initial Attack** – The wildfire control efforts taken by resources that are first to arrive at a wildfire.

**Interface or Wildland Interface** – The geographical meeting point of two diverse systems, wildland and structures. At this interface, structures and vegetation are sufficiently close that a wildland fire could spread to structures or a structure fire could ignite vegetation.
Intermix or Wildland Intermix – Interspersing of developed land with wildland, where there are no easily discernible boundaries between the two systems. An example would be what real estate brochures describe as “ranchettes” or “weekend farmer” homes. This poses more problems in wildland fire management than interface.

Ladder Fuel – Fuels that provide vertical continuity between strata. Fire can move from the surface fuels into shrubs and into brush and tree crowns with relative ease.

Litter – A surface layer of loose organic debris in forests consisting of freshly fallen or slightly decomposed organic materials such as leaves, pine needles and twigs.

Local Responsibility Areas (LRA) – Rural fire districts, incorporated areas and other land classifications outside the jurisdiction of Cal Fire and Federal land managers.

Natural Fuels – Fuels that have built up through natural growth, mortality and fire suppression (e.g. brush, thickets of young trees, ground cover, dead plant material).

Overstory – That portion of the trees forming the upper tree crown cover.

Prescribed Burning – The planned use of fire for killing and removing vegetation in place in a specified area; also known as “controlled burning”

Slash – Debris such as branches, leaves and bark generated from tree cutting or other vegetation manipulation practices.

Spotting – Fire behavior producing sparks or embers carried by the wind that start new fires beyond the main fire.

Stakeholder – In the CWPP context, any person, agency or organization with an interest or stake in fire safety and protection of assets from wildland fires.

State Responsibility Area (SRA) – Areas of the state in which the responsibility for preventing and suppressing fires lies with the state.

Tree Canopy – The crown cover of green leaves and branches formed by all the tree crowns in a forest.

Tree Crown – The upper branches and foliage of a tree.

Uncontrolled Fire – Any fire that threatens to destroy life, property or natural resources and either is not burning within confines of firebreaks or is burning with such intensity that it cannot be readily extinguished.

Wildfire – A fire occurring on wildland that is not meeting management objectives and thus may require a response.

Wildland Rural Intermix – Where many structures are randomly present throughout large areas covered with contiguous brush and trees.
3. List of Acronyms and Abbreviations

BIA – Bureau of Indian Affairs
BLM – Bureau of Land Management
Cal Fire – California Department of Forestry and Fire Protection
CAR – Communities At Risk
CEQA – California Environmental Quality Act
CFIP – California Forest Improvement Program
CFP – California Fire Plan
CWPP – Community Wildfire Protection Plan
DFG – Department of Fish & Game
EQIP – Environmental Quality Incentive Program
FEMA – Federal Emergency Management Agency
FMAZ – Fire Management Analysis Zone
FRA – Federal Responsibility Area
FSC – Fire Safe Council
HF – Healthy Forest Initiative
HFRA – Healthy Forest Restoration Act
ICS – Incident Command System
ISO – Insurance Services Organization
LRA – Local Responsibility Area
OES – Office of Emergency Services
NASF – National Association of State Foresters
NFP – National Fire Plan
NPS – National Park Service
PRC – Public Resource Code
RAMS – Risk Assessment & Mitigation Strategy
RCD – Resource Conservation District
RPF – Registered Professional Forester
SFA – State Fire Assistance
SRA – State Responsibility Area
SNC – Sierra Nevada Conservancy
USFS – United States Forest Service
WUI – Wildland Urban Interface

4. APPENDICES
APPENDICES

A: Community Guide Handbook
B: Highway 168 CWPP Update Committee Meetings
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D-1: Community Stakeholder List
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G: Shaver Lake Area Map
H-1: Fresno County Emergency Alerts Sign-Up Information
H-2: Fresno County Evacuation Guidelines
Preparing a Community Wildfire Protection Plan

A Handbook for Wildland–Urban Interface Communities

Sponsored By:
Communities Committee • National Association of Counties • National Association of State Foresters
Society of American Foresters • Western Governors’ Association

March 2004
Introduction

The idea for community-based forest planning and prioritization is neither novel nor new. However, the incentive for communities to engage in comprehensive forest planning and prioritization was given new and unprecedented impetus with the enactment of the Healthy Forests Restoration Act (HFRA) in 2003.

This landmark legislation includes the first meaningful 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 projects.

In order for a community to take full advantage of this new opportunity, it must first prepare a Community Wildfire Protection Plan (CWPP). Local wildfire protection plans can take a variety of forms, based on the needs of the people involved in their development. Community Wildfire Protection Plans may address issues such as wildfire response, hazard mitigation, community preparedness, or structure protection—or all of the above.

The process of developing a CWPP can help a community clarify and refine its priorities for the protection of life, property, and critical infrastructure in the wildland–urban interface. It also can lead community members through valuable discussions regarding management options and implications for the surrounding watershed.

The language in the HFRA provides maximum flexibility for communities to determine the substance and detail of their plans and the procedures they use to develop them. Because the legislation is general in nature, some communities may benefit from assistance on how to prepare such a plan.

This Handbook is intended to provide communities with a concise, step-by-step guide to use in developing a CWPP. It addresses, in a straightforward manner, issues such as who to involve in developing a plan, how to convene other interested parties, what elements to consider in assessing community risks and priorities, and how to develop a mitigation or protection plan to address those risks.

This guide is not a legal document, although the recommendations contained here carefully conform to both the spirit and the letter of the HFRA. The outline provided offers one of several possible approaches to planning. We hope it will prove useful in helping at-risk communities establish recommendations and priorities that protect their citizens, homes, and essential infrastructure and resources from the destruction of catastrophic wildfire.
Discussion

Communities and the Wildland–Urban Interface
The wildland–urban interface (WUI) is commonly described as the zone where structures and other human development meet and intermingle with undeveloped wildland or vegetative fuels. This WUI zone poses tremendous risks to life, property, and infrastructure in associated communities and is one of the most dangerous and complicated situations firefighters face.

Both the National Fire Plan and the Ten-Year Comprehensive Strategy for Reducing Wildland Fire Risks to Communities and the Environment place a priority on working collaboratively within communities in the WUI to reduce their risk from large-scale wildfire.

The HFRA builds on existing efforts to restore healthy forest conditions near communities and essential community infrastructure by authorizing expedited environmental assessment, administrative appeals, and legal review for hazardous fuels projects on federal land.

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.

Role of Community Wildfire Protection Plans
The HFRA provides communities with a tremendous opportunity to influence where and how federal agencies implement fuel reduction projects on federal lands and how additional federal funds may be distributed for projects on nonfederal lands. A CWPP is the most effective way to take advantage of this opportunity.

Local wildfire protection plans can take a variety of forms, based on the needs of those involved in their development. They can be as simple or complex as a community desires.

The minimum requirements for a CWPP as described in the HFRA are:

1. **Collaboration:** A CWPP must be collaboratively developed by local and state government representatives, in consultation with federal agencies and other interested parties.

2. **Prioritized Fuel Reduction:** A CWPP must identify and prioritize areas for hazardous fuel reduction treatments and recommend the types and methods of treatment that will protect one or more at-risk communities and essential infrastructure.

3. **Treatment of Structural Ignitability:** A CWPP must recommend measures that homeowners and communities can take to reduce the ignitability of structures throughout the area addressed by the plan.

The HFRA requires that three entities must mutually agree to the final contents of a CWPP:

- The applicable local government (i.e., counties or cities);
- The local fire department(s); and
- The state entity responsible for forest management.

In addition, these entities are directed to consult with and involve local representatives of the USFS and BLM and other interested parties or persons in the development of the plan. The process is intended to be open and collaborative, as
described in the Ten-Year Strategy, involving local and state officials, federal land managers, and the broad range of interested stakeholders.

If a community already has a plan that meets these requirements, the community need not develop an additional plan for the purposes of the HFRA.

Benefits to Communities
In the context of the HFRA, a CWPP offers a variety of benefits to communities at risk from wildland fire. Among those benefits is the opportunity to establish a localized definition and boundary for the wildland–urban interface.

In the absence of a CWPP, the HFRA limits the WUI to within $\frac{1}{2}$ mile of a community’s boundary or within 1 $\frac{1}{2}$ miles when mitigating circumstances exist, such as sustained steep slopes or geographic features aiding in creating a fire break. Fuels treatments can occur along evacuation routes regardless of their distance from the community. At least 50 percent of all funds appropriated for projects under the HFRA must be used within the WUI as defined by either a CWPP or by the limited definition provided in the HFRA when no CWPP exists.¹

In addition to giving communities the flexibility to define their own WUI, the HFRA also gives priority to projects and treatment areas identified in a CWPP by directing federal agencies to give specific consideration to fuel reduction projects that implement those plans. If a federal agency proposes a fuel treatment project in an area addressed by a community plan but identifies a different treatment method, the agency must also evaluate the community’s recommendation as part of the project’s environmental assessment process.

Preparing a Community Wildfire Protection Plan

➤ These step-by-step recommendations are intended to help communities develop a wildfire protection plan that addresses the core elements of community protection. Items required under the HFRA are addressed, as are some additional issues that often are incorporated into wildfire protection planning. Actions beyond those listed in the legislation are not required for the purposes of the HFRA.

➤ Community fire planning need not be a complex process. A community can use this outline to develop a fire plan that is as extensive or as basic as is appropriate and desired by the community.

➤ A key element in community fire planning should be the meaningful discussion it promotes among community members regarding their priorities for local fire protection and forest management. This handbook should help to facilitate these local discussions.

¹ In the absence of a CWPP, Section 101 (16) of the HFRA defines the wildland–urban interface as “(i) an area extending $\frac{1}{2}$ mile from the boundary of an at-risk community; (ii) an area within 1 $\frac{1}{2}$ miles of the boundary of an at-risk community, including any land that (I) has a sustained steep slope that creates the potential for wildfire behavior endangering the at-risk community; (II) has a geographic feature that aids in creating an effective fire break, such as a road or ridge top; or (III) 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 form the at-risk community.”
**STEP ONE:** Convene Decisionmakers

The initial step in developing a CWPP should be formation of an operating group with representation from local government, local fire authorities, and the state agency responsible for forest management.

Together, these three entities form the core decision-making team responsible for the development of a CWPP as described in the HFRA. The core team members must mutually agree on the plan's final contents.

In communities where several local governments and fire departments are within the planning area, each level of government/authority may need to convene ahead of time and identify a single representative to participate, on its behalf, as a core team member.

**STEP TWO:** Involve Federal Agencies

Once convened, members of the core team should engage local representatives of the USFS and BLM to begin sharing perspectives, priorities, and other information relevant to the planning process.

Because of their on-the-ground experience, mapping capabilities, and knowledge of natural resource planning, these local land management professionals will be key partners for the core team. In some landscapes, they will also be largely responsible for implementing the priorities established in the resulting CWPP.

**STEP THREE:** Engage Interested Parties

The success of a CWPP also hinges on the ability of the core team to effectively involve a broad range of local stakeholders, particularly when the landscape includes active and organized neighborhood associations, community forestry organizations that work in forest management, and other stakeholder groups that display a commitment to fire protection and fuels management.

Substantive input from a diversity of interests will ensure that the final document reflects the highest priorities of the community. It will also help to facilitate timely implementation of recommended projects. In some circumstances, the core team may wish to invite local community leaders or stakeholder representatives to work along with them in final decisionmaking.

As early as possible, core team members should contact and seek active involvement from key stakeholders and constituencies such as:

- Existing collaborative forest management groups
- City Council members
- Resource Advisory Committees
- Homeowners Associations—particularly those representing subdivisions in the WUI
- Division of Wildlife/Fish and Game—to identify locally significant habitats
- Department of Transportation—to identify key escape corridors
- Local and/or state emergency management agencies
- Water districts—to identify key water infrastructure
- Utilities
- Recreation organizations
- Environmental organizations
- Forest products interests
- Local Chambers of Commerce
- Watershed councils

This list provides a starting point and is by no means exhaustive.

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2 Sec. 103 (b)(2) of the Act states that “the Federal Advisory Committee Act (5 U.S.C. App.) shall not apply to the planning process and recommendations concerning community wildfire protection plans.”

3 A CWPP is legally applicable to federal lands only if they are managed by the USFS or the BLM. Nothing in the Act requires a community to exclude other federal agencies—such as the Fish and Wildlife Service or the National Park Service—from planning efforts, but those agencies are not bound by the provisions of the HFRA.
In addition to directly contacting key individuals and organizations, core team members may want to consider using a public notice or public meeting process to acquire additional, more generalized input as the plan is developed.

✔ **STEP FOUR:** Establish a Community Base Map

Using available technology and local expertise, the core team and key partners should develop a base map of the community and adjacent landscapes of interest. This map will provide a visual information baseline from which community members can assess and make recommendations regarding protection and risk-reduction priorities.

To the extent practicable, the map should identify:
- Inhabited areas at potential risk to wildland fire;
- Areas containing critical human infrastructure—such as escape routes, municipal water supply structures, and major power or communication lines—that are at risk from fire disturbance events; and
- A preliminary designation of the community’s WUI zone.

✔ **STEP FIVE:** Develop a Community Risk Assessment

The development of a community risk assessment will help the core team and community members more effectively prioritize areas for treatment and identify the highest priority uses for available financial and human resources.

A meaningful community assessment can be developed by considering the risk factors identified below. Choose an appropriate adjective rating (such as high, medium, and low) that best represents the risk to the community posed by each factor. Display the results on the base map to develop a useful tool for the final decision-making process.

State and federal land managers will be a valuable resource in helping communities locate the best available data and in producing quality maps that display and aid assessment of that data. Engaging key stakeholders in the rating process will be essential to a successful outcome.

A. **Fuel Hazards**

To the extent practicable, evaluate the vegetative fuels on federal and nonfederal land within or near the community. Identify specific areas where the condition of vegetative fuels is such that, if ignited, they would pose a significant threat to the community or essential community infrastructure. Consider how the local topography (such as slope, aspect, and elevation) may affect potential fire behavior.

Identify areas affected by windthrow, ice storms, or insect and disease epidemics where fuels treatment would reduce wildfire risks to communities and/or their essential infrastructure.

State and federal resource planning documents can be a valuable source of information on local forest and rangeland conditions.

Rate each area of identified hazardous fuels and show each on the base map as a high, medium, or low threat to the community.
B. Risk of Wildfire Occurrence
Using historical data and local knowledge, determine the common causes and relative frequency of wildfires in the vicinity of the community. Consider the range of factors, including critical weather patterns, that may contribute to the probability of fire ignitions and/or extreme fire behavior.

Use relative ratings such as high, medium, and low to show areas of concern for fire starts on the base map.

C. Homes, Businesses, and Essential Infrastructure at Risk
Assess the vulnerability of structures within the community to ignition from firebrands, radiation, and convection. Document areas of concern.

Identify specific human improvements within or adjacent to the community, such as homes, businesses, and essential infrastructure (e.g., escape routes, municipal water supply structures, and major power and communication lines) that would be adversely impacted by wildfire.

Categorize all identified areas needing protection using ratings of high, medium, or low, and show them on the base map.

D. Other Community Values at Risk
At the community's option, the risk assessment may also consider other areas of community importance, such as critical wildlife habitat; significant recreation and scenic areas; and landscapes of historical, economic, or cultural value that would benefit from treatment to reduce wildfire risks. Additional recommendations from local stakeholders should be incorporated as appropriate.

Categorize all identified areas that warrant protection using the ratings of high, medium, or low, and show them on the base map.

E. Local Preparedness and Firefighting Capability
Assess the level of the community's emergency preparedness, including evacuation planning, safety zones, and fire assistance agreements, as well as the response capability of community and cooperator fire protection forces. Consider the insurance industry ISO rating, if available and applicable. Use the knowledge and experience of local officials to identify areas in need of improvement.

Incorporate local preparedness information into the base map as appropriate.

✔️ STEP SIX: Establish Community Hazard Reduction Priorities and Recommendations to Reduce Structural Ignitability
Once the community assessment and base map are completed, the core team should convene all interested parties to discuss the results and their implications for local protection and hazard mitigation needs. A key objective of these discussions is to develop the community's prioritized recommendations for fuel treatment projects on federal and nonfederal lands in the WUI, along with the preferred treatment methods for those projects.

Recommendations should also be developed regarding actions that individuals and the community can take to reduce the ignitability of homes and other structures in the community’s WUI zone.

While local interests are gathered, communities may also want to take this opportunity to identify and develop strategies to improve their emergency preparedness and fire response capability.

The discussion and identification of community priorities should be as open and collaborative as possible. Diverse community involvement at this stage is critical to the ultimate success of the CWPP.
Recommendations included in the final CWPP should clearly indicate whether priority projects primarily serve to protect the community and its essential infrastructure or are geared toward reducing risks to the other community values. Under the provisions of the HFRA, only projects that primarily serve to protect communities and essential infrastructure are eligible for the minimum 50 percent WUI funding specified in the legislation.

✔ **STEP SEVEN:** Develop an Action Plan and Assessment Strategy

Before finalizing the CWPP, core team members and key community partners should consider developing an action plan that identifies roles and responsibilities, funding needs, and timetables for carrying out the highest priority projects.

Additional consideration should be given to establishing an assessment strategy for the CWPP to ensure that the document maintains its relevance and effectiveness over the long term.4

✔ **STEP EIGHT:** Finalize the Community Wildfire Protection Plan6

The final step in developing a CWPP is for the core team to reconvene and mutually agree on the fuels treatment priorities, preferred methods for fuels treatment projects, the location of the wildland-urban interface, structural ignitability recommendations, and other information and actions to be contained in the final document.

If an associated action plan has not been developed, the core team should identify a strategy for communicating the results of the planning process to community members and key land management partners in a timely manner.

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4 Community planning participants may also want to participate in multiparty monitoring of USFS and BLM projects developed under the HFRA as provided for in Sec.102 (g)(5) of the legislation: “In an area where significant interest is expressed in multiparty monitoring, the Secretary shall establish a multiparty monitoring, evaluation, and accountability process in order to assess the positive or negative ecological and social effects of authorized hazardous fuels reductions projects.”

5 Some states have statutes that may require an environmental analysis for plans adopted by local or state agencies. In such states, core team members should determine whether formal environmental analysis is required before finalizing their plans.
Summary and Checklist

✔ **Step One:** Convene Decisionmakers
  • Form a core team made up of representatives from the appropriate local governments, local fire authority, and state agency responsible for forest management.

✔ **Step Two:** Involve Federal Agencies
  • Identify and engage local representatives of the USFS and BLM.
  • Contact and involve other land management agencies as appropriate.

✔ **Step Three:** Engage Interested Parties
  • Contact and encourage active involvement in plan development from a broad range of interested organizations and stakeholders.

✔ **Step Four:** Establish a Community Base Map
  • Work with partners to establish a baseline map of the community that defines the community’s WUI and displays inhabited areas at risk, forested areas that contain critical human infrastructure, and forest areas at risk for large-scale fire disturbance.

✔ **Step Five:** Develop a Community Risk Assessment
  • Work with partners to develop a community risk assessment that considers fuel hazards; risk of wildfire occurrence; homes, businesses, and essential infrastructure at risk; other community values at risk; and local preparedness capability.
  • Rate the level of risk for each factor and incorporate into the base map as appropriate.

✔ **Step Six:** Establish Community Priorities and Recommendations
  • Use the base map and community risk assessment to facilitate a collaborative community discussion that leads to the identification of local priorities for fuel treatment, reducing structural ignitability, and other issues of interest, such as improving fire response capability.
  • Clearly indicate whether priority projects are directly related to protection of communities and essential infrastructure or to reducing wildfire risks to other community values.

✔ **Step Seven:** Develop an Action Plan and Assessment Strategy
  • Consider developing a detailed implementation strategy to accompany the CWPP, as well as a monitoring plan that will ensure its long-term success.

✔ **Step Eight:** Finalize Community Wildfire Protection Plan
  • Finalize the CWPP and communicate the results to community and key partners.
Sponsor Organizations

Communities Committee of the Seventh American Forest Congress
www.communitiescommittee.org
919 Elk Park Rd.
Columbia Falls, MT 59912
Phone: (406) 892-8155
Fax: (406) 892-8161

National Association of Counties
www.naco.org
440 First Street, NW
Washington, DC 20001
Phone: (202) 393-6226
Fax: (202) 393-2630

National Association of State Foresters
www.stateforesters.org
444 N. Capitol St., NW Suite 540
Washington, DC 20001
Phone: (202) 624-5415
Fax: (202) 624-5407

Society of American Foresters
www.safnet.org
5400 Grosvenor Lane
Bethesda, MD 20814-2198
Phone: (301) 897-3690
Fax: (301) 897-3690

Western Governors Association
www.westgov.org
1515 Cleveland Place
Suite 200
Denver, CO 80202-5114
Phone: (303) 623-9378
Fax: (303) 534-7309
Additional Resources on the Web:

• Federal Agency Implementation Guidance for the Healthy Forest Initiative and the Healthy Forest Restoration Act: www.fs.fed.us/projects/hfi/field-guide/

• Field Guidance for Identifying and Prioritizing Communities at Risk: www.stateforesters.org/reports/COMMUNITIESATRISKFG.pdf

• The National Fire Plan: www.fireplan.gov

• Fire Safe Councils: www.firesafecouncil.org

• Western Governors Association: www.westgov.org

• Collaboration: www.redlodgeclearinghouse.org
  www.snre.umich.edu/emi/lessons/index.htm

Examples of Community Fire Plans

(Note: these plans may not meet the requirements of HFRA, because they were created prior to its enactment)

Josephine County, Oregon: www.co.josephine.or.us/wildfire/index.htm


Colorado Springs, CO: csfd springsgov.com/wildfiremitigation.pdf

Jefferson County, Colorado: www.co.jefferson.co.us/ext/dpt/admin_svc/emergmgmt/index.htm


Trinity County Fire Management Plan: users.snowcrest.net/tcrd/
Want to help protect your community from wildfire risk?

Check out this *NEW* Handbook for preparing community wildfire protection plans!

Communities Committee

5400 Grosvenor Lane
Bethesda, Maryland 20814-2198
www.safnet.org
APPENDIX  B

Highway 168 Fire Safe Council
CWPP Update Committee Meetings
## Highway 168 FSC
### CWPP Update Committee Meetings

<table>
<thead>
<tr>
<th>Meeting Number &amp; Location</th>
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<th>Minutes Completed Other</th>
<th>Minutes Accepted</th>
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<td></td>
<td>Updated FSC Board on CWPP Revision Process</td>
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<td>3/8/18 Q6</td>
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<tr>
<td>Hwy. 168 FSC Board Meeting USFS Office – Prather</td>
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<tr>
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<tr>
<td>Meeting #9 FSC Office</td>
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**NOTE:** Quarters are from when the SRCD grant started – not the usual yearly quarters

- **Q4:** August – October
- **Q5:** November – January
- **Q6:** February – April
- **Q7:** May – July
APPENDIX C

Core Stakeholder Meeting Agenda
Highway 168 Fire Safe Council
Sierra Resource Conservation District

Community Wildfire Protection Plan
Core Stakeholder Group Meeting

April 24, 2018
2:00 - 3:30

- - A G E N D A - -

I. Welcome and Introductions / Opening Remarks
a. Howard Hendrix

II. Organizational Structure and Relationships
a. Steve Haze

III. CWPP Development Process
a. Craig Jones/Pat Gallegos

IV. Core Stakeholder Group Input
a. Howard Hendrix/Craig Jones
   o Comments
   o Q & A
   o Follow-Up Items
   o Next Steps

V. Thanks
APPENDIX  C-1

Core Stakeholder Members and Contact Information
<table>
<thead>
<tr>
<th>Number</th>
<th>Entity</th>
<th>Name</th>
<th>Phone</th>
<th>Email</th>
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<tbody>
<tr>
<td>1</td>
<td>CalFire</td>
<td>Mark Johnson – Chief, FKU Unit</td>
<td>559 485-7500</td>
<td><a href="mailto:mark.johnson@fire.ca.gov">mark.johnson@fire.ca.gov</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Jim McDougald - Div. Chief, Protection &amp; Planning</td>
<td></td>
<td><a href="mailto:jim.mcdougald@fire.ca.gov">jim.mcdougald@fire.ca.gov</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Jim Fitzgerald - Bat. Chief</td>
<td></td>
<td><a href="mailto:jim.fitzgerald@fire.ca.gov">jim.fitzgerald@fire.ca.gov</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Matt Dunham - Bat. Chief</td>
<td></td>
<td><a href="mailto:matt.dunham@fire.ca.gov">matt.dunham@fire.ca.gov</a></td>
</tr>
<tr>
<td>2</td>
<td>U.S. Forest Service</td>
<td>Ray Porter - District Ranger, SNF</td>
<td>559 855-5355</td>
<td><a href="mailto:rporter@fs.fed.us">rporter@fs.fed.us</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Adam Hernandez</td>
<td></td>
<td><a href="mailto:achernandez@fs.fed.us">achernandez@fs.fed.us</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Carolyn Ballard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>U.S. Park Service</td>
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</tr>
<tr>
<td>4</td>
<td>Fresno County</td>
<td>Ken Austin - Emergency Mgr., OES</td>
<td>559 600-4065</td>
<td><a href="mailto:kaustin@co.fresno.ca.us">kaustin@co.fresno.ca.us</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Adan Ortiz - OES</td>
<td>559 600-4064</td>
<td><a href="mailto:aortiz@co.fresno.ca.us">aortiz@co.fresno.ca.us</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Nathan Magsig – Board of Supervisors</td>
<td></td>
<td><a href="mailto:brush@co.fresno.ca.us">brush@co.fresno.ca.us</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Brett Rush - Staff</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Sierra RCD</td>
<td>Steve Haze - District Mgr., SRCD</td>
<td>559 855-5840</td>
<td><a href="mailto:Stevehaze007@gmail.com">Stevehaze007@gmail.com</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Craig Jones - Project Mgr., SRCD</td>
<td>303 443-2088</td>
<td><a href="mailto:craigjo@colostate.edu">craigjo@colostate.edu</a></td>
</tr>
<tr>
<td>6</td>
<td>Hwy. 168 FSC</td>
<td>Howard Hendrix – Chair, Hwy.168 FSC</td>
<td>559 259-2367</td>
<td><a href="mailto:howardh@mail.fresnostate.edu">howardh@mail.fresnostate.edu</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pat Gallegos - Community Coord.</td>
<td>559 841-2582</td>
<td><a href="mailto:miz5150@netptc.net">miz5150@netptc.net</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ryan Stewart – Vice Chair, Hwy. 168 FSC</td>
<td>559 500-9122</td>
<td><a href="mailto:ryan.stewart@sce.com">ryan.stewart@sce.com</a></td>
</tr>
</tbody>
</table>
APPENDIX D

Community Stakeholder Group
Meeting Agenda
Highway 168 Fire Safe Council  
Sierra Resource Conservation District  

Community Wildfire Protection Plan  
Community Stakeholder Group Meeting  

July 21, 2018  3:00 - 4:30  

--- A G E N D A ---  

A. Welcome and Introductions / Opening Remarks  
   a. Howard Hendrix  

B. Organizational Structure and Relationships  
   b. Steve Haze  

C. CWPP Development Process  
   a. Craig Jones/Pat Gallegos  

D. Community Stakeholder Group Input  
   a. Howard Hendrix/Craig Jones  
      o Comments  
      o Q & A  
      o Follow-Up Items  
      o Next Steps  

E. Thanks  

--- FUNDING INFORMATION ---  

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- This institution is an equal opportunity provider.  
- The views and conclusions contained in this document are those of the authors and should not be interpreted as representing the opinions or policies of the California Fire Safe Council, U.S. Forest Service or the U.S. Government. Mention of trade names or commercial products does not constitute their endorsement by the California Fire Safe Council or the U.S.
APPENDIX D-1

Community Stakeholder Group
List of Stakeholders
Federal
USDA - Forest Service
High Sierra Ranger Station
Trimmer Fire Station
Trimmer Helitack,
Mountain Rest Fire Station

State
Cal Fire
California Highway Patrol

County
Fresno County Board of Supervisors District 5
Nathan Magsig - Supervisor
Brett Rush - Staff
Fresno County Sheriff’s Station
County Public Works Department
Office of Emergency Services

Local
Schools
Sierra Unified School District
Foothill Elementary
Sierra High School
Sierra Junior High
Pine Ridge Elementary
Big Creek Elementary,

Churches
Auberry Community Church
Auberry First Baptist
Church of Tollhouse
Sierra Lutheran
The Mountain Fellowship
New Life Assembly
Sierra Hills Baptist Church
Oakview Baptist Church
Infant Jesus of Prague
Auberry Church of Christ
Shaver Lake Church of Christ
Sierra Hills Baptist Church
Church of Jesus Christ of Latter-day Saints
Big Creek Community Church
Friant Foothill Bible Church
Auberry Jehovah Witnesses

Cold Springs Rancheria

The official name of this important entity within the Highway 168 Fire Safe Council is the Cold Springs Rancheria of Mono Indians of California. Cold Springs Rancheria is the tribe’s reservation. Below are some important facts about Cold Springs Rancheria and the Mono Indians of California.

- Cold Springs Rancheria is a Federally Recognized Tribe
- As of 2010 census, population was 184
- Current tribal constitution ratified April 11, 1970 and last amended in 2001
- The Rancheria occupies 155 acres in Sycamore Valley
- Tribal headquarters is located in Tollhouse

Fresno County FPD
Shaver Lake Volunteers
Pine Ridge Volunteers
Auberry Fire and Rescue
Huntington Lake Volunteers
Big Creek Volunteers
Bald Mount Volunteers

Sierra Lutheran
Seventh-day Adventist
Businesses
Universal Smoke Shop
Prather Perk
Shaver Coffee and Deli
Shaver Lake Civic League
Outback Materials
Sierra Foothill Conservancy
Arndt Woodworking Inc.
Fowler Construction
Quality Home Painting
Robinson Construction
Cressman’s General Store
General Store
Shaver Lake Gas and Food Mart
CPA Lisbeth Bundli,
Mountain Appliance Repair
Sierra Veterinary Hospital
Mountain Flame
CW Page Appraisal Group
Stewart Malcolm
Auberry Garage
Bruce’s Auto Service
Dave’s Auto Service
Dirty Deeds Done Cheap
Central Valley Community Bank
His & hers Hairstyling, Shaver Lake
Six Mile Style, Shaver Lake
Drakes landing Bed and Bites
Elliott House B&B, Tollhouse Road
Ace Hardware, 29181 Auberry Road
Arndt Woodworking
Central Valley Indian Health Clinic
Coldwell Banker
Elming Tree Service
Foothill Physical Therapy
Freight Station, Auberry
Friant Depot, Friant
Friant Trading Post
Garabedian Troy DC
Harmon RV & Min Storage
Huntington Condo Rental
Intermountain Nursery
K&K Property Rentals, Prather
Edward Kennedy DVM
Mono Wind Casino
Molina Ed DDS
Mountain Flame Propane
Mountain Press
Mountain Top Chimney Sweep
Napa Auto Parts
Phillips, Sallie, DVM
Quality Home Painting
Ryan’s Carpet Care
Fuel Types and Fire Behavior

1. Fuel Types
   Fuel types are generally classified as light, moderate or heavy. All three types can be found within the OTFSC boundaries. These fuel types can be mixed with one or all three found together or in close proximity. For discussion purposes, they will be described separately. Another important item to consider when identifying fuel reduction projects is that fire behavior is different in each type.

A. Light Fuels
   These are primarily grass, forbs, weeds and small/short shrubs. Fire behavior in this type is generally fast moving and of low intensity. The flaming front moves quickly across the landscape but is “out” upon passing the area.

B. Moderate Fuels
   Moderate fuels are the shrubs, chaparral, brush and short trees. These represent a very difficult fuel for firefighters as rates of spread can be fast and fire intensities high. Direct attack is often difficult or impossible in this fuel type – requiring an indirect approach to firefighting tactics.

C. Heavy Fuels
   This fuel type is generally the various forest types found at mid and upper elevations. Both live and dead trees, forest stands of multiple size and age classes, and areas with standing and dead-fall are examples of the heavy fuel type. Fire behavior in generally extreme in these areas. Rates of spread can be variable however as influenced by the other fire behavior factors involved at the time of a wildfire event. Fire intensity though is usually very high and only and indirect
approach to controlling the fire is possible. Also, once the flaming front has passed, logs and other debris can continue to put out heat, embers and dangerous conditions for fire fighters. These fire behavior factors are briefly described below.

2. Fire Behavior

Fire behavior is predicated on three factors, fuels, weather and topography. Together these are referred to as the Big 3. Each one will be briefly discussed below. Prior to discussing fire behavior though, a brief introduction to the elements required for ignition will be discussed.

The Fire Triangle - To sustain a fire, three elements are needed: heat or an ignition source, fuel, and oxygen. Take any one of these elements away and the fire goes out (or doesn’t start). For example, creating a fire line down to bare mineral soil, which is noncombustible, removes combustible material on the forest floor (surface fuel) and stops a fire’s progress and contains the fire if the fire line encircles the fire.

The Fire Behavior Triangle (The BIG 3) - Fire behavior means its rate of spread (in feet/hour) and its intensity (that is, how hot it burns and how long its flame is). Once a fire ignites in forest or rangeland, its behavior depends on the three factors that make up the fire behavior triangle: the amount and arrangement of fuel, the topography, and weather conditions. A change in any one factor during the fire alters its behavior and type (whether it's a ground, surface, or crown fire).

A. Fuels

Fire behavior starts with the fuel or fuels involved. The key components of fuel(s) are:
1. Fuel type
2. Amount of fuel
3. Arrangement of fuels involved (contiguous or patchy)
4. Fuel moisture

B. Weather

Weather components include:
1. Temperature
2. Relative Humidity
3. Wind

C. Topography

1. General terrain
2. Steepness
Fuel is Common Denominator

We have little or no control over most factors governing the type of fire and fire behavior triangle. For example, we can’t control the wind, topography, or oxygen, nor can we prevent every fire ignition. One element we can control is fuel. Reducing the amount of fuel and changing its arrangement before a wildfire erupts can affect fire behavior. Recent examinations of wildfires in the West show that where fuels have been reduced beforehand, fire intensity and severity are usually reduced. Thus, removing or reducing fuels in strategic locations on your property can lower fire risk and help make your property more resistant to wildfire.

3. Types of Fires

Ground fires

Ground fires consume mostly the duff layer and don’t produce visible flames (Figure 3). Ground fires can also burn out stumps and follow and burn decaying roots and decayed logs in the soil. A fire burning in tree roots often goes undetected except when it follows a root near the soil surface. In such cases, it can emerge, ignite surface fuels, and become a surface fire. Ground fires can often smolder for days or weeks, producing little smoke.

Surface Fires

Surface fires produce flaming fronts that consume needles, moss, lichen. Surface fires can ignite large woody debris and decomposing duff, which can burn (glowing combustion) long after surface flames have moved past. Surface fire severity can be low to high. High-severity surface fires kill most trees (more than 70 percent). Surface fires can be controlled by ground crews. Surface fires can develop into crown fires if ladder fuels connect surface fuels to crown fuels, fuel moisture is low, or weather conditions favor torching and crowning. Surface fires can ignite large woody debris and decomposing duff, which can burn (glowing combustion) long after surface flames have moved past. Surface fire severity can be low to high. High-severity surface fires kill most trees (more than 70 percent). Surface fires with flame lengths less than four feet can be controlled by ground crews. Surface fires can develop into crown fires if ladder fuels connect surface fuels to crown fuels, fuel moisture is low, or weather conditions favor torching and crowning.

Crown Fires

Crown fires are either passive or active. Passive crown fires involve the torching of individual trees or groups of trees. Torching is the precursor to an active crown fire. Crown fires become active when enough heat is released to preheat and combust fuel above the surface, followed by active spreading of fires from one tree crown to the next through the canopy. Crown fires are usually intense and are strongly influenced by wind, topography, and tree (crown) density.

The five factors that influence the transition from a surface fire to a crown fire are fuel moisture, surface flame length, height to the base of the live tree crown, presence of ladder fuels and density of tree crowns.
APPENDIX H

Shaver Lake Area Map
APPENDIX H-1

Emergency Alerts
Sign-Up Information
SIGN-UP FOR FRESNO COUNTY SHERIFF’S OFFICE EMERGENCY ALERTS

Stay safe during all types of emergency events

Your safety is our top concern. That’s why the Fresno County Sheriff’s Office wants to make sure you know about emergencies and incidents as they happen. By opting into the Fresno County Sheriff’s Office emergency notification system you’ll be informed before, during and after incidents that could impact your safety.

The Fresno County Sheriff’s Office emergency notification system, powered by Everbridge, will allow us to send you messages about situations as they happen across multiple devices, including your home phone, mobile device, email and more.

For this system to be a success, we need your contact information so we can reach you in the event of an emergency. Don’t worry, we will never sell or share your personal information with any third-party organizations. It’s free to join!

HOW TO SIGN-UP ONLINE

Visit www.fresnosheriff.org and click on the Everbridge icon.

You can register as a resident or business
Use your company name for first and last name if registering a business.

Enter any Locations You Care About
We send alerts based on a geographical location on a map. Insert up to five addresses for which you want to receive an alert if the location is affected by an incident or upcoming event.

IMPORTANT — If the address you provided is not in our database of known addresses for our jurisdiction, you will be presented with other options to add your address into this system, including: selection from a list of suggested addresses, or dropping a pin to select your location on the map (Microsoft Silverlight plug-in is required). You will not receive any location based alerts if you do not provide a complete address.

Sign Up for Alerts You Care About
You’ll be presented with various alert subscriptions to sign up for. These could be important community alerts, transportation alerts, weather notifications, etc.
APPENDIX H-2

Fresno County Evacuation Guidelines
### Types of Evacuations

In Fresno County, there are two (2) types of evacuations notifications. Implementation of one or the other is dependent upon the actual or potential danger to the affected population as determined by the Emergency Incident Commander (IC).

The two (2) types of evacuation notifications are:

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evacuation Warning</td>
<td>Alerting of community members in a defined area of a potential threat to life and property from an emergency incident. An Evacuation Warning may be issued when the potential or actual threat to civilian life is more than 2 hours away.</td>
</tr>
<tr>
<td>Evacuation Order</td>
<td>Movement of community members out of a defined area due to an immediate threat to life and property from an emergency incident. An Evacuation Order should be used when there is potential or actual threat to civilian life within 1 to 2 hours or when the IC deems it necessary to protect civilians.</td>
</tr>
</tbody>
</table>

### Types of Area Closures

In Fresno County, there are four (4) levels of area closure. An Area Closure is described as:

A closure prohibits the usage or occupancy of a defined area such as a park, beach, or road due to a potential or actual threat to public health and/or safety. Media is allowed under all closure levels unless prohibited under PC 409.5.

The four (4) levels of area closure are:

<table>
<thead>
<tr>
<th>Level</th>
<th>Color Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Green</td>
<td>Area closed to all traffic except local residents; may require escorts</td>
</tr>
<tr>
<td>2</td>
<td>Yellow</td>
<td>Area closed to all traffic except FD, LE, and critical incident resources (i.e. utility companies, Caltrans, County Roads, etc.)</td>
</tr>
<tr>
<td>3</td>
<td>Orange</td>
<td>Area closed to all traffic except FD and LE.</td>
</tr>
<tr>
<td>4</td>
<td>Red</td>
<td>Area closed to all traffic including FD and LE.</td>
</tr>
</tbody>
</table>

### Evacuation and Closure Information

During an emergency situation, there are several places where you can find information regarding the status of the emergency, evacuations, closures, and shelters. One of the places you can get current information about an emergency is through local media outlets such as radio and television stations. The following are primary stations for Emergency Alert System (EAS) broadcasts:

- KMJ 580 radio
- Channel 30 or Cable Channel 3 Television
- Channel 24 or Cable Channel 4 Television

### Other Sources of Information

For periodic updates on the emergency, evacuation orders, and related information people can contact the following phone numbers to hear a recorded message. People can also turn to several social media sites for similar but very brief updates. Social media sites should never be used to report an emergency situation or as an attempt to request help from public service agencies. Those sites are not constantly monitored and should be used as a source of information NOT communication.

- CAL FIRE Fresno Kings Unit Emergency Update Information Line 559-493-4398
- CAL FIRE/Fresno County Fire Unit Twitter account @FresnoCoFire
- Fresno County Sheriff’s Office Twitter account @FresnoSheriff
- Fresno County Sheriff’s Office (Law Enforcement) Facebook
- Caltrans Highway Signs

May 1, 2015