

*Community Assessment Report for the
Kramer Ranch/Lookout/Lookout Ranchettes*



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Prepared By:

Lassen County Fire Safe Council, Inc., Inc. with assistance by:

- California Department of Forestry & Fire Protection (*CAL FIRE*)
 - Leah Sandberg and Steve Diaz
- Adin Fire Protection District
 - Chief Paul Lemke
- Lookout Community
 - Norman Carpadus
- Lassen County Fire Safe Council, Inc. (LCFSC)
 - Tom Esgate, and Dan Douglas

Certificate of Completion

This certificate is presented to

Tom Esgate

who has satisfactorily completed the course

**CONDUCTING A COMMUNITY ASSESSMENT IN THE WILDLAND/URBAN INTERFACE:
BEGINNING THE FIREWISE PROCESS**

August 7, 2009



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1. INTRODUCTION and BACKGROUND

Introduction

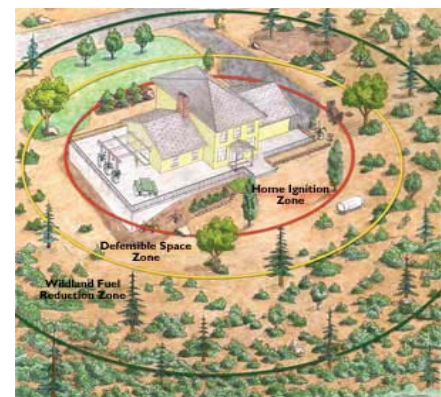
The Firewise Communities/USA program is designed to provide an effective management approach for preserving wildland living aesthetics. The program can be tailored for adoption by any community and/or neighborhood association that is committed to ensuring its citizens maximum protection from wildland fire. The following community assessment is intended as a resource to be used by the Lookout residents for creating a wildfire safety action plan. The plan developed from the information in this assessment should be implemented in a collaborative manner, and updated and modified as needed.

In February of 2012, several residents of Lookout began the process of seeking “Firewise Community” recognition for their community located in Modoc County. Lookout lies within a wildland-urban interface (WUI), an area that figures prominently in wildland fire discussions. The Lookout community consists of the town of Lookout and a rural subdivision called the Lookout Ranchettes which includes an area known as Valley Estates. For purposes of this document, Valley Estates will be included where reference to the Ranchettes is made. The Ranchettes consists of residences amongst tall trees and brush surrounded by undeveloped forest land, making this a textbook example of a WUI.

The potential for catastrophic wildland fire has been recognized in the Lookout Community. Various efforts have been made over the years to reduce hazards on residential lots and state laws are encouraged regarding the creation and maintenance of defensible space on all lots with structures. Nevertheless, fire remains a priority safety concern throughout the Lookout Community.

2. Definition of the Home Ignition Zone

Lookout, Lookout Ranchettes and Kramer Ranch are located in a wildfire environment. Wildfires will happen—exclusion is not a choice. The variables in a fire scenario are when the fire will occur, and where. This assessment addresses the wildfire-related characteristics of Lookout, Lookout Ranchettes and Kramer Ranch. It examines the area’s exposure to wildfire as it relates to ignition potential. The assessment does not focus on specific homes, but examines the community as a whole.



A house burns because of its interrelationship with everything in its surrounding home ignition zone—the house and its immediate surroundings. To avoid a home ignition, a homeowner must eliminate the wildfire’s potential relationship with his/her house. This

can be accomplished by interrupting the natural path a fire takes. Changing a fire's path by clearing a home ignition zone is an easy-to-accomplish task that can result in avoiding home loss. To accomplish this, flammable items such as dead vegetation must be removed from the area immediately around the structures to prevent flames from contacting them. Also, reducing the volume of live vegetation will affect the intensity of the wildfire as it enters the home ignition zone.

3. Scoping

Included in this assessment are observations made while visiting the areas. The assessment is broken into sections to address two concerns: the fire dangers existing within the town of Lookout and the critical fire conditions in the Lookout Ranchettes and Kramer Ranch.

The assessment addresses the ease with which home ignitions can occur under severe wildfire conditions and how these ignitions might be avoided within the home ignition zones of affected residents. Lookout residents can reduce their risk of destruction during a wildfire by taking actions within their home ignition zones. This zone principally determines the potential for home ignitions during a wildland fire; it includes a house and its immediate surroundings within 100 to 150 feet.

The result of the assessment is that wildfire behavior will be dominated by the residential characteristics of this area. The good news is that by addressing community vulnerabilities, residents will be able to substantially reduce their exposure to loss. Relatively small investments of time and effort will reap great rewards in wildfire safety.

4. Wildland Fire Characteristics that Could Threaten the Area

Fire intensity and spread rate depend on the fuel type and condition (live/dead), the weather conditions prior and during ignition, and the topography. Generally the following relationships hold between the fire behavior and the fuel, weather and topography.

- Fine fuels ignite more easily and spread faster with higher intensities than coarser fuels. For a given fuel, the more there is and the more continuous it is, the faster the fire spreads and the lighter the intensities. Fine fuels take a shorter time to burn out than coarser fuels.
- The weather conditions affect the moisture content of the dead and live vegetative fuels. Dead fine fuel moisture content is highly dependent on the relative humidity and the degree of sun exposure. The lower the relative humidity and the greater the sun exposure, the lower will be the fuel moisture content. Lower fuel moistures produce higher spread rates and fire intensities.

- Wind speed significantly influences the rate of fire spread and fire intensity. The higher the wind speed, the greater the spread rate and intensity.
- Topography influences fire behavior principally by the steepness of the slope. However, the configuration of the terrain such as narrow draws, saddles and so forth can influence fire spread and intensity. In general, the steeper the slope, the higher the uphill fire spread and intensity.

Vegetation in the town of Lookout consists of primarily grass and introduced ornamentals. There is a small component of native vegetation, primarily in the form of big leaf sage brush.

Vegetation in the Ranchettes consists of a mixed stand of Ponderosa Pine and western juniper. Shrub understory consists of bitterbrush, mountain mahogany, Manzanita and big leaf sage brush along with various grasses and forbs. The current fuel loadings and vegetation patterns have set the stage for significant fires in the area, with fuel loadings of up to 12 tons per acre with a spread rate of 2 feet per minute with 3-foot flame lengths on average with no wind.

Fire behavior in the adjacent timber would be mostly surface fire with some pockets of torching. Torching trees both increase fire intensity and become excellent generators of embers for spotting. Embers or firebrands are produced from burning needles, leaves, bark, twigs and cones, when natural vegetation burns. Embers tend to be carried aloft by the superheated air of the blaze and can then be carried long distances in advance of the actual flame front by even light winds. It is not uncommon to find glowing embers a mile ahead of the main fire.

If the conditions are right, embers can be produced in a relatively short time by even a modest wildland blaze. These tend to fly like incendiary snowflakes, eventually settling to the surface and even “drifting” to form small clumps. If they land on a combustible material, they can cause a new ignition even though the main fire is still a long distance away. This is the way that “spot fires” are ignited. This is also the primary threat to residences.

For purposes of this assessment, there are two viable scenarios for a severe wildland fire event, a) a major blaze in untreated lands adjacent to the community, producing large quantities of windblown embers, and b) a lightning strike without precipitation and the rapid onset of downdrafts. Subsequent spot fires, torching trees or burning structures in the interiors of developments could produce additional quantities of embers, contributing to further ignition potential.

5. Site Description

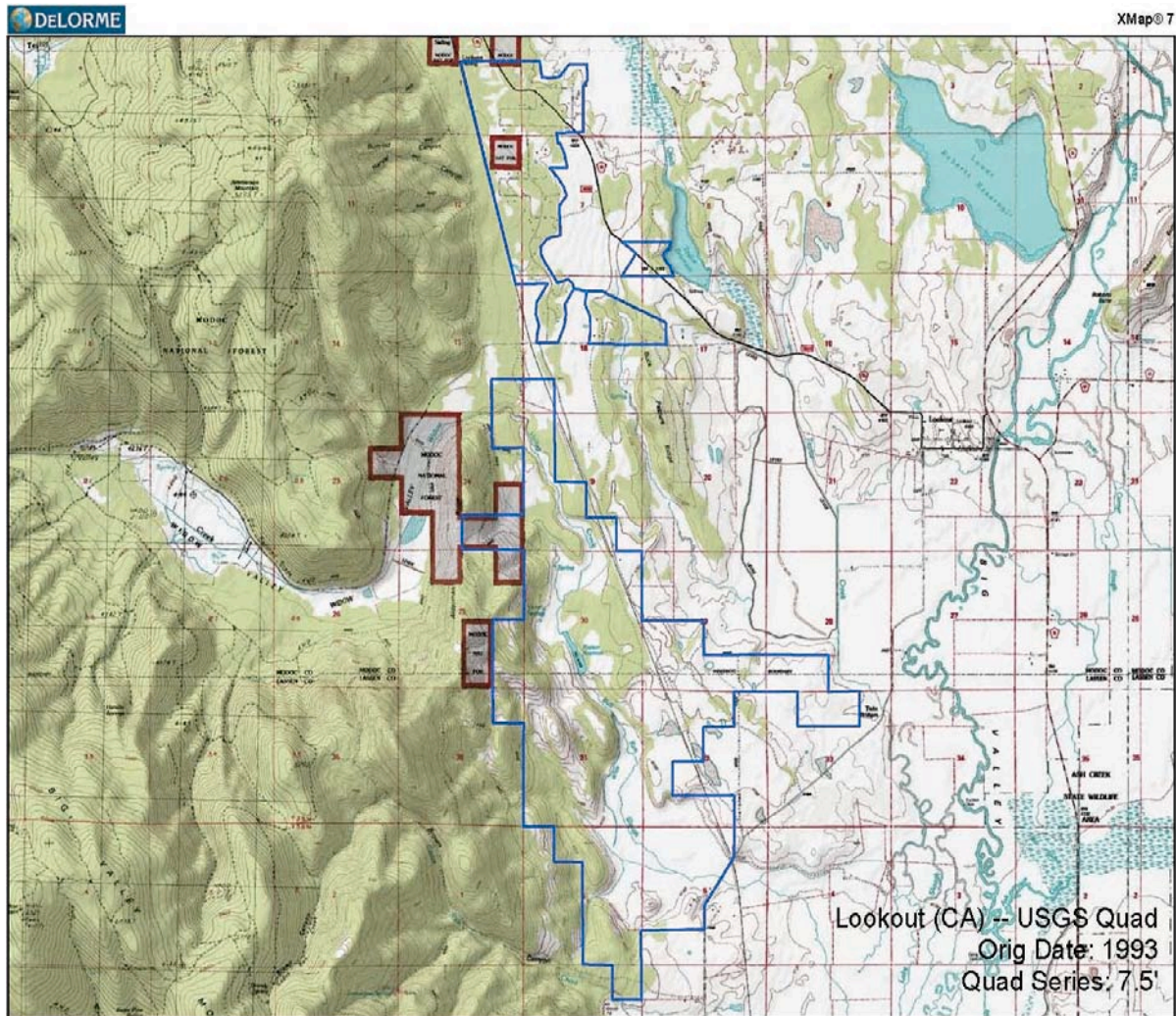
This portion of the report describes certain elements of the town of Lookout and the Lookout Ranchettes, as they relate to fire issues. The first map (Figure 1) shows the Kramer Ranch/Lookout Watershed Restoration & WUI Treatments Project area. The community of Lookout is shown in the next (see Figure 2). The next Lookout Ranchettes

(Figure 3) shows the area of high concern and (Figure 4) shows the Lookout Ranchettes Assessor Parcel layer. Project coordinates are N41.1827, W121.2012

5.1 Overview

Lookout is a small community located in Modoc County, California. The town of Lookout itself is located in the Lookout Fire Protection District within a Local Responsibility Area (LRA). This means the local fire protection district is responsible for fire protection of the structures and land in this area. The Ranchettes is situated within the same fire protection district; however, it lies within the State Responsibility Area (SRA). This means the Lookout Fire Protection District is responsible for fire protection of the structures and CAL FIRE is responsible for fire protection of the wildland. (See Figure 5 for Lookout Fire Protection District Boundaries and LRA and SRA lands)

FIGURE 1– Kramer Ranch/Lookout Watershed Restoration and WUI Project Area Map



Project reduces hazardous fuel loads and restores the forest, watershed and critical wildlife habitat. Invasive western juniper will be removed and pine stands will be thinned to 40-50% crown closures. Funded by SNC & CFSC; CalFire has committed Conservation Crews to assist with follow-up hand treatments. Treatments will also be conducted within the Lookout Ranchettes community. Project lies within Lassen and Modoc Counties and is also a top priority in the Modoc County CWPP.

5.2 Topography

Lookout sits at an elevation of 4,200 feet. The topography of Lookout, (see Figure 2), is gently sloped with slopes averaging less than 5% surrounded by grassland that is under cultivation. The topography of the rural subdivision known as the Lookout Ranchettes, (see Figures 3 and 4), is also mostly level with slopes generally under 5%. It is surrounded by private timberlands.

FIGURE 2 – Lookout community



5.3 Protective Zones

The Burlington/Northern Railroad runs north to south along the west side of the Lookout Ranchettes providing a 55-foot wide fuel break.

5.4 Demographics

The town of Lookout has a population of 84, with 31 households, according to the 2010 United States Census. Its Post Office opened in 1880.

According to the Modoc County Assessor's Office, the Lookout Ranchettes consists of 284 parcels (see Figure 4). Approximately 73 of those parcels have been improved in some way (*meaning they have some type of structure*) and 211 parcels are undeveloped. The earliest map of the area is from 1966.

FIGURE 3– Lookout Ranchettes.



5.5 Local Fire Department

Lookout is located in the Lookout Fire Protection District – a volunteer fire department that has two small stations (*Station 1 in the town of Lookout and Station 2 in the Lookout Ranchettes*) and provides fire suppression and emergency medical services (see Figure 5).

5.5.1 Personnel

Lookout Fire Protection District has eight local residents who are volunteer firefighters.

5.5.2 Equipment at Station 1

1988 Ford, Type I, 500- gallon Engine
1999 Kenworth, Type I, 4,000 gallon Water Tender
1997 Ford, Type IV, Squad Truck

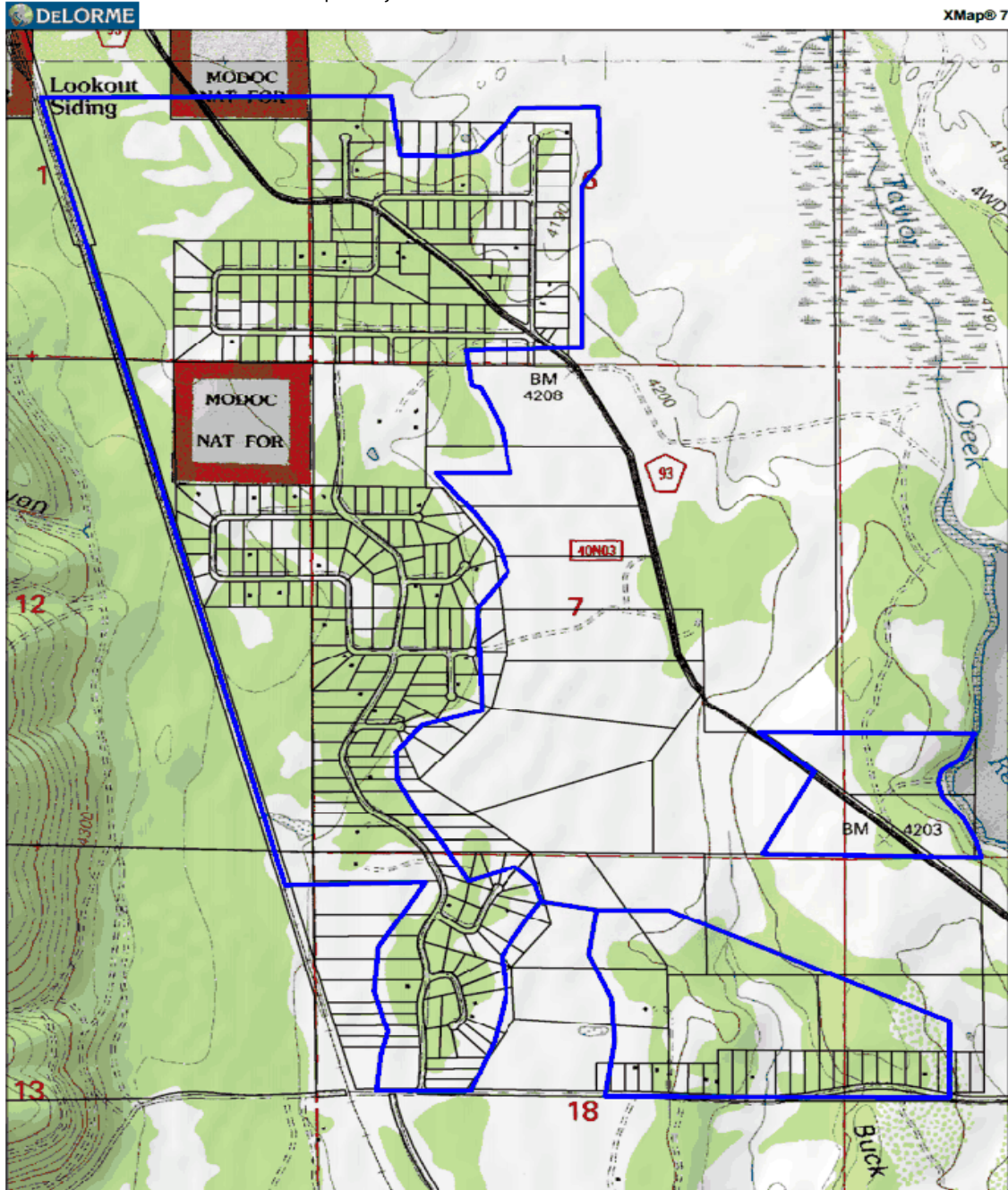
5.5.3 Equipment at Station 2

1990 GMC, Type III, 700-gallon Engine

1998 Freightliner, Type I, 3,500 gallon Water Tender

Automatic aid and mutual aid agreements are in place with other nearby agencies to supplement the Lookout Fire Protection District force as required. Such support in the event of a major structural fire would typically come from other local fire districts and CAL FIRE. Fire protection for the wildland surrounding Lookout would be through CAL FIRE.

FIGURE 4– Lookout Ranchettes Parcel Map of Project Area



5.6 Fire Hydrant System

There is no fire hydrant system in the town of Lookout or the Lookout Ranchettes nor is there any permanent water supply for fire protection. Each home has its own domestic water supply.

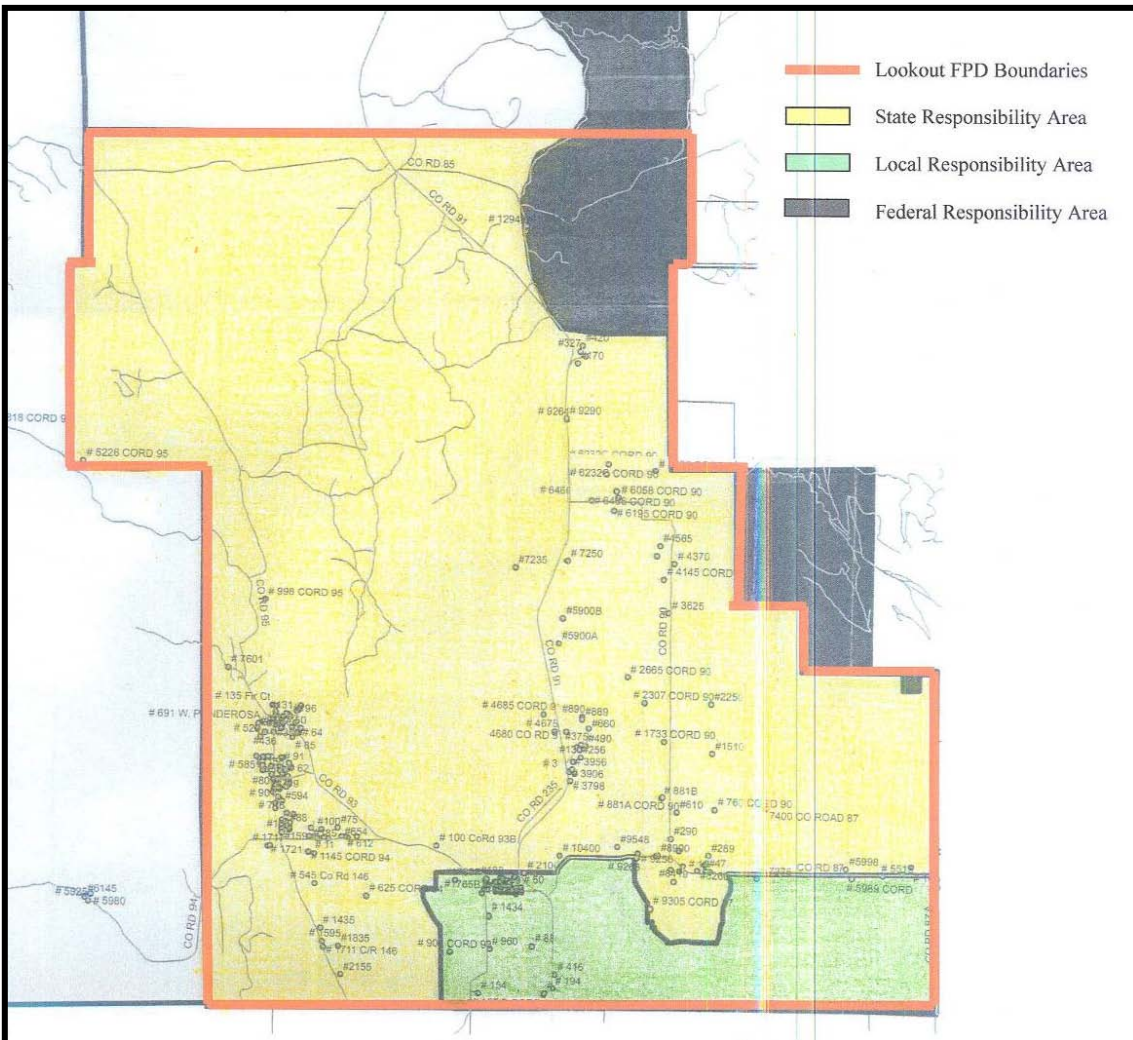
Departmental resources include up-to-date firefighter gear for all responders (*i.e., protective clothing, breathing apparatus, and radios*), necessary firefighting tools and appropriate medical response equipment.

5.7 Fire History

The most recent fire in the Lookout area was the Taylor Fire which started on September 11, 2002 and threatened structures in the Ranchettes. This fire was caused by downed powerlines and burned 3-4 acres.

There have been occasional ignitions in the nearby forested areas, sometimes caused by lightning strikes and sometimes attributed to human causes. Early detection and prompt suppression action has prevented such ignitions from developing into anything more than small fires.

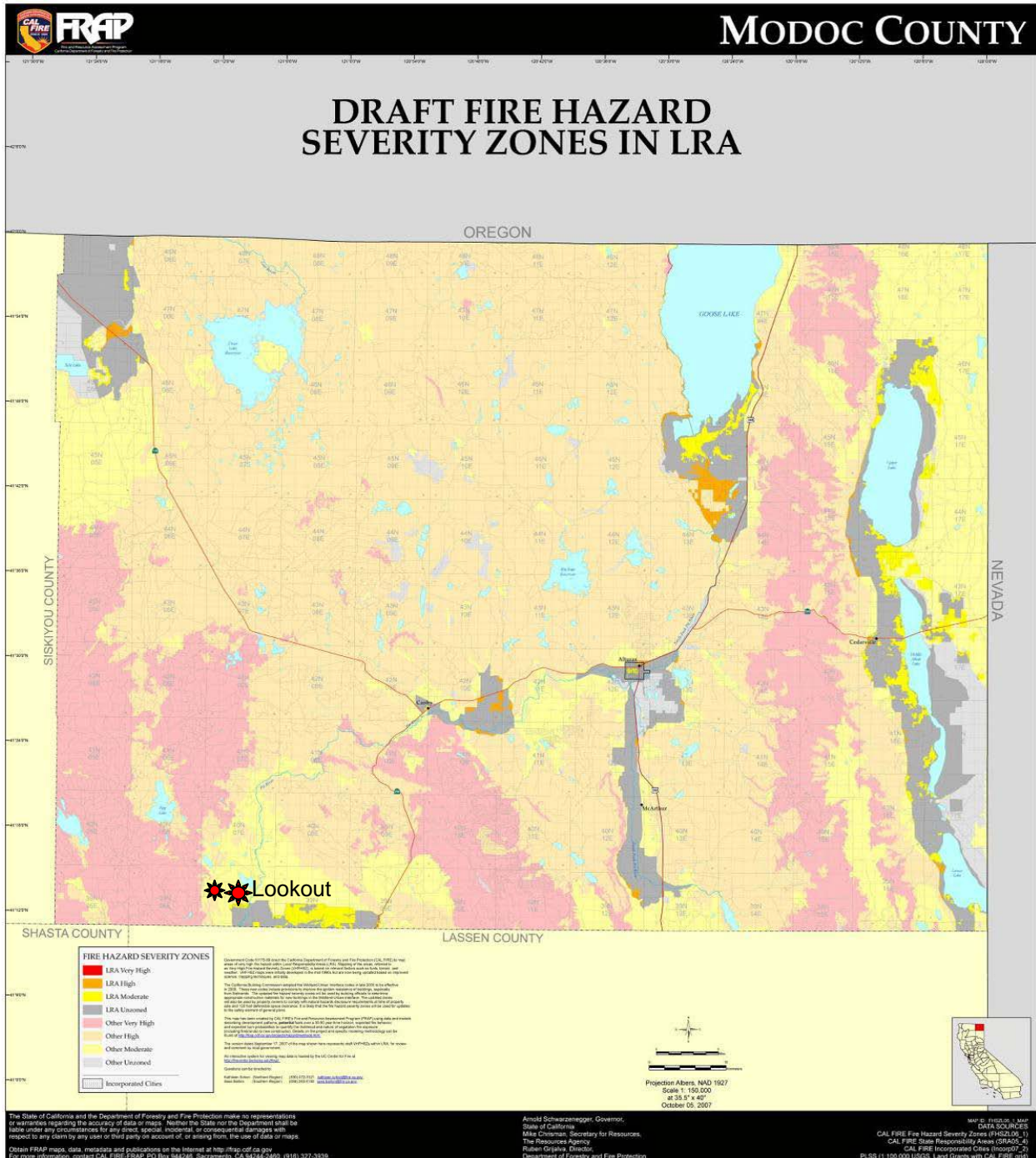
FIGURE 5 – Lookout Fire Protection District



5.8 CAL FIRE Fire Hazard Severity Zone Rating

Periodically, CAL FIRE reviews and updates its statewide assessment of general fire hazards within and near the State Responsibility Areas (SRAs). This assessment generates fire hazard severity zone ratings (FHSZ). The 2007 CAL FIRE "Fire Hazard Severity Zone" (FHSZ) map for the region rates most of the Lookout Fire Protection District as a "Moderate" fire hazard area; however, directly to the west and adjacent to the Ranchettes is an area rated as "Very High", (see Figure 6).

FIGURE 6 – Fire Hazard Severity Zone map



6. Assessment Process

A team approach was taken in preparing this assessment of fire hazards and risks in Lookout. Relevant background data was initially collected by several team members identified in the Introduction to this document.

On March 2, 2012 team members conducted a visual review of the community from a roadside perspective. Observations were noted of both favorable and unfavorable conditions, and are found in subsequent sections. Conducting that inspection were Fire Captain Steve Diaz and Fire Prevention Specialist Leah Sandberg with CAL FIRE.

7. Important Considerations

The Firewise Communities/USA program seeks to create a sustainable balance that will allow communities to live safely while maintaining environmental harmony in a WUI setting. Homeowners already balance their decisions about fire protection measures against their desire for certain flammable components on their properties. It is important for them to understand the implications of the choices they are making. These choices directly relate to the ignitability of their home ignition zones during a wildfire.

7.1 Recognizing Fuels

Fuel is anything combustible. It can be trees and other natural vegetation, wood products of all kinds (lumber, siding, shakes, plywood, furniture, paper), carpeting, drapes, fabrics, most synthetics and plastics, rubber products, motor vehicle and heating fuels, and on and on. Fuels are everywhere around us in our daily lives, but we seldom view them as such.



When it comes time to review our vulnerability to fire, we need to adopt a firefighter's perspective as we look over our homes and yards. If the material is combustible, it is fuel. It may be part of something we consider to be essential to our lives, but it is still fuel to a fire. Lack of recognition of fuels, or denial of their existence, simply puts us at greater risk. It's what we choose to do about the fuels around us that will ultimately make a difference.

7.2 Reducing Fuel Volume

When large, uninterrupted quantities of natural fuels exist, a serious fire danger exists. For example, a dense, overstocked forest is generally recognized as a serious fire concern. The sheer volume of fuel that is available in a large, heavy stand of trees with a continuous fire ladder has the potential not only for intense heat at that location but also the production of huge quantities of embers from torching trees.



Reducing the volume of fuel in an area is a recognized technique for reducing fire hazards. This is part of the thinning process used in creating shaded fuel breaks to offer greater protection to communities in forested areas.

7.3 Separating Fuels

Closely associated with the reduction of overall fuel volume is the practice of separating or interrupting fuels. Aside from its application in fuel breaks, this technique is perhaps the single most important step a property owner can take in reducing vegetation fire hazards on residential parcels. The basic principal behind separation is quite simple, create gaps between fuels such that a fire burning one piece of fuel cannot easily ignite an adjacent combustible object. If a gap exists between one stand of trees and the next, there is less chance of a fire progressing from stand to stand.



The same thing is true of flammable brush or shrubs; interrupting the growth inhibits the progression of fire. A fuel gap around the perimeter of the structure is even more important, since it separates the structure from combustible materials that might otherwise be ignition sources. This is called horizontal separation, because a gap exists horizontally between fuels.

Vertical separation is also important. This is accomplished by removing the lower limbs of trees and smaller trees and brush under a tree to create a gap between the surface and ladder fuels that would be carrying the fire into the tree crown to prevent torching. If there are flammable shrubs or brush specimens in the same area as the trees, the gap between the lower tree limbs and the top of the surface vegetation needs to be adjusted so that lower flames do not ignite the tree branches. Avoid planting flammable shrubs directly beneath trees. Avoid planting flammable shrubs under raised decks for the same reason.

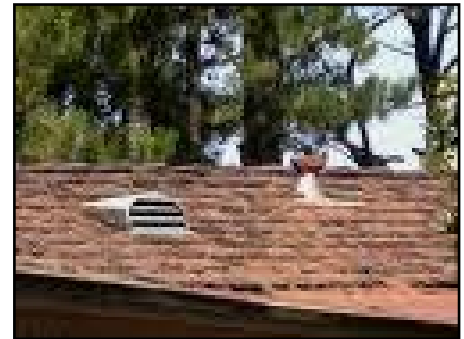
8. Observations and Recommendations

Again, this section of the assessment is broken into the town of Lookout and the Lookout Ranchettes. This report groups the issues into physical zones, starting at the structure and working outward from there. No attempt has been made to quantify the number of instances that such problematic issues were observed. Recommended remedial action is shown in *italic type*.

8.1 Fire Hazards

- Pine Needles on Roofs or in Gutters

Accumulations of pine needles were observed on a number of roofs. Such accumulations serve as an ignition bed for flying embers and they can also promote the growth of mold at the roofing interface. When pine needles fill gutters, they not only interrupt the flow of rainwater, they too become ignition beds right at the vulnerable edge of the roof.



- *Regular removal of needles from both roofs and gutters will solve these issues.*

- Wood Piles Next to or Under Structures

The desire to have a handy supply of firewood causes some residents to stack their wood supply right up next to their home, under raised decks or in other spots that are close to structures.

Firewood stacks are excellent “ember magnets,” allowing embers to drift into small openings and eventually ignite the wood. If that stack is in close proximity to the residence or any flammable portion of it, the fire can rapidly progress to the structure.



- *A more prudent practice is to keep firewood piles a safe distance from structures (a thirty foot gap is recommended). Another alternative is to screen firewood stacks with hardware cloth (openings no larger than 1/8 inch) such that embers cannot reach the wood; make sure that the screening completely encloses the stack, with no gaps at the bottom and with the metal screen spaced about an inch away from the wood so that embers that land on the screen cannot ignite the outer surfaces of the wood.*

- Flammable Materials Next to or Under Structures

Flammable material stacked up against or right next to a structure poses a fire hazard. Storing such material under a deck is also a concern. This applies to wood products, cardboard, fabrics, plastics or any other kind of combustible material. Pine needles up against the base of wood siding create similar ignition vulnerability.

- *Regular attention to accumulated or stored materials is required to avoid this common issue. Pine needles that accumulate under decks and within 30 feet of a structure increase its risk during a wildfire. Removing pine needles from these areas greatly increases the chance of your home surviving.*

- Flammable Materials on Decks

Many items commonly found on decks are made of or contain flammable materials. Chairs, umbrellas, tables, door mats, bar-b-que propane bottles, etc., all fall into this category.

- *It is probably not realistic to expect everyone to store such things in a safe area until they are needed on the deck, but it is good practice to remove them to a safe area if there is an approaching fire or when you will be away from home for an extended period.*

8.2 Propane Tanks

- Flammable Materials Next to Tanks

Code requires that we keep the area right around our propane tanks free of flammable materials. Unfortunately, we sometimes forget that requirement. Having flammable materials, vegetation or debris crowded around the tank is an invitation to disaster.



- *It is essential that combustible materials be removed from within ten feet (10') of propane tanks.*

8.3 Defensible Space

As trees, shrubs and grass grows, they can change what was previously an acceptable situation into one that no longer meets state requirements for residential defensible space.

- *CAL FIRE guidelines for meeting the requirements of State Law (PRC-4291) should be followed to ensure proper shrub selection and placement. Lower limbs of trees over eighteen feet (18') in height must be removed such that there is a MINIMUM of six feet (6') of clearance between the surface and the lowest part of the tree limb, and the surface beneath such trees must be kept clear of any flammable debris or vegetation. Grass should be cut to 4" or less. Further specifics and alternatives can be found in the PRC-4291 guidelines.*

8.4 Ingress/Egress

There are two main roads leading into the Ranchettes (*County Road 93 and Widow Valley Road also known as County Road 94*). Cedar Drive is one of the main roads that winds through the Ranchettes. There are many dead end roads that branch off of Cedar Drive. The roads are bordered in some areas with heavy brush and dead or dying fuels. Should a fire sweep through this community, egress for residents and ingress for fire service vehicles could be compromised.



- *The community should develop escape routes in the event of a fast-moving wildfire and seek funding to reduce fuel loading along roadsides within the Ranchettes.*

8.5 Access to Structures

It is important that emergency service personnel have access to residences. Fire engines need to be able to get into a driveway and access all sides of a home in order to provide structure protection. Many homes, both in the town of Lookout and in the Ranchettes have items blocking access to the structure.



- *Items preventing access to a structure should be relocated.*

8.6 Vegetation Beyond the Home Ignition Zone

- Reduction of Fuel Volume and Ladder Fuels

Vegetation on undeveloped lots and common areas within the Ranchettes is not covered by the defensible space requirements of PRC-4291 but is of great concern.



- *Efforts should be made to educate homeowners (including absentee owners) about the benefits of creating defensible space. Corrective action would be relatively straightforward, and should focus on:*
 - *Elimination of “ladder fuels” (i.e., fuels bridging the gap between the surface and lower tree limbs)*
 - *Removal of additional lower branches, as needed*
 - *General tree thinning where appropriate to reduce fuel volume and maintain forest health*
 - *Thinning or removal of new brush growth*
 - *Thinning or removal of new seedlings/saplings*
 - *Removal of accumulating surface litter or debris.*

9. **Successful Firewise Modifications**

When adequately prepared, a house can likely withstand a wildfire with minimal intervention of the fire service. Further, a house and its surrounding community can be both Firewise and compatible with the area’s ecosystem. The Firewise Communities/USA program is designed to enable communities to achieve a high level of protection against WUI fire loss even as a sustainable ecosystem balance is maintained.



A homeowner/community must focus attention on the home ignition zone and eliminate the fire's potential relationship with the house. This can be accomplished by disconnecting the house from high and/or low-intensity fire that could occur around it.

Several examples of positive actions were observed during the assessment inspection at the Lookout Ranchettes.

A brief summary of some of the positive indicators that were noted would include the following:

- The service level of the Lookout Fire Protection District is good
- The volunteer firefighters participate in constant ongoing training
- Additional fire suppression resources are nearby
- Defensible space work evident in some area
- There is good access for emergency vehicles via main thoroughfares and thoroughfares are well signed
- Those lots that are developed have good addressing



10. Next Steps

The Lookout Firewise Board is seeking Firewise Communities/USA recognition. This assessment provides agreed-upon, area-specific Firewise solutions and recommendations and should be considered the community's action plan.

The community has met the following Firewise Community USA standards:

- A local Firewise board has been created to establish and maintain Firewise Community status.
- The community has invested in excess of the minimum contribution of \$2.00 annually per capita in its local Firewise activities: \$799,828 total invested in 2013.
- Firewise Communities/USA Days were held in 2012 which was a Fire Prevention Expo held at the MacArthur Fairgrounds. Another event was held in 2013 which was developed as an annual "Spring into Action" event. Plans are in place to conduct this activity annually and we will continue to hold these each year hereafter.
- This document represents the Community Assessment that has been completed.

Lookout residents are reminded that street signs, addresses, road widths and fire hydrants do not keep a house from igniting. Proper attention to their home ignition zones does. They should identify the things that will ignite their homes and address those.