MODOC FireSafe COUNCIL

Modoc Recreational Estates Fire Mitigation Plan

July, 2007

TOTAL FORESTRY
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North Cal-Neva RC&D

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
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FOREST SERVICE
US
DEPARTMENT OF AGRICULTURE

COUNTY OF MODOC
CALIFORNIA

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Project Funded by California Fire Safe Council Grant #06BLM9151
From BLM WUI Community Rural Fire Assistance

Cooperating Agencies

North Cal-Nevada Resource Conservation District
Modoc Fire Safe Council
Bureau of Land Management (BLM)
United States Forest Service (USFS), Modoc National Forest
California Department of Forestry and Fire, now CAL FIRE
California Fire Safe Council
Modoc County
Modoc County Planning Department
Modoc County Office of Emergency Services
Alturas Volunteer Fire Department

Modoc Recreation Estates
Wildfire Hazard Mitigation Plan

By Jeff Webster, Total Forestry, Inc.
July 25, 2007

Introduction

In 2003 after a bad fire season in southern California and across the country the Healthy Forests Restoration Act (HFRA) was passed in Congress as part of President Bush's Healthy Forest Initiative (2002). This initiative is in recognition that many people are moving into the Wildland Urban Interface (WUI) and that something needed to be done on a cooperative basis between private citizens (groups) and adjacent federal lands that need thinning and fuels reduction. The concept of developing Fire Safe Councils has become a part of this initiative to facilitate cooperation between the agencies and the public. They also provide a mechanism for obtaining grant funding that has been made available as part of HFRA.

After creation of the Modoc Fire Safe Council one of the first steps was the production of a "Strategic Plan" in March of 2003 funded by the Modoc National Forest. This plan does a good job of outlining goals and objectives. Some of the major goals and objectives in the strategic plan being met by the funding of this Modoc Recreational Estates (MRE) Hazard Mitigation Plan is to "Reduce Wildfire Risk to Lives and Property" through: 1) planning and implementing fuels reduction and defensible space projects, 2) develop safe evacuation routes, 3) improve access to and develop new water resources for fire suppression and 4) develop risk assessment and mitigation criteria.

Another important document is the Modoc County Community Wildfire Protection Plan (CWPP) produced in September of 2005. This is another cooperative effort between local, state and federal agencies with the Modoc Fire Safe Council funded by the Modoc National Forest to further develop specific information and priorities. This plan facilitates acquisition of grants to implement identified projects.

The state has developed the 2005 Fire Plan for the Lassen-Modoc Unit of the California Department of Forestry and Fire, now CAL FIRE. This plan involves: 1) the identification of stakeholders for collaborative efforts, 2) identification of assets at risk and 3) description of the fire risks. The Alturas area and MRE falls within the jurisdiction of Battalion 4. There is excellent information in this document on history of fires, vegetation complexes, weather and resources available. This information forms the foundation for planning fire fighting efforts and identification of risks. Rather than trying to include all this information into this text, one can find the reference to the document in Appendix H.

The foundation provided by the above documents provides the guidance and funding for this project. Funding for the MRE Hazard Mitigation Plan is provided by a grant through the California Fire Safe Council from the Bureau of Land Management (BLM) WUI Community Rural Fire Assistance. This plan is intended to be more site specific, documenting specific issues

and needs with proposed mitigations. Common factors from the previous documents and the public scoping to be dealt with in this document is the need for: 1) landscape fuel reduction efforts, especially compliance with required 100 foot clearance, 2) need for emergency ingress and egress, 3) need for additional water sources for fire fighting efforts and 4) need for continuing education efforts to raise awareness and spur action in reducing fire risk.

Background

Area

Alturas (Spanish for "Valley on Top of a Mountain") is located in a valley at the base of the Warner Mountains of Northeastern California where the North and South Forks of the Pit River meet, also known as the South Fork Valley. Its elevation is 4,446 ft above sea level. The land area of Alturas is 2.2 sq. miles.

Modoc Recreational Estates (MRE) sits just 1 to 3 miles North-Northeast of Alturas, see Figure 1. The area includes a total of 3,965 acres. There are a total of 1933 parcels of which 259 have structures on them, see Table 1. The remaining 333 acres are road right-of-ways.

Land Description	Number of Parcels	Acres
Total MRE Parcels	1882	3,610
Indian Parcels	28	22
Right-of-Way	23	333
Total	1933	3,965

Table 1 – MRE Parcel Break down

Transportation

Traveling south from Oregon or North from Susanville on Highway 395 will take you to the heart of Alturas. When traveling East from Redding, Highway 299 will get you there.
From Alturas access to MRE is via Pencil road about 1.5 miles east on Highway 299/395. Within the MRE there is a mix of County maintained roads and MRE maintained roads, everything from paved to dirt, see Figure 2. See table 2 for a break down of roads by type. The dirt roads are only seasonally passable, when wet they are very treacherous. The dirt roads provide a major road issue. Some locals love to go 4-wheeling during wet weather tearing the roads up significantly. This causes access problems in the summer when the roads become impassable for fire fighting equipment.

Road Type	Feet	Miles
County Paved	35,626	6.75
County Gravel	29,761	5.63
MRE Gravel	54,726	10.36
MRE Dirt	119,229	22.58
Total	239,342	45.32

Table 2 – MRE Road Break down

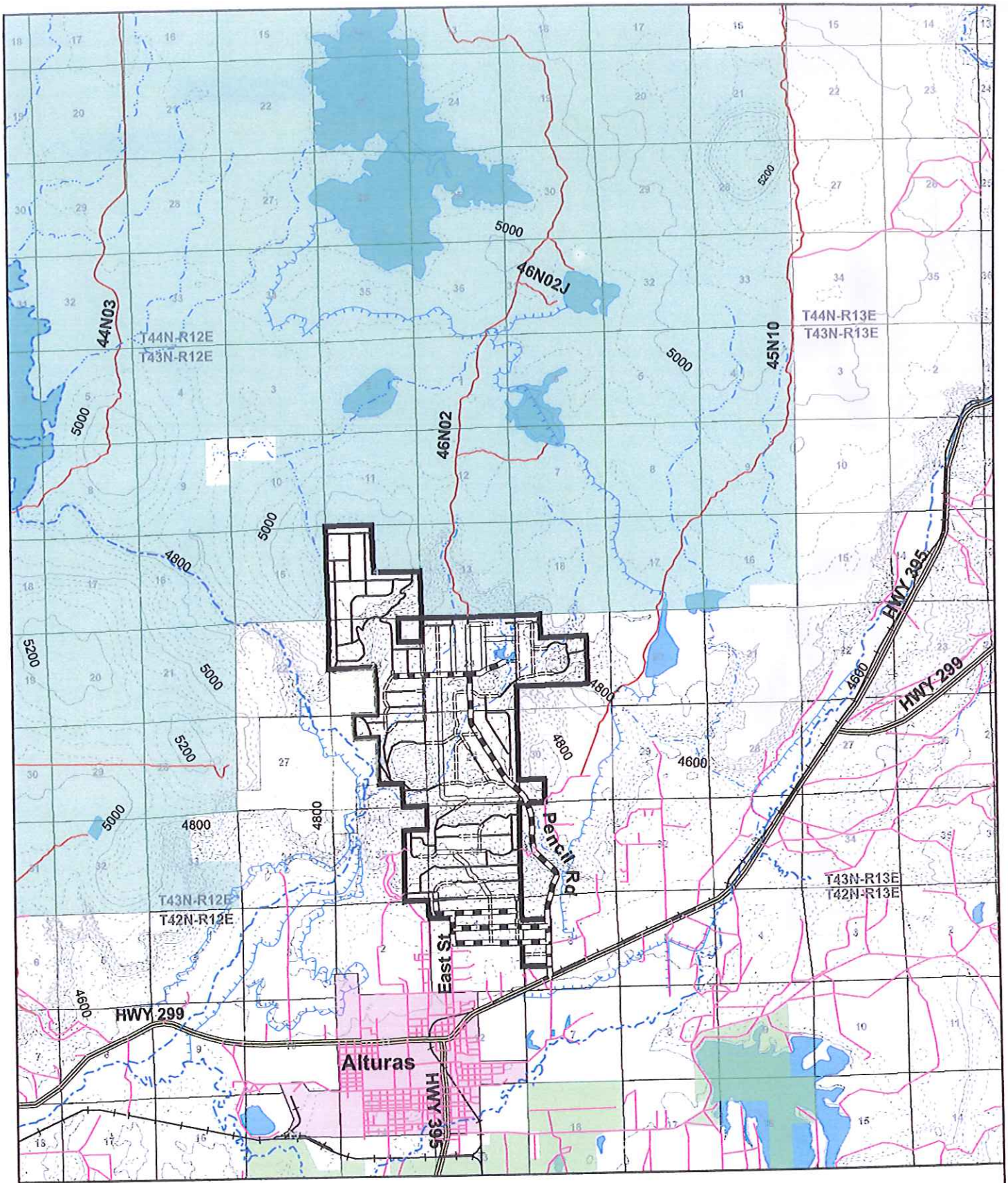

Figure 1
Modoc Recreation Estates
Overview Map

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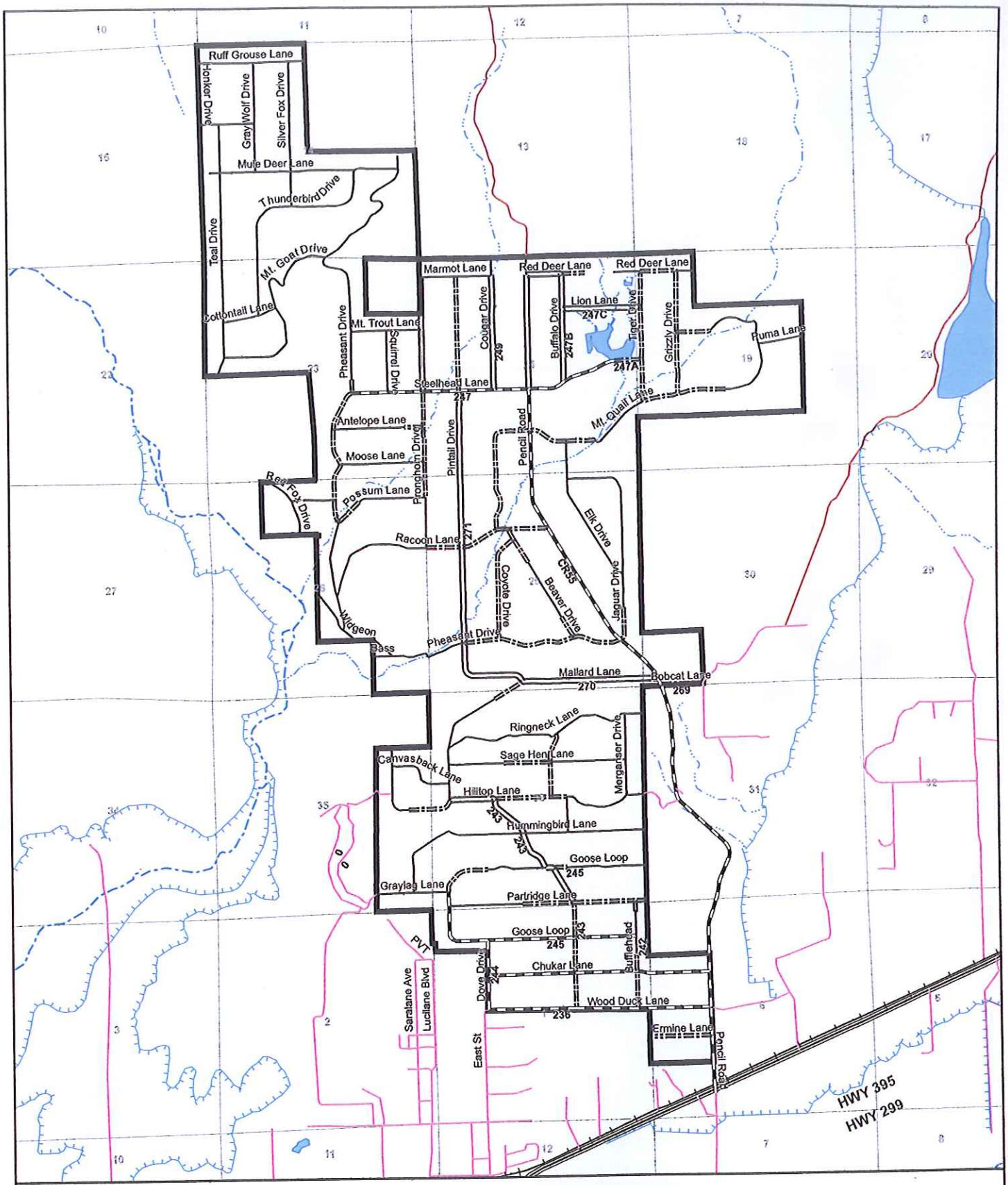

MRE Roads
Surface
Highway
County Paved
County Gravel
MRE Gravel
MRE Dirt
FS Dirt
Res. Other
RR

Streams
1
2
3
4
MRE Boundary
MRE PLS
Lakes

Figure 2
Modoc Recreation Estates
Road Map

0 0.25 0.5 1 Miles

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Topography
The topography of Modoc County includes mountainous areas, with fertile valleys and basalt plateaus. The valley, where Alturas is located, is a prehistoric lake bed formed from alternating erosion and rebuilding of the volcanic flows from the Modoc Plateau. The MRE is located on rolling hills intermixed with small valleys. The slopes range from 0-100 percent with the majority being less than 20 percent, see Figures 3 (hill shade map), 3A (contour map), 3B (slope break down) and table 3 for topography information. These moderate slopes make development relatively easy.

Slope Breaks by Percent	Acres	Percent
0-10%	2,395	60%
11-20%	993	25%
21-40%	545	14 %
> 40%	32	1%
Total	3,965	100%

Table 3 – Slope break down within MRE

The slope break downs were created to facilitate the evaluation of operability for equipment to commercially harvest the juniper. On slopes 0-10% a 3 wheel shear will work. On some soils they can go up to 20 percent, which is not likely on these soils. A self leveling track mounted machine (Tempco) can operate up to about 40% slopes.

Climate
Alturas is noted for its warm, dry summers and cold winters. The record high for Alturas was 107° in 2002. The record low was -34 ° in 1972. The snowfall between December and March is between 1" and 11". Annual precipitation is about 12 inches.

Population
The population for Alturas at the last known census (2000) was 2,831. Modoc County's population is 9,449. The MRE has 259 lots occupied for an estimated population of about 800-1,000. Thus, about 10% of Modoc counties population lives within MRE. The population is mostly rural making up 6,681 or 70% of population.

Goals of Project

1) Promote community involvement in fire safe planning and project development.
2) Develop area wide fire safe projects based upon needs identified by local residents and agencies, analysis of data collected and reference resources that contain detailed Fire Safe practices.
3) Clearly define Modoc Recreational Estates (MRE) wildfire hazard mitigation goals and objectives, and set forth action to reach those goals and objectives.
4) Guide the MRE in planning annual and long-range work plans to obtain those goals and objectives.
5) Enhance ability of the MRE to seek funding to implement projects related to creating defensible space, fuels reduction, fire safe outreach, education and others with hazard mitigation actions.
6) Facilitate working relationships with federal, state, local and private entities to reduce wildfire risk.

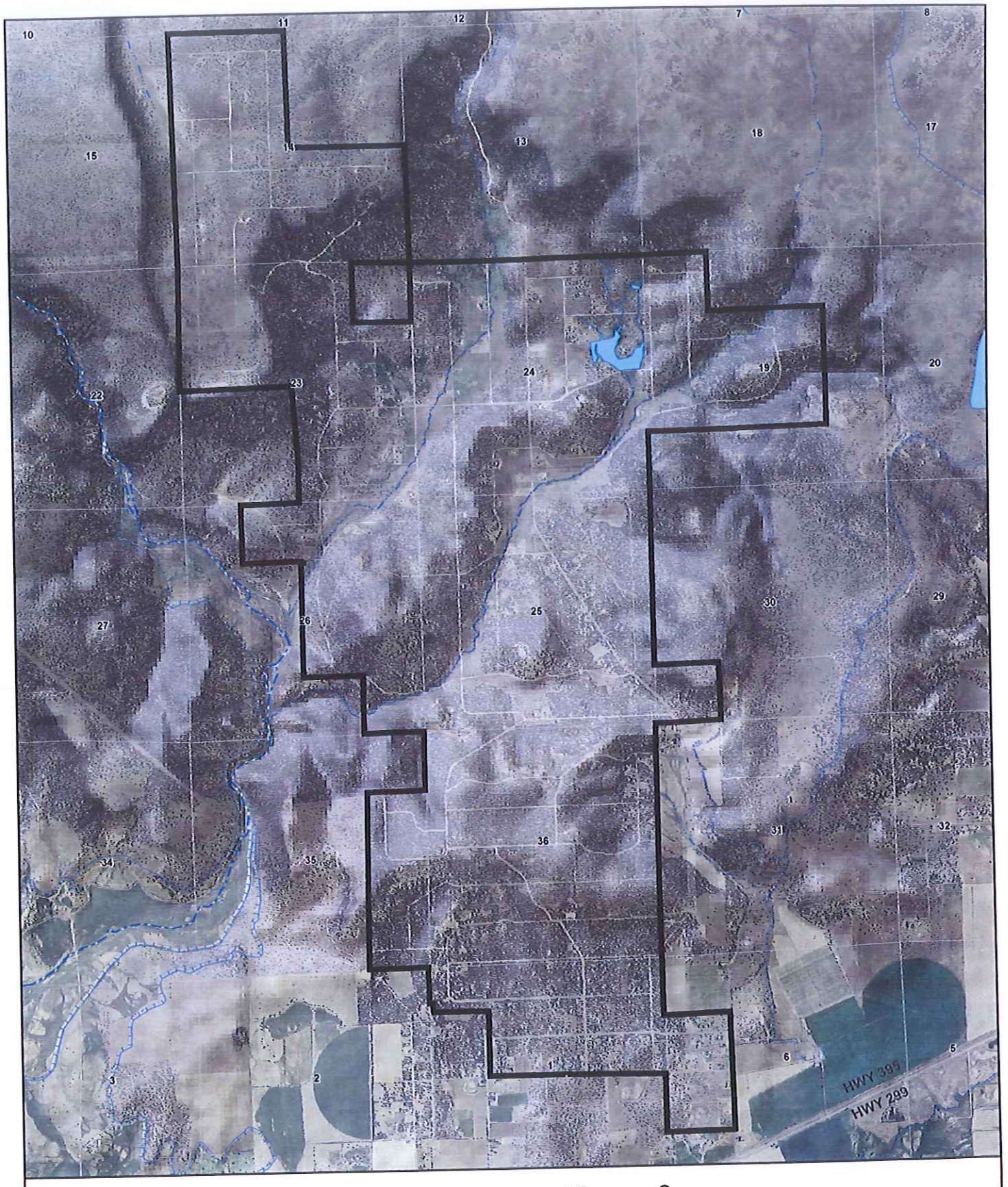

Figure 3
MRE
Topography Map

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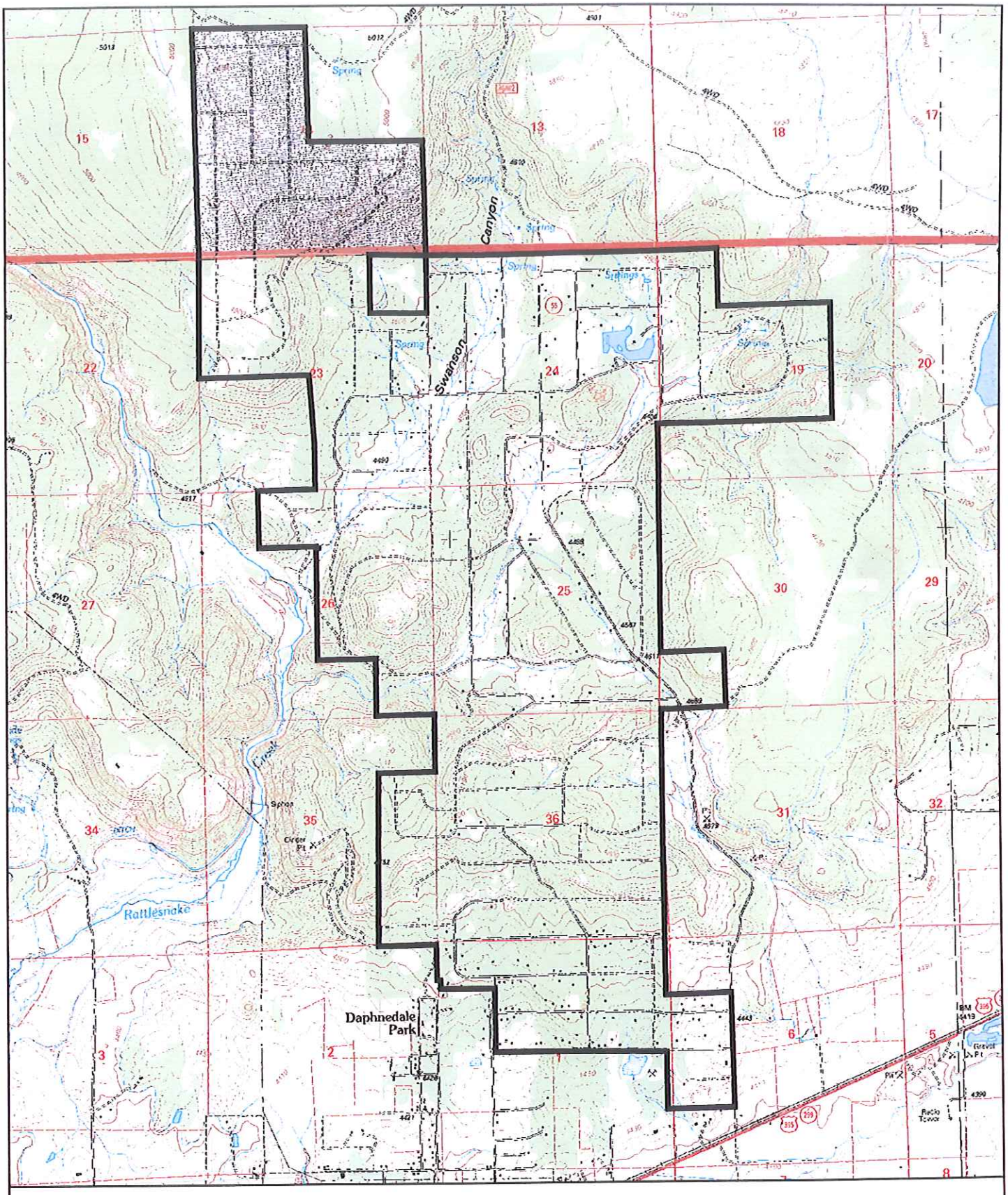

Figure 3A
MRE
Contour Map

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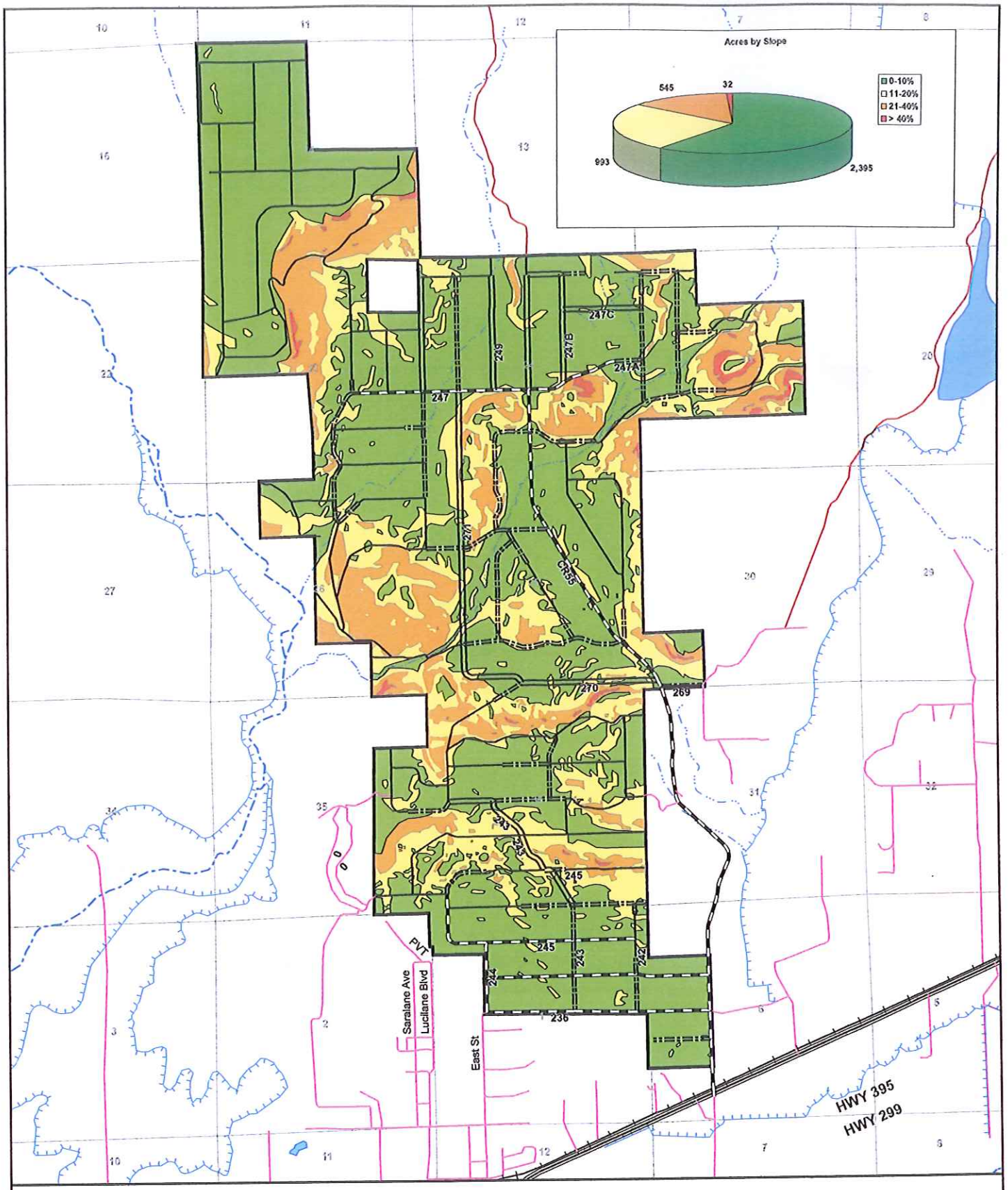

Figure 3B
Modoc Recreation Estates
Slope Breaks Map

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I) Community Involvement

A significant element in any fire mitigation plan or fuels reduction plan is community education and support. Before citizens will take action to solve a problem, they have to believe there is a problem. The mere fact that the County has a Fire Safe Council and has acquired the grant for this project demonstrates a great deal of organization and community support. There are monthly meetings of the Modoc Fire Safe Council to continue efforts in reducing fire risks and improving fire defensibility. As part of the meeting education is a regular component often discussing the 100' clearance rules. The MRE Board of Directors also meets regularly and are quite aware of the need for reducing fire hazard.

As is often the problem with any organization 10 percent of the people do a majority of the work, getting the other 90 percent involved is the challenge. As part of this project a community meeting, was held on February 13, 2007 at the MRE community hall at Sons of Pioneer Lake. A good turn out resulted in approximately thirty people attending, with about half being agency personnel. The objective of the meeting was to gather input and concerns to include in this plan for development of solutions. At the same time agency personnel (CDF) discussed the 100' clearance rules. A presentation was also given by Total Forestry about the project, methods and progress to date on the plan.

In an effort to include absentee owners and those afraid to speak at public meetings a questionnaire was sent out to every landowner within the MRE. This amounted to 1300 questionnaires being sent out. Twelve were returned via mail or e-mail. The lack of absentee owner participation is going to be one of the biggest hurdles to accomplishing fire safe projects. As described at the July 12th meeting the MRE association has difficulty getting a quorum to vote on projects allowed with in the association bylaws (mostly road issues) let alone changing the bylaws to facilitate implementation of fire safe projects like additional water sources, fuel breaks and landscape wide fuels reduction projects.

Some residences were also contacted during the data collection process of evaluating the structures. Many are willing to work, but going to meetings is not their cup of tea. Most understood the need for the 100' clearance and were hopeful that uncooperative neighbors could be coerced into clearing their property. Handicap residents were an issue raised as to why some properties weren't cleared.

In total about 50 of the 1300 MRE owners responded to the various community efforts for public input and education. This constitutes about four percent of the residents getting involved. Although this may seem frustrating, it was evident from the structural evaluations that the majority of the residents had clearance in a low (35%) to moderate (53%) condition.

Besides involving the public, an effort was made to communicate with the professional community dealing with fire risk issues on a daily basis. Personnel interviews occurred with the following agencies: CDF, USFS, BLM, OES, Alturas Rural Fire Department, County Planning and Health Services. In addition discussions occurred with MRE board members, public and private utilities.

As a final wrap up, a public meeting was held July 12th as part of the Modoc Fire Safe Council's monthly meeting to present the final mitigation plan developed from this project. The focus was on priorities and assets at risk.

Values and Assets at Risks

The primary assets at risk are the residences and structures with associated infrastructure of utilities (power, telephone, water, roads, etc.). In addition are the environmental and aesthetic values that are difficult to put values on. When dealing with absentee owners I think these values need to be emphasized. Many are reluctant to remove any trees due to concerns with reduced value of the property. On the contrary, thinning and pruning the trees will increase the value of the property along with protection of aesthetic and environmental values. When property burns it usually results in reduced real estate values and impacts aesthetic and environmental values. In addition, studies show stands dominated by juniper are already impacting water and wildlife resources (see appendix K).

A significant effort was made to evaluate each structure, parcel and driveway. The methods are discussed in Appendix's B and C. For structures the focus was on residences and major shops, thus there are surely additional small out buildings that are not included. Our survey shows 350 structures exist in MRE (see Figure 4). In terms of value we called a couple of real estate agents and the average ranged from about $150-190,000. Looking on the Alturas Chamber of Commerce Web site the average listed was $100-110,000. *If one assumes about $150,000 then the estimated value of the 350 structures mapped is about $52.5 million.* Even the low of $100,000 per structure gives you $35 million.

A value of the utilities is difficult to calculate. The most valuable and at risk is the overhead utilities that are exposed to fire. The wood poles are at significant risk and represent considerable value. In addition, underground utilities (telephone and water) are at risk to fire and fire fighting equipment.

The other values that are difficult to calculate are the environmental and aesthetic values. When a fire burns it directly affects wildlife habitat, water quality, air quality and aesthetic values. *The value of real estate is significantly reduced with the consumption of vegetation.*

Vegetation Conditions and Fire Risks

There are three factors driving Wildland fire behavior: *Fuel, Weather and Topography.* Fuel is the only factor we can control. The problem is that fuels across the landscape continue to increase. Successful fuels management focuses on defensible space around structures (including use of fire resistant materials in construction) and the reduction and separation of fuels on the landscape. There is substantial evidence and research available showing effectiveness in treating forest fuels to modify fire behavior. See appendix J for pictures of before and after wild fires with various fuel treatments in New Mexico (Cram, 2006). Locally on the Blacks Mountain Experimental Station forest west of Susanville the Cone fire (2002) (Skinner, 2007) burned into some experimental treatments (see appendix J). The fire tested fuel treatments established at the station under severe fire behavior conditions of wind, low humidity and low fuel moisture. Units which received both thinning of ladder fuels (biomass

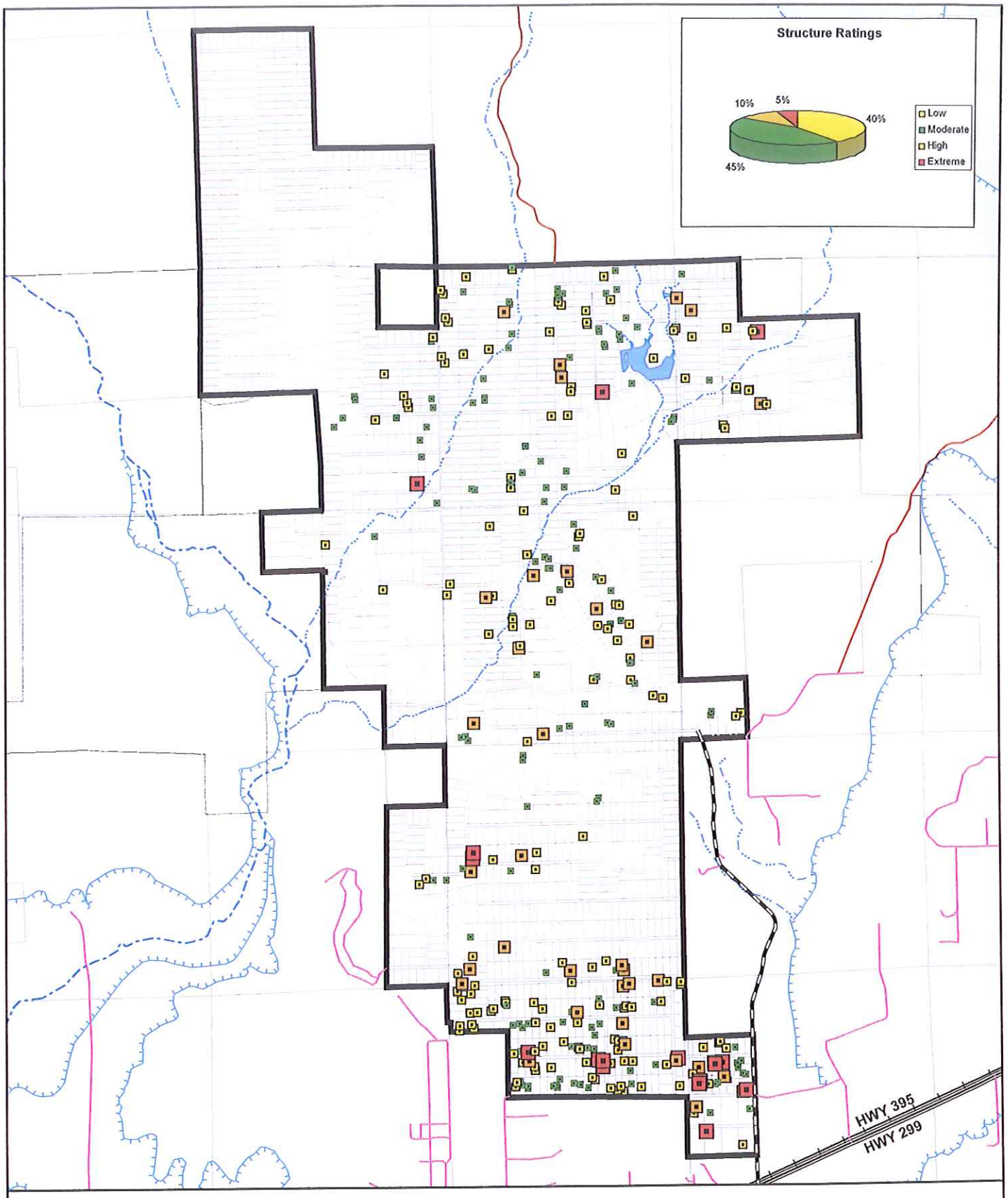

Figure 4
MRE Structure Fire Hazard Rating Map

0 0.25 0.5 1 Miles

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harvest) and a follow up prescribed fire to further reduce surface fuels had the wildfire drop to the ground where it was extinguished, while units which were just thinned of ladder fuels had sufficient surface fuels to severely scorch trees. Untreated forest burned the most severely, with total tree kill, forest floor consumption and canopy consumption. *The moral of the story is you must treat all three fuel components, surface, ladder and crown fuels in order to stop a fire* (Skinner, pers. comm.)

CAL FIRE has just revised the Fire Hazard Severity Zone (FHSZ) maps in the State Responsibility Areas (SRA) for implementation of the new Wildland Building Standards tied to the FHSZ. See Figure 6 for mapping of the MRE that shows it as being high. Review Figure 5 for MRE ratings as a comparison. The model used for the new maps is based on the "Standard Fire Behavior Fuel Models: A Comprehensive Set for Use with Rothermel's Surface Fire Spread Model", Scott and Burgan (2005), see appendix G for excerpts from this model. This is a revision of Rothermel's models (1972).

The larger landscape area including the project area is identified as Pine/Grass in the CDF Lassen-Modoc Fire Plan. This is identified as Fuel Model 2 in the CDF Fire Plan. On a more site specific basis within the project area we see three fuel models; a) Grass – Model 1, b) Pine/Grass – Model 2, c) Brush – Fuel Model 4. It is difficult to equate these models to the new Scott and Burgan Models. CDF Model 1 appears to equal GR4 (104) Moderate Load, Dry Climate Grass (Dynamic) or, fine fuel of 2.15 tons per acre. There doesn't seem to be any equivalent new models to CDF's Fuel Model 2, therefore we used GR2, GR4, GS1 and GS2. These fuel models have tonnage ranging from 1.1 – 2.1 tons per acre. For Brush (Model 4) the equal(s) seem to be SH5 (145) High Load, Dry Climate Shrub, fine fuel of 6.5 tons per acre and SH7 (147) Very High Load, Dry Climate Shrub, fine fuels of 6.9 tons per acre.

On a site specific basis using the models above and the 100 foot clearance requirements, along with the Hazard Assessment Guidelines in Appendix C each parcel and structure was risk rated using a 10 point system as: *Low, Moderate, High or Extreme*. The methods and scoring are defined in Appendix B.

Structure Ratings

With the above in mind each structure was visited and ranked in addition to parcels and driveways.

Methods

The selected feature for analysis is 100' clearance around structures. There are five main criteria used to evaluate clearance, with each structure receiving a score between 0-10; a) *Clearance*, distance cleared from structure, b) *Pruning*, trees pruned to at least 6 feet, c) *Grass*, is green and or cut, d) *Brush*, cleared from under trees, spaced properly, density reduced? e) *Trees*, spaced correctly, proximity to structure, risk to crown fire from adjacent landscape. Adding the scores for the five criteria gives a total score of 0-10. *Low* is a score of 0-2, *Moderate* is 3-4, *High* is 5-6 and *Extreme* is 7-10.

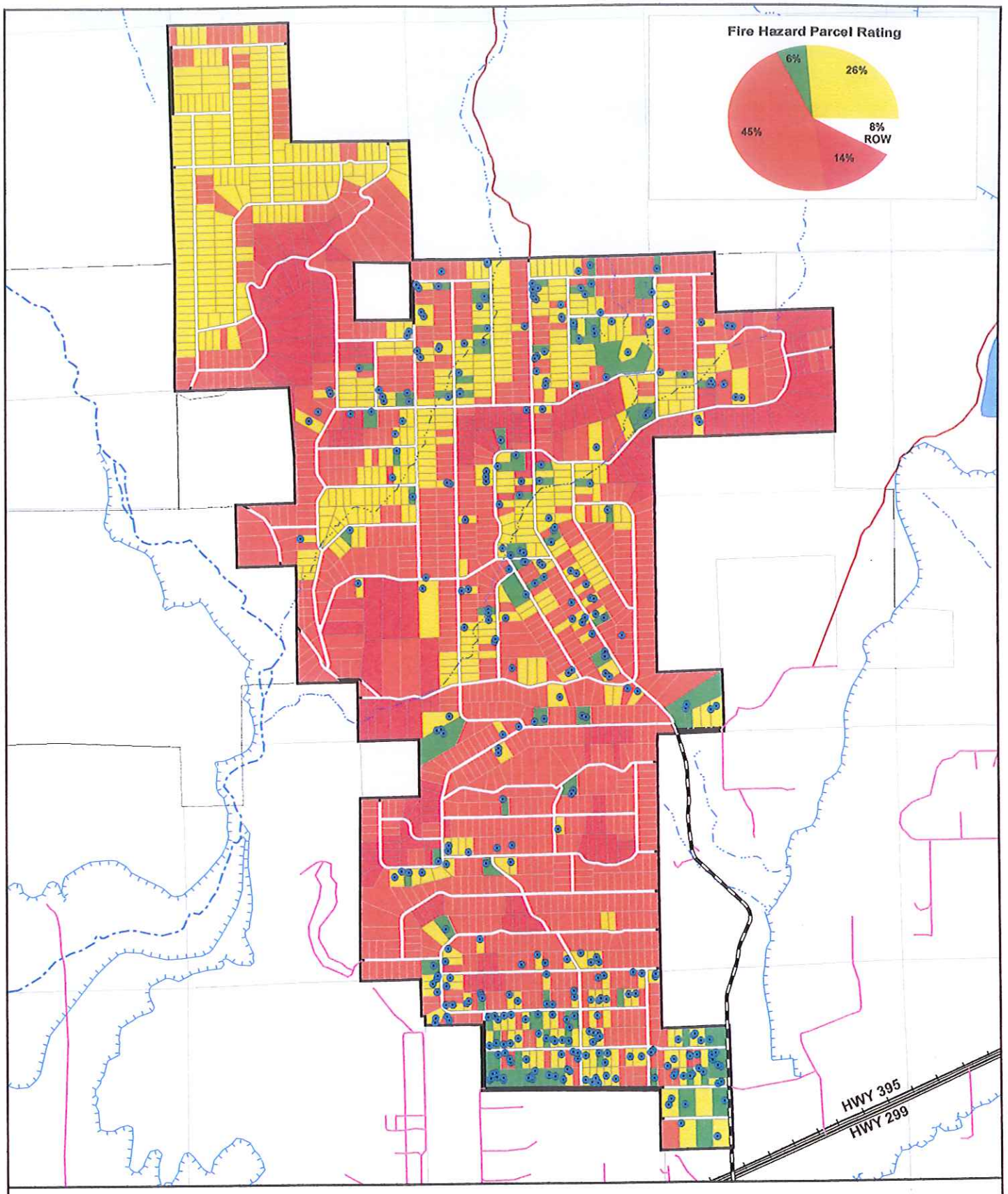

Figure 5
MRE Parcel Fire Hazard Rating Map

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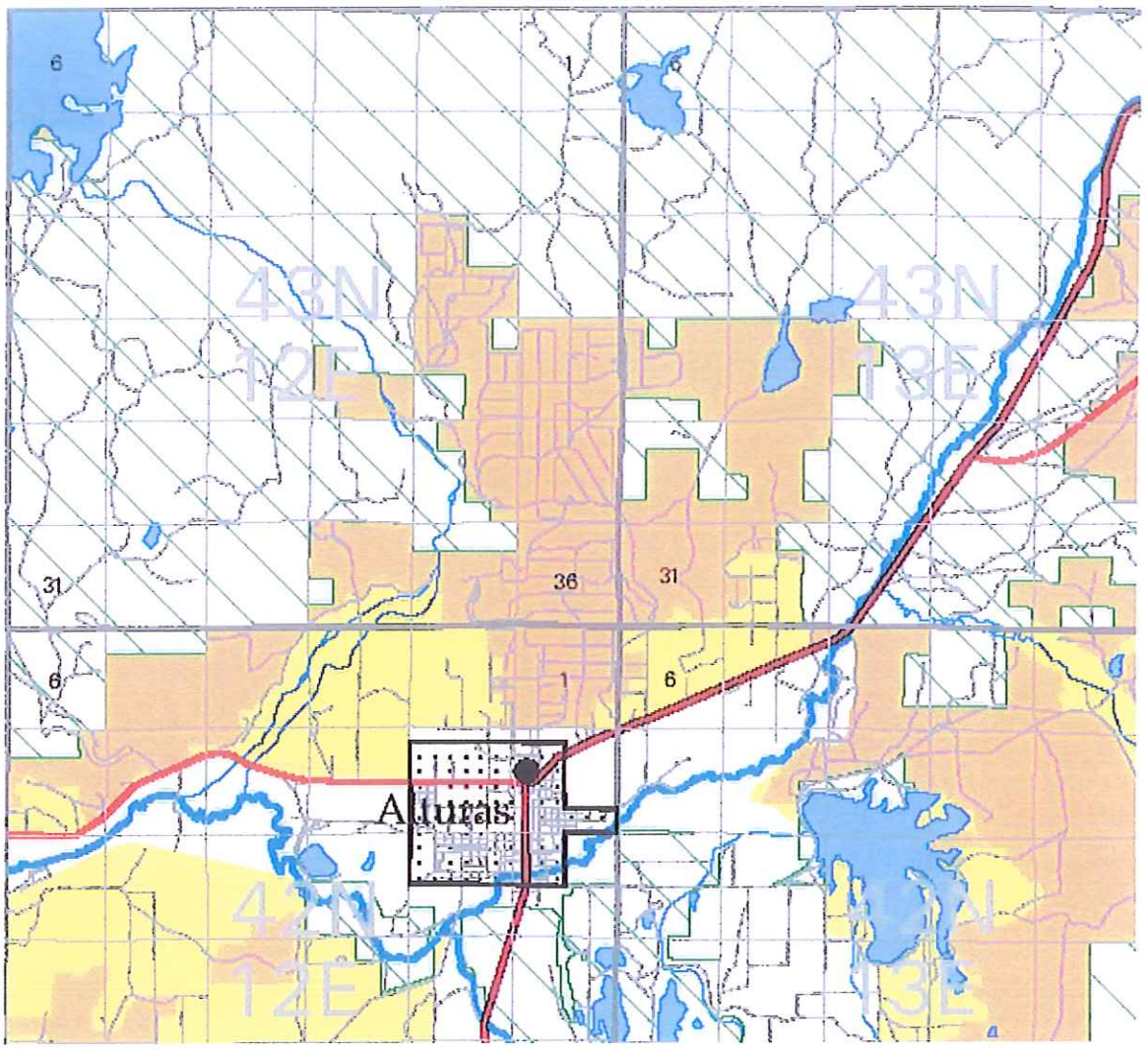


FIRE HAZARD SEVERITY ZONES in State Responsibility Areas (SRA)

- Moderate
- High
- Very High

FIRE PROTECTION RESPONSIBILITY

- Federal Responsibility Area (FRA)
- Local Responsibility Area (LRA) - Unincorporated
- Local Responsibility Area (LRA) - Incorporated

Figure 6

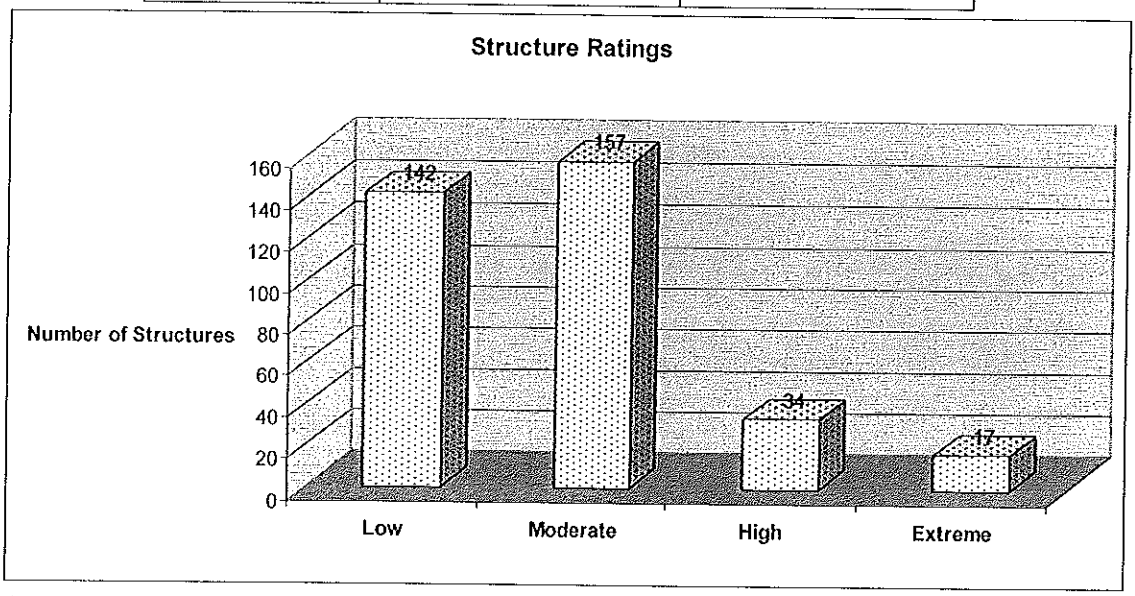
New Fire Hazard Severity Zones for State Responsibility Areas

Data was also collected for type of structure, exterior siding, roof type, roof shape and access. Ratings were assigned to each characteristic that was evaluated, so that each can be mapped. Within this document only the parcel and structure ratings are mapped.

Results of the structure ratings are summarized in Table 1 and Graph 1 – Structure Ratings.

Table 1 – Structure Ratings

Fire Risk Rating	Number of Structures	Percent of Structures
Low	142	40%
Moderate	157	45%
High	34	10%
Extreme	17	5%
Total	350	

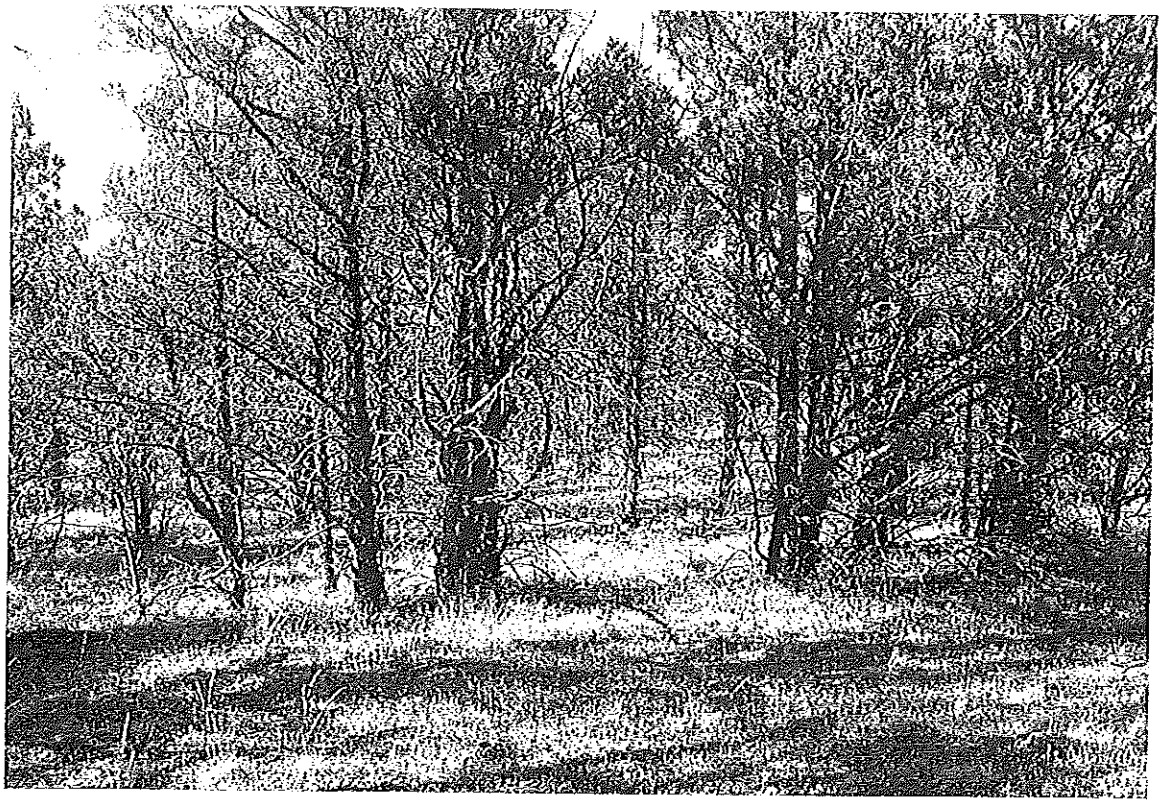


Graph 1 – Structure Ratings

Structure rankings are illustrated in Figure 4.

On an overall basis these results are encouraging. *The goal would be for everyone to rank "Low". For the goal on a structural basis see appendix E. For an example on the parcel basis see pictures 1 & 2.* Clearly many residents have made an effort to reduce fuels. What seems to be generating a lot of the moderates is shrubbery immediately around the structures. With some additional effort many residences could move to the low category. The high and extremes would appear to be an enforcement issue.

In the pictures below there is a clear difference in fuel load and risk to fire. In addition, the treated area (picture 2) has much healthier trees. Even in picture 2 the trees could be spaced out more. The ideal is to have the trees at least one crown width apart.



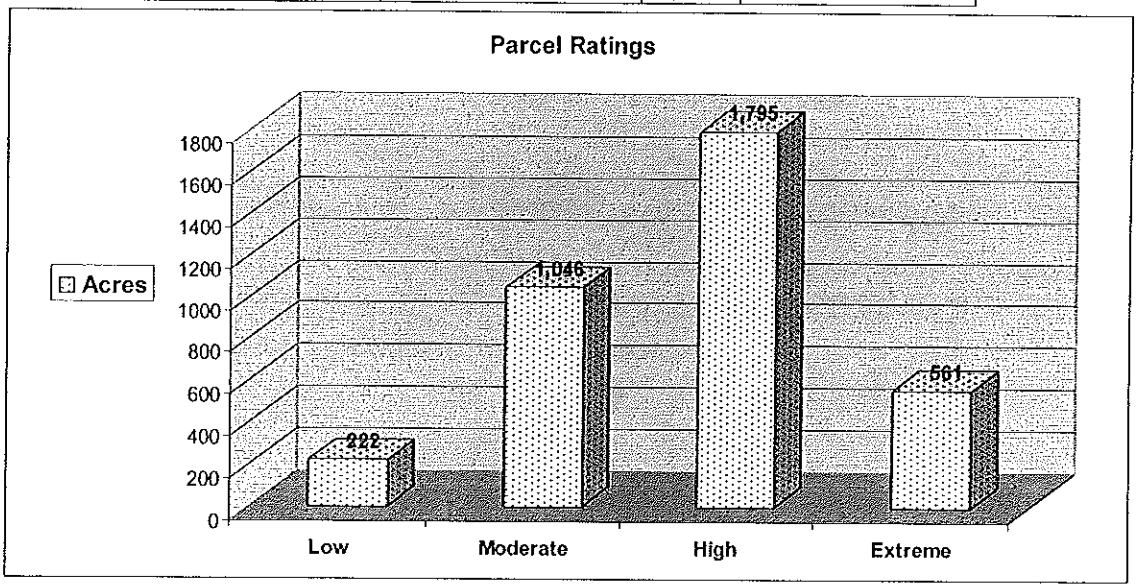
Picture 1 - *The Problem*, high to extreme fuel loading.

Picture 2 – *The Goal*, spaced trees, pruned with under story fuels treated.

Results of the parcel ratings are summarized in Table 5 & Graph 5 – Parcel Ratings.

Table 5 – Parcel Ratings

Fire Risk Rating	Number of Parcels	Acres	Percent of Acres
Low	105	222	6%
Moderate	612	1,046	29%
High	1004	1,795	50%
Extreme	189	561	15%
Total	1910	3,624	100%



Graph 5 – Parcel Ratings

Parcel ratings are illustrated in Figure 5.

When looking at the combination of structures and parcels the picture is not as good. It's quite apparent that while residences understand the risk to fire and have done a good job of reducing fuels on their property, absentee owners have not. Comments from the questionnaire demonstrate the reluctance of absentee owners to remove vegetation. *The apparent attitudes are to protect nature, while not understanding the historical role of fire in the ecosystem or the risk of fire to their property values. There is clearly an educational challenge here to getting fuels reduced on a landscape level.*

Access Ratings

Access is defined as landowners meeting the fire safe criteria for adequate road width, clearance, turn outs and turnarounds relative to structures. For driveways the code reads: *All driveways shall provide a minimum ten (10) foot traffic lane and unobstructed vertical clearance of 15 feet along its entire length.*

a) Driveways exceeding 150 feet in length but less than 800 feet in length shall provide a turnout near the midpoint of the driveway. Where the driveway exceeds 800 feet, turnouts shall be provided no more than 400 feet apart.

b) *A turnaround shall be provided at all building sites on driveways over 300 feet in length and shall be within 50 feet of the building.*

Further description is in Appendix B.

If the driveways meet the above code they were given a good rating. If not all, but the majority of criteria were met then moderate. For driveways not meeting any of the criteria the rating was poor.

Access Rating	Driveways
Good	335
Moderate	12
Poor	2
Total	350

Table 6 – Driveway Access Evaluation

Based on these ratings access for fire vehicles is very good. This is mostly due to the fact that many of the lots are small and fire fighters can reach the structures from the road. No turn outs or turnarounds are required if the distance to structure from the road is less than 150 feet. See table 6 for summary of evaluations.

Exterior fire Risks

Fire risks around the exterior of the estates are mostly moderate to high. USFS and BLM land to the north, east and west that is grazed are in a moderate condition. Tribal lands to the west that have not been grazed are in a moderate to high condition. Other private to the east of the property is high very similar to the MRE. Agriculture land and Alturas City Limits to the south and west are low to moderate. Some may worry about the fire risk from outside; it appears the risk on an overall basis is equal or higher within the estates than outside.

Some have expressed concerned with the USFS Big Sage Management Unit, in particular their "*let burn*" policy. Appendix I has excerpts from the management plan that describes the conditions under which aggressive fire suppression will occur. Basically when fire conditions are extreme and private property is at risk then fire suppression will be active.

II) Fire Safe Projects Identified from Community Involvement

Detail of the comments, thoughts and suggestions appear in appendix A. The comments were grouped into areas of concern; Transportation, Fuels Reduction, Water Source Development, Identification of Safety Zones, Protection of Resources and Other (see end of appendix A).

From our professional perspective we have ranked the concerns based on the need to reduce fire risk and exposure.

Some of these listed issues are already legal requirements such as the 100 foot clearance around structures Public Resources Code (PRC) 4291 (see appendix D). Since they are legal requirements it becomes an enforcement issue. But like infrastructure improvements enforcement still takes money. Agencies say they don't have the personnel available to go

door to door to visit residences. Also in Appendix D is the Modoc County Fire Safe Regulations for State Responsibility Areas (SRA's). These rules were developed by the State Board of Forestry and adopted by the Modoc County Board of Supervisors. These rules deal with structural clearance, road standards, street signs and addresses, water supply and roofing standards.

Some may say that these rules were adopted (December, 1991) after my house was built. That may be true, but if one wants to protect their property from fire and have the fire fighters help protect their structures, then the goal should be to meet or exceed these standards. When living in a rural area one should be as self-sufficient as possible and not assume the agencies will be able to perform miracles. A team approach will be far more successful than relying on the agencies. *The safer your property is the more likely the agencies will be comfortable in making a stand on your property.*

Short Term Projects Identified in Appendix A:

- Status of 100' clearance around structures. Map showing structures in need of clearance (Figure 4).
- Map showing fire/fuel hazards by parcel. (Figure 5)
- Map showing water sources. (Figure 7)
- Need an updated evacuation map. See (Figure 7). The old brochure still has great information in it.
- Map showing potential fuel breaks. (Figure 8)
- Strategies for reducing fuels and risk. See Detailed Objectives and Mitigations.
- Identify Safety Zones, Staging areas.

Long Term Projects from Appendix A:

- Need alternative (additional) ingress and egress routes for emergencies.
- Improve Mallard Road to facilitate alternative emergency ingress and egress.
- Develop Dry Hydrant at Sons of Pioneer Lake to draft water during low water conditions and installation of two 6,000 gallon tanks that have already been purchased
- Develop additional water sources.
- Create Safety Zones and Staging Areas.
- Encourage landowners to maintain roads/driveways of vegetation clearance and weight limits with adequate turn outs and turnarounds that will support emergency vehicles.
- Identify residences that are occupied by handicapped or elderly to facilitate evacuation and help with defensible space.
- Post dual County and MRE road signs consistently.
- Get all of property residence's addresses clearly posted.
- Create and maintain fuel breaks.
- Chipping of more vegetation.
- Continuing Public Education and Awareness of Fire Risks and Clearance Standards.

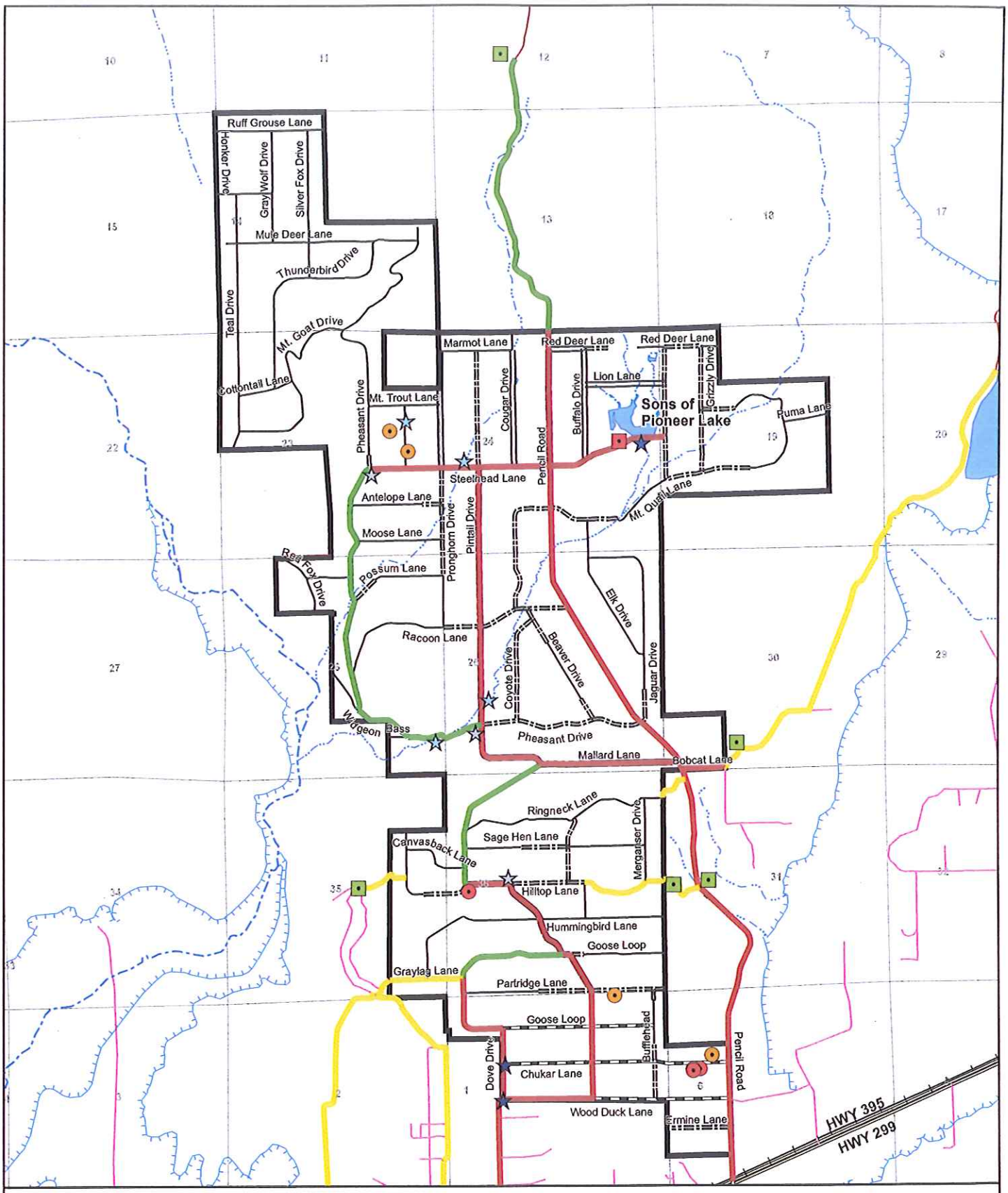


Figure 7
MRE Escape Routes Map

0 0.25 0.5 1 Miles

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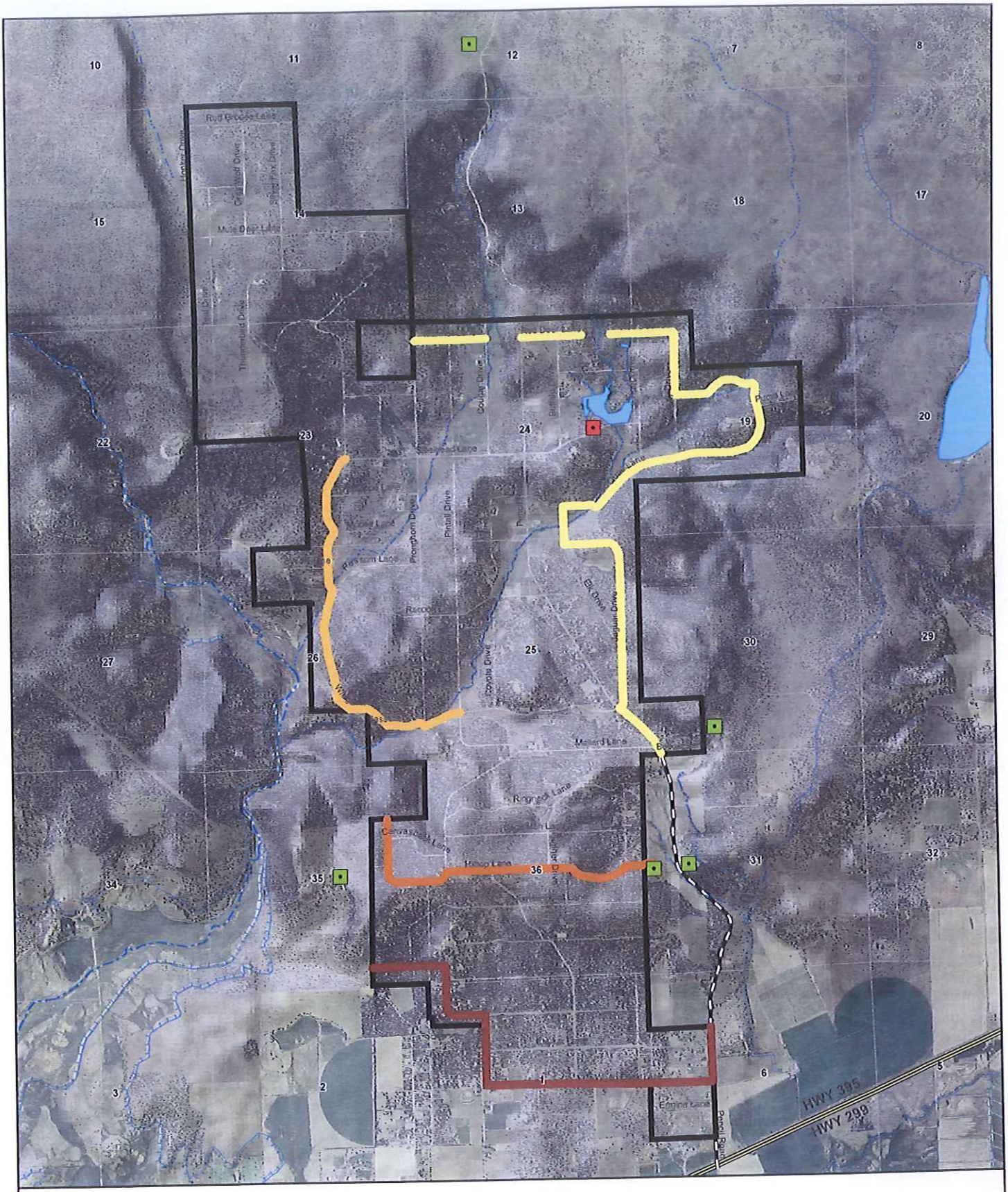

Figure 8
MRE Potential Fuel Break and Safety Zone Map

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III) MRE Fire Mitigation Goals and Objectives

From the analysis of public input the following seem to be goals that can be agreed to:

1) *Develop alternative ingress and egress and safety zones.*
   Although the goal of this plan is for fire hazard mitigation, the immediate need is safety of the public. This involves the safe organized egress of residents during an emergency and the safe ingress of emergency personnel and equipment. In the case that egress and ingress become impossible residents need a safe zone to meet.
2) *Develop additional water sources.*
   There is an extreme shortage of water for fire fighting purposes. Other than Son's of Pioneer Lake and *two city water hydrants (these are of limited value with a history of not working)* in the southwest corner there are no other water sources.
3) *Develop fuel break system.*
   There is a well developed road system in the estates with some good logical locations for fuel breaks.
4) *Reduce fuels on a landscape basis, while maintaining aesthetic value of the area.*
   Fuel breaks are a good start but to truly have an effect on fire behavior at least 20 percent of the landscape needs to be in a reduced fuel condition (Finney, 2000, 2002, 2005).
5) *Develop strategy for accomplishment of goals (this plan).*
   This plan should go a long ways toward identifying the issues and providing solutions.
6) *Continue and expand education efforts.*
   CAL FIRE has volumes of information available for education efforts. Using them as a resource along with direct individual attention will go a long ways toward expanding community awareness. The biggest need is education of absentee owners. Recent studies (Kilgore, 2007) indicate a one on one approach and the use of pictures are helpful.
7) *Protect environmental and cultural resources.*
   Environmental issues will be analyzed depending on the size of the project.

IV) Detailed Objectives and Mitigations

1) Alternative Ingress and Egress, better Transportation

There are only two entrance and exit points at the current time. One is Pencil Road via Highway 299/395 East and the second is via East Street. This is a very dangerous situation since the primary wind patterns and sources of fire are; Highway 299/395, the railroad, and population center of Alturas all to the southwest, which is the prevailing wind direction. It is quite conceivable that a fire starting to the S-SW could cut off ingress and egress to the MRE. *Alternative routes need to be established.*

Mitigation Alternatives

- **USFS Road Number 46N02**
  This would appear to be the natural alternative when looking at a map. But in reality the road really doesn't tie through due to poor maintenance. Lack of maintenance is attributed to lack of funding (USFS) and the nature of the soil. The four wheelers love to tear it up for fun. In reality it would be marginal in an emergency. This road does access an area that would function well for a "Safety

Zone" located about 1 ¼ miles north of MRE on road 46N02. Only those in a 4 wheel drive vehicle could make it through beyond the safety zone. The road leading up to the safety zone is in a rugged canyon (Swanson's Canyon) that would act as a chimney. *The Forest Service does not sanction this for official use. Political pressure to maintain the road to the safety zone is probably the best angle to implementing this solution.*

- **Improve Mallard Lane (3,000 feet or .57 miles)**
  Mallard Lane provides an alternative access on the West side of the estates. It does have a steep portion (10-12%) for about 1,700 feet on the North end that needs to be improved to assure reliable use. To accomplish this, one needs to rock the road and use a vibratory roller to compact the surface to reduce risk of wash boarding. Ideally, the County would take over maintenance of this section and pave it.

  There is 1,300 feet of this road that needs to be rocked to improve this road for reliable year around access. Estimated cost for this entire project (3,000 feet) is $25-50,000.

- **Improve Pheasant Drive Between Steelhead and Pintail (6,000 feet/1.14, miles)**
  This improvement along with the improvement of Mallard Lane gives access along the western perimeter of the estates. This road segment should also be developed as a fuel break. The entire portion between Steelhead and Pintail is about 9,400 feet. There is a portion of this road about 6,000 feet that needs rocking to provide year around use. Estimated cost for this project is $50-75,000.

- **Mud Lake Reservoir (8,000 feet or 1.5 miles)**
  The road extending from Bobcat Lane is gravel for about ½ mile to an intersection where it turns to dirt heading northeast towards Mud Lake Reservoir. Once it turns to dirt the road deteriorates becoming useable by only 4 wheel drive vehicles. Estimated cost for this project is $100-150,000.

- **Improve and Connect Graylag Lane to Private Road SW of MRE (1,000 feet or .2 miles)**
  In discussions with CDF personnel it was mentioned in an emergency a road could be built connecting Graylag with private farm roads to the southwest of the estates. Knowing this is possible, it would seem wise to facilitate the establishment of this route prior to an emergency. Clearly some easements or Memorandum of Understanding (MOU) would be helpful if not necessary.

- **Last Resort Exits through Ranches**
  - Out the southwest corner of the MRE via Graylag Lane are a couple dirt road/trails out through some ranch properties. The east exit of the two has a locked gate, the other has a gate in a barbwire fence leading across a grazed pasture

- On the east side is an exit to Pencil road via a ranch off the end of Ringneck Lane and Merganser Drive.
- Another out let to Pencil road exists off the east end of Hilltop through the rock pit.
- Out the west side via Mallard to the cinder pit/view point. This is not an official road, but as a last resort it will work.

Refer to figure 7 for escape routes and safety zones.

From a priority stand point getting egress to the North (Forest Service Road 46N02) and East (Mud Lake Reservoir) is high but not under MRE's control. Getting the USFS to at least improve the road to the potential safety zone will take some politicking.

Improving Mallard Lane and Pheasant Drive are within MRE's control to accomplish. This can be done within the MRE bylaws if enough money can be raise through dues and/or matching funds.

From a safety point of view it would be wise to set up a system for ingress and egress. Since there are two options from the south and this will be where the fire fighting resources will come from. A policy of ingress up Pencil road for emergency vehicles and egress out Mallard Lane and Baldpate to East Street would reduce the chance of accidents.

All this being said, the landowners are responsible for there own driveway. Are there adequate turn outs and turnarounds? Have the fuels been reduce to allow escape and access for fire equipment.

Safe Zones

- **Sons of Pioneer Lake Park**
  This is a very good location to escape a fire. There is water at the lake to moderate conditions, the park is well maintained for reduced vegetation and there is quite a bit of parking. In addition, it's a location everyone is familiar with. The hall that is present on site would be a good place to store emergency supplies. On the down side if all the residents escaped to this location there probably would not be enough parking space.
- **Rock Pits on Pencil Road**
  There are two rock pits across the road from each other on Pencil road outside of the MRE that could function as safety zones. Since they are outside of the MRE they can't be sanctioned as such without landowner permission.
- **USFS Road 46N02**
  As was discussed earlier under ingress and egress there is a good safety zone about 1 ¼ miles north of MRE on road 46N02. This is not a safety zone the Forest Service will sanction

- **Mud Lake Road**
  Just out the Mud Lake road on the north side of the road is a large bare area that work as a last resort for a safety zone.
- **Near Planned Water Tanks**
  - Hilltop and Baldpate
  - Pintail and Pheasant
  - Steelhead and Pheasant
- **Cinder Pit/Viewpoint West of MRE**
  This is accessed out the southwest corner of the MRE off of Graylag lane and off of Mallard Lane.
  Refer to Figure 7 for escape routes and safety zones.

2) Develop Additional Water Sources

The area has a significant shortage of water sources available for fire fighting. The only spot within the MRE that has water is Sons of Pioneer Lake and *two City of Alturas hydrants (which don't work)* in the Southwest corner. Although there is water year around in Sons of Pioneer Lake the level drops during the summer (necessitating a dry hydrant) and algae (algae needs treating) develops. *Additional sources of water need to be developed.*

Mitigation Alternatives

- **Sons of Pioneer Lake (12 acres)**
  There is a current grant application for development of a "Dry Hydrant" on file for 2008 funding cycle with the California Fire Safe Council, see Appendix J. This is a critical need for the community. In addition to the dry hydrant the MRE needs to seriously consider treating the pond to prevent the growth of algae, to provide water that is usable for fire fighting. Additional dredging should also be considered to provide an area deep enough for helicopters to dip water out.
- **Residents develop personal storage tanks**
  Existing residences should consider developing there own emergency water sources. Not only should one have the water storage, but make sure it's accessible to fire equipment and marked for availability. One should also have back up power sources to run pumps. The first thing to go in a fire is often the power.
- **Drill some wells and create MRE maintained tanks**
  The MRE should consider placing tanks at critical locations in conjunction with planned fuel breaks (see Figure 8). Besides the tanks themselves a method of filling them for summer and draining for winter is important. One could consider drilling wells, or filling with water tenders. Some suggested locations are:
  - Hilltop and Baldpate
  - Pintail and Pheasant
  - Steelhead and Pheasant
- **Develop additional reservoirs**
  The channel that comes out of Sons of Pioneer Lake (SOPL) based on the vegetation present appears to remain wet year around. Potential locations for reservoirs are:

- Where the creek intersects Pheasant Drive on the same channel with Sons of Pioneer Lake (SOPL).
- SOPL channel and intersection with Pintail road
- SOPL channel and Pencil road.
- SOPL channel and Mt. Quail road

The other channel that has reservoir possibilities is in Swanson Canyon (SC). Some potential water holes are:

- SC and Steelhead
- SC and Pintail
- SC and Cougar

An additional spring that could be developed as a water hole is on Squirrel Drive.

3) Develop fuel break system, fuels reduction strategies

There are several good locations for fuel breaks. Currently there aren't any designated fuel breaks. In developing fuel breaks the idea is to take advantage of current infrastructure and topography. Fuel breaks should be perpendicular to the expected travel of fire (prevailing wind direction). As discussed earlier the risks of fire are from the South-Southwest. Other than fuel break priority 1, the rest of the fuel breaks are on mostly absentee owner land. *To accomplish the implementation of Priorities 2-4 a concerted education effort with absentee landowners is going to be required.* It may be conceivable that the By-Laws of the association may need to be altered to require (facilitate) fuels reduction. See Figure 8.

Assumptions for the fuel breaks are that they would be 100' on both sides of the roads indicated. Fuel break clearing stands would be those required within 30-100 feet of structures, primarily the removal of brush (surface fuels), thinning of trees (crown fuels) and pruning of trees (ladder fuels), along with chipping and/or burning material. Estimated historical costs for this type of work in Wildland situations using manual methods is $750-1,000 per acre (not including project development and supervision).

- **Priority 1: Fuel break along Southern Boundary (40 acres)**
  Relative to the other fuel breaks this one should be fairly easy to accomplish. In looking at the parcel and structure rating maps (figures 4 & 5) the vast majority of the properties are in a low to moderate fuel condition already. This is a project that could be accomplished with some MRE coordination and community members or with the help of conservation labor crews. Estimated cost (based on above stated standards) of $250/acre, equals $10,000.
- **Priority 2: Fuel break along ridge with Hilltop Drive (48 acres)**
  The location of this fuel break is a natural due to the topography and population density. This fuel break sits on a ridge top and could help protect the highest density of structures in the southern portion of the estates from a fire approaching from the North. If a fire came from the South it would help contain the fire from moving farther North. Estimated cost (based on above stated standards) of $750/acre, equals $36,000.

- **Priority 3: Fuel break along Pheasant Drive (44 acres)**
  Before developing this into a fuel break one needs to improve (rock) the road for year around access. Beyond the first two priorities the next greatest risk based on fuels and weather is from the West. Estimated cost (based on above stated standards) of $750/acre, equals $33,000.
- **Priority 4: Fuel break along Jaguar, Mt. Quail, Red Deer & Marmot (105 acres)**
  The next priority is protection from the North and East. Winds from the North can be strong dry winds. The risk is primarily from lightning. Due to grazing on Forest Service lands to the North fuel loading is low to moderate. Fire from the East which is against the prevailing wind is the lowest exterior priority. Estimated cost (based on above stated standards) of $750/acre, equals $78,750.
- **Priority 5: Fuel break along County roads (not on map)(480 acres)**
  Where the other fuel breaks are to prevent fire from entering and spreading within MRE. This fuel break would primarily be for safe egress and ingress. The primary roads would be Pencil, Pintail, Steelhead, Baldpate and Hilltop. Estimated cost (based on above stated standards) of $750/acre, equals $360,000.
- **Develop maintenance program for fuel breaks**
  A common problem with the establishment of fuel breaks is that they are not maintained. Normally re-sprouting of brush and hardwoods is a major problem. In this case the biggest problem is encroachment of juniper, which can be dealt with by cutting.

4) Reduce fuels on a landscape basis, while maintaining aesthetic value of the area.
Fuel Breaks are not enough. Research modeling by Finney et. al. (2000, 2001, 2002 and 2005), demonstrates that you need at least 20 percent of the landscape in a reduced fuel condition to slow a fire down. With the suggested fuel breaks (priorities 1-4) the amount of ground cleared would be 237 acres or about 6% of the estates. If one adds the low rated parcels that's 222 more acres or another 6%, giving 12% or only about 462 acre. *The minimum goal of twenty percent of the MRE is 793 acres.*

Another factor that reduces the effectiveness of fuel breaks is wind driven fires. Most fires that escape initial attack are wind driven. With wind driven fires the problem is with spotting where embers blow out in front of the fire across fire lines. Having landscape fuel reduction reduces the chance that the spots will spread before resources can contain the spots. Having a good road system that is well signed also provides timely access to spot fires.

The biggest difficulty to implementing landscape fuels reduction is going to be getting absentee landowners to buy into the concept. Some ideas for educating absentee owners are:

- Use of pictures to illustrate the problem and the intended solution.
- Individual (one on one) conversations with landowners to answer questions and concerns.
- Emphasis on the increased value of property by thinning. Reduced value of property if it burns.

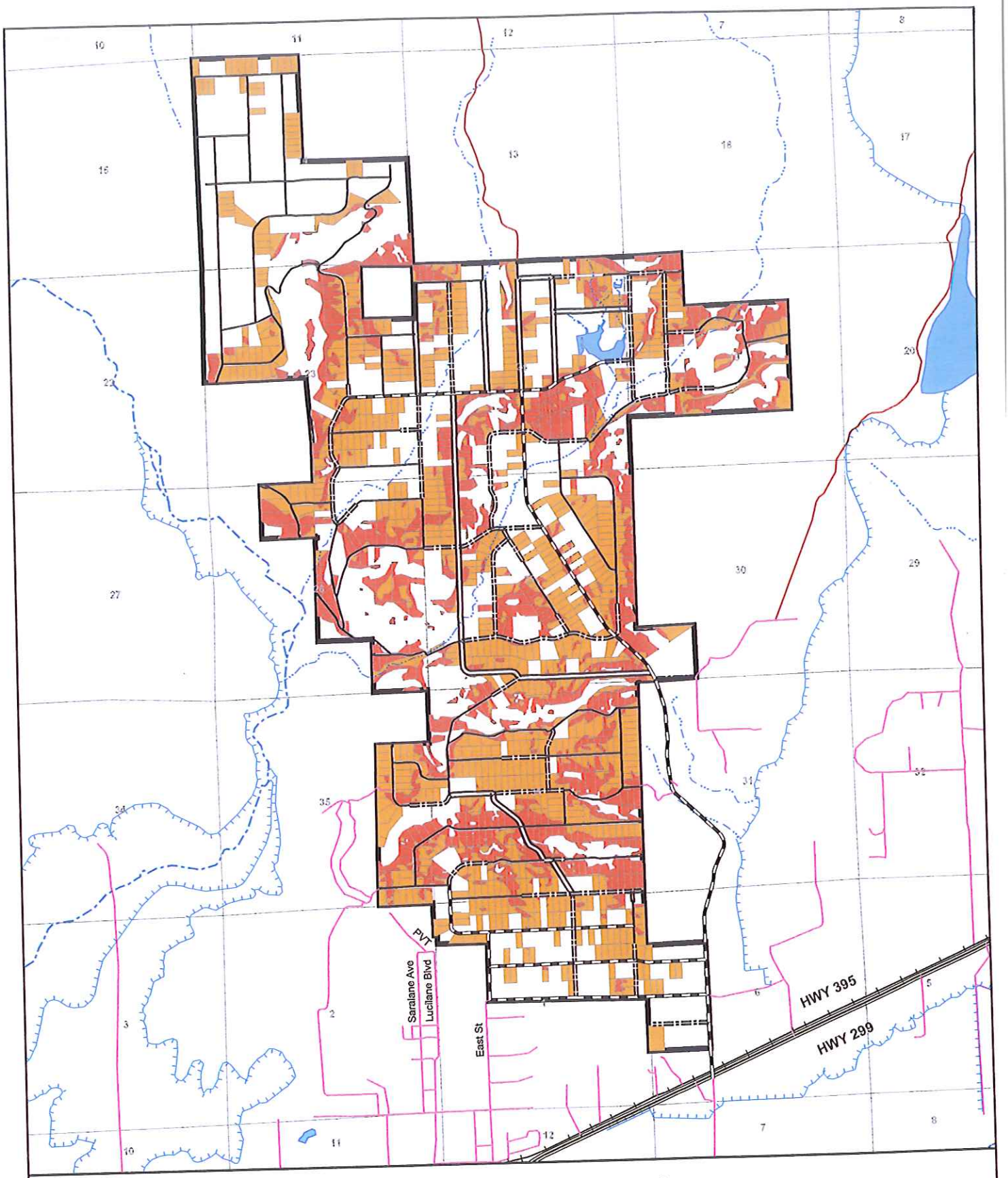

Figure 9
Modoc Recreation Estates
Operability Map

From table 7, I see a potential total of 1,874 acres with moderate slopes and heavy fuels. By focusing on solid blocks to treat I see about 1,000 acres with the potential to treat. This would get the MRE well over the goal of treating 20% of the landscape. This could be broken into two nice sized projects or smaller depending on funding. I would not go after a project of less than 250 acres. Estimated total cost for 1,000 at $400/ac is $400,000.

- **Thinning, Pruning and Slash Disposal (chipping & burning)**
  This is probably the most politically acceptable approach. Many individuals have treated their property by using this method. The concern we have after observing the application is that many landowners are pruning the junipers, but are not thinning the trees. When done there should be *at least* one crowns width of spacing between trees. Thinning and pruning is quite effective, but very labor intensive and expensive. The cost for thinning, pruning and slash disposal usually ranges around $750-1000/acre depending on stocking levels.
- **Grazing**
  This can be very effective in reducing the grass component with cattle. Brush can be dealt with using goats. For this to be accomplished it takes either permanent or temporary fencing. In addition, when working in an urban interface it requires a full time herder to control the livestock. This becomes expensive due to the need for a herder and the annual treatments to keep the fuel down. Estimated costs for goats are $200/acre. In some cases, grazing of cattle can be a money maker, but in this case the herd management would probably make it a cost item.
- **Fire**
  Although broadcast controlled burning can be effective, it is not suggested in the Wildland Urban Interface (WUI) for obvious reasons. As such it will not be dealt with in detail here. The only burning that should be considered is small piles (less than 4'x4'x4').

No matter the method if and when the juniper is removed one needs to make a concerted effort to replace it with native grasses and forbs. With increasing levels of soil disturbance comes an increasing risk of invasive exotic species taking over. In addition, to prevent increased erosion seeding of natural grasses helps stabilize the soil.

From a carbon sequestration point of view it's far better to chip and send to cogeneration facility rather than burning in open piles.

None of the costs above include any supervision and administration of the projects. This should be considered when applying for funds.

5) Develop strategy for accomplishment of goals (this plan).

Within this plan projects have been suggested along with priorities. Ultimately it will be up to the MRE board of directors and the Fire Safe Council to set the priorities and timelines.

The biggest and most important step is going to be landowner buy in. Without cooperation from the landowners there will be very little action on the ground. *Resources developed and presented within this document should be instrumental in illustrating the problems and solutions. These resources include value of assets at risk, maps and photos showing problems and solutions.* These resources will hopefully help in the education process.

From our perspective this plan needs to be treated like a business plan. Priorities, timelines and budgets need to be agreed on and then an aggressive marketing plan needs to be implemented actively targeting the funding sources, including both public and private. In addition, an active marketing effort needs to contact the individuals within public agencies, political representatives and private non-profits. This document should be spread to as many people as possible in the community with the ability to provide leadership.

6) Continue and expand education efforts.

In order to accomplish fuel reduction goals and objectives a concerted effort is going to be required with absentee landowners. Lack of input from absentees and the limited comments received from absentees indicate a lack of interest in changing anything. Experience with other projects in the area indicates difficulty in getting cooperation from absentee landowners. As mentioned earlier individual efforts along with the use of before and after pictures is ones best hope of making progress.

The other concept that often works is to get small groups of interested people and develop demonstration areas. Once people see what you're talking about they are more willing to participate.

7) Protect environmental and cultural resources.

From review of the literature in appendix L one can see that by cutting and thinning the juniper it would actually improve the environmental conditions not impair them. Miller (2005) discusses juniper by saying,

"if left unchecked can have significant impact on soil resources, plant community structure and composition, water and nutrient cycles, wildlife habitat, and biodiversity. As a result, control of western juniper has been a major concern of land management since the early 1960's. Justifications used for western juniper control include restoration of preinvasion plant communities, increasing forage production and quality, reducing soil erosion, increasing water capture on site, increasing spring and stream flow, improving wildlife habitat, and increasing biological diversity. In the early years, the emphasis on juniper control was to increase forage production for livestock. However, in the last decade the primary justification for juniper control was to enhance proper site function (i.e., capture and store of water, retain soil nutrient capital, restore shrub steppe communities, etc.)."

The Sage Steppe Ecosystem Restoration Project directed by the BLM is based in Alturas and currently working on an environmental impact statement (EIS) for the management (reduction) of juniper. The analysis area is 6.5 million acres in northeastern California and some parts of northwestern Nevada. There is significantly more juniper now than there was prior to the exclusion of fire. By reducing the component of juniper on the landscape many environmental components would be improved.

As far as cultural resources are concerned a records check at Chico State would show any record sites. A survey of areas planned for operations can be done easily prior to any ground disturbing activities.

V) Enhance MRE's Ability to seek Funding to Implement Projects

This plan in itself will significantly assist efforts to acquire grant funding by identifying priorities and projects. It also includes the information needed to fill out grant applications, including maps, photos and data to illustrate the issues and objectives.

Within appendix K there is a list of potential grant sources as well as information on training to write grants. There is definitely an art to writing grants. The other factor grantors are looking at his the infrastructure of the organization applying for the grant. Do they have the ability and track record for implementing grants successfully?

VI) Facilitate Relationships with Agency and Private Parties to reduce Wildfire Risks

The dialogue with the agency personnel throughout the effort has been very constructive. The communications between all parties has been positive. The most dangerous element for any of the fire safe councils is *time*. Everyone needs to see results or one gets tired of going to meetings. *Persistence* becomes a key word. However small the projects it's important to show results. It is often better to tackle many small projects rather than one big one. Showing progress keeps people energized and with the results others become involved.

The current group within the Modoc fire safe council is a good one.

Conclusions

On an individual basis the single biggest factor in saving life and property is for landowners to comply with the 100' clearance regulations. If landowners want the agencies to help protect their property they must help themselves first. Access to property must be safe before firefighters are going to put their lives on the line.

From a community perspective the goals and objectives have been list a couple of times in similar forms. To summarize they are:

1) Develop alternative (additional) ingress and egress routes, while improving safety on the existing routes. Having only two current route and both in the same direction is a recipe for disaster.
2) Developing additional water sources is critical. There is an extreme shortage of available water within the MRE.
3) Creating a system of fuel breaks around and within the MRE would be very helpful for stopping and containing fires.
4) Reducing landscape fuels is essential in preventing a catastrophic fire event within the MRE.
5) This document provides the plan, time is of the essence. A sense of urgency is helpful to provide momentum for getting things done.

6) Education and persistence are essential elements in the success of implementing this plan. Hopefully it won't take a wildfire to get people interested in protecting their property, in addition to public values.

Besides getting cooperation, financing projects will always be a problem. Transportation is a significant part of the issues mentioned above. The MRE does have the ability to use funds for improving the road system. This can be very helpful in itself, but one should try to leverage it as much as possible for matching funds.

With plan in hand, firming up priorities, acquisition of funding and then implementation. Stay persistent all one has to do is look around at the increasing number of fires and acres burning each year. It's not a matter of if but when. Be Prepared.

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Appendix A

Issues and Concerns Identified From Public Meeting (2/13/07), Questionnaire and Conversations with Agency Personnel

Public Meeting

- It was discussed that the agencies would like to see maps displaying information such as:
  Fuel Types, Vegetation, Slopes.
- Clearances on roads and driveways.
- Information on the homes, which ones have the 100' defensible space work done, turn a rounds and widths of driveways.
- Evacuation plans, road conditions, Ingresses and Egresses.
- Water sources.
- Safe staging areas during wildfires.
- Also it was suggested to include a plan (suggestions?) on how to treat the vegetation.
- Impassable roads when wet that impede emergency vehicle access (fire and medical).
- Emergency Services don't have accurate maps of MRE estates for response.
- Need to identify residences with handicaps, to facilitate emergency evacuation and those needing help with getting 100' clearance accomplished.

Questionnaire

- Absentee, against mandatory land clearing because it propagates fraud.
- Concern expressed about deer and quail
- Absentee, roads need to be cleared (cleaned) more often. Need schedule for annual clean-up.
- Absentee, fix road to access northwest corner.
- Need to remove abandoned house (fire hazard) between Jaguar and Quail.
- Concern with significant dip in road on Elk between Jaguar and Quail.
- Would love to see more chipping. Need resources to help with chipping on property.
- Concern with west-SW winds, develop fuel break along Pencil road.
- Do more chipping year around and burning during the winter.
- Need help with property lines to delineate chipping boundaries.
- Need for more government intervention on fire hazards.
- Absentee, concerned about removal of trees, pruning ok.
- Need to mow grass along public roads.
- Need more sources or water.
- Willing to consider commercial chipping.
- Forest Service needs to clean up slash created from fire wood cutting permits along road number 46N02 (extension of Pencil road onto USFS lands).
- Need another road for ingress and egress during emergencies besides Pencil road.
- Concern for endangered plants and animals, deer crossing signs.
- More emphasis on clearances around houses.
- More chipping.

2) **Fuels Reduction**
   - Has required 100 foot clearances around structures occurred?
   - Do driveways have required clearances, turn outs and turn a rounds?
   - Identify logical fuel breaks.
   - Need suggestions for how to treat fuels.
   - More chipping.
   - Consider controlled burning on a small scale.
   - Consider mulching/masticating machines.

3) **Water Source Development**
   - Need Dry Hydrant at Sons of Pioneer Lake (SPL), dredge and treat algae.
   - Need to develop more (multiple) water sources.
   - Map of water sources.
   - Concern with water sources if when power gets cut off.
   - Build earthen dams for water reservoirs.

4) **Identify Safety Zones**
   - Develop safety zones.
   - Emergency Services need accurate maps of drivable (all-season) roads.
   - Need to identify handicapped residences for evacuation and facilitate structure clearing.

5) **Protect Resources**
   - Concern expressed for deer and quail habitat and safety.
   - Concern for archaeological resources and need for survey.
   - Concern with removal of trees (absentee owners).
   - Concern with mandatory tree/brush removal promoting fraud.

6) **Other**
   - Concern with slash created on USFS land north of MRE as a result of firewood cutting.
   - Concern with property lines.
   - Would like to see more government assistance on dealing with fire hazards.
   - Need to educate newcomers and absentees of fire hazards.
   - Concern with Forest Service "Big Sage Management Unit – let burn policy.

Appendix B

Methods Used to Evaluate Fire and Fuels Hazards

Discussion

In an effort to integrate data with other agencies and organizations, a strategic plan was developed with CDF to evaluate fuel and fire hazards on a structural and parcel basis. The approach is essentially the Hazard assessment that is Appendix D in the Modoc Fire Safe Council Strategic Plan 2003 and in Appendix C of this document.

1) *Select area to be evaluated – Modoc Recreational Estates.*
2) *Select Hazard Components to Consider*
   - *100' Clearance*
   - *Roofs*
   - *Walls*
   - *Windows*
   - *Eaves and Overhangs*
   - *Vents*
   - *Gutters*
   - *Attachments*
   - *Structural Density*
   - *Slope*
   - *Vegetation Complex*
   - *Weather*
   - *Fire Occurrence*
3) *Rank the Hazard Components*
   See data dictionary below
4) *Present the Hazard Rankings in a Useable Format.*
   The method chosen to store and present the data is a Geographic Information System (GIS). We've chosen to use ESRI format ArcView 9.2. Results presented in main document as figures
5) *Develop Future Actions*
   The end result of this plan is to present propose actions ranked by priority along with methods of implementation. See Detailed Objectives and Mitigations in main document.

Methods

The project area is Modoc Recreational Estates.

The selected feature for analysis is 100' clearance. There are five main criteria used to evaluate clearance each was given a score of 0-2; a) *Clearance*, distance cleared from structure, b) *Pruning*, trees pruned to at least 6 feet, c) *Grass*, is green and or cut, d) *Brush*, cleared from under trees? Spaced properly, density reduced? e) *Trees*, spaced correctly, proximity to structure, risk to crown fire from adjacent landscape. Adding the scores for the five criteria gives a total score of 1-10. *Low* is a score of 0-2, *Moderate* is 3-4, *High* is 5-6 and *Extreme* is 7-10.

Data was also collected type of structure, exterior siding, roof type, roof shape and access. Ratings were assigned to each characteristic that was evaluated, so that each can be mapped. Within this document only the parcel and structure ratings are mapped.

Data Dictionary

The data dictionary refers to the codes used in the feature class; roads, gates, water points, streams, structures, MRE_Parcels attribute table and the definitions to use to calculate the scores

	Roof_Shape		s	Simple roof, no ridges or valleys
			c	complex roof, has ridges and/ or valleys
	Clearance		1	Meets CDF requirements for defensible space, fire danger low
			2*	clearance+ pruning+ grass+ brush+ tree crowns
			3*	clearance+ pruning+ grass+ brush+ tree crowns
			4*	clearance+ pruning+ grass+ brush+ tree crowns
			5*	clearance+ pruning+ grass+ brush+ tree crowns
			6*	clearance+ pruning+ grass+ brush+ tree crowns
			7*	clearance+ pruning+ grass+ brush+ tree crowns
			8*	clearance+ pruning+ grass+ brush+ tree crowns
			9*	clearance+ pruning+ grass+ brush+ tree crowns
			10	Meets no CDF requirements, fire danger is extreme
			*	Ratings depend on criteria dealing with defensible space.
				The combination of these 5 gives the structures clearance.
			Structure Rating	
			0-2	**Low**
			3-4	**Moderate**
			5-6	**High**
			7-10	**Extreme**
			0-2	**Clearance.** Clearing within a 30 foot radius of the structure.
				Fuel reduction zone from 30-100 feet around structure.
				Good clearing scores a 0, no clearing scores a 2.
			0-2	**Pruning.** Have the trees been pruned to at least 6 feet?
				If all trees are pruned to 6 feet or higher score is 0, no pruning
				Results in a score of 2.
			0-2	**Grass.** Has the grass been cut, within the 30 foot radius?
				Grass cut score is 0, no management to grass is 2.
			0-2	**Brush.** Is the brush growing under trees, have any bushes
				been cleared? What's the fire hazard of the ladder fuels?
				No ladder fuels scores 0, brush growing under trees is 2.
			0-2	**Tree Crowns.** Are the crowns all touching, growing together,
				What's the hazard of crown fires?
				Thinned trees with good spacing scores a 0, while heavily
				Stocked clumps of trees score a 2.
	Access		1	Easily accessible for emergency response vehicles.
			2*	Address posted+ gated+ turn-around+ clear+ width/strength
			3*	Address posted+ gated+ turn-around+ clear+ width/strength
			4*	Address posted+ gated+ turn-around+ clear+ width/strength
			5*	Address posted+ gated+ turn-around+ clear+ width/strength
			6*	Address posted+ gated+ turn-around+ clear+ width/strength
			7*	Address posted+ gated+ turn-around+ clear+ width/strength
			8*	Address posted+ gated+ turn-around+ clear+ width/strength
			9*	Address posted+ gated+ turn-around+ clear+ width/strength

MRE_Parcels	**Rating**	**Polygon**	0-2	**Low Fire Hazard. (GR1)** This fuel type is characterized by
For undeveloped parcels.				short, sparse, dry climate grass. Spread rate moderate; flame length low. Common in urban areas, where fuels have been cleared or heavily grazed. Fire suppression is relatively easy.
			3-4	**Moderate Fire Hazard. (GR2, GR4, GS1, GS2)** Moderately course continuous grass, average depth 1-2 feet with possible shrubs 1-3 feet high. Spread rate moderate to high and flame lengths low to moderate. This presents a more continuous fuel load with a mix of grass and shrubs. Fire suppression becomes more difficult with increased rate of spread.
			5-6	**High Fire Hazard. (SH5, SH7)** The primary carrier of fire is woody shrubs and shrub litter. Heavy shrub load, depth 2-6 feet. Spread rate high to very high. Flame length very high. Fire suppression becomes more difficult on slopes greater than 30 percent.
			7-10	**Extreme Fire hazard. (SH7)** The primary carrier of fire is woody shrubs and shrub litter. Very heavy shrub load, depth 4-6 feet. Spread rate high; flame length very high. This condition exists mainly on slopes greater than 30 percent where fire suppression methods are limited.
Fuel Breaks			1	Priority 1
			2	Priority 2
			3	Priority 3
			4	Priority 4

See Appendix A							
Rating; depends on condition		0-2		0-2	0-2	0-2	0-2
Appendix A:							
Defensable Space:Fuel modification within 100 feet around a residence where fuel reduction has taken place. This results in a reduced fire danger and hazards to emergency response.							
Pruning: Removal of limbs/branches on a tree which would act as ladder fuels for wildfire.							
Grass Cut: This rating is based on the amount of grass and density of grass cut/or un-cut on a parcel.							
Brush: Based on ther amount and distribution of brush on a parcel and its effect on wildfire.							
Crowns: This rating is based on the density of tree crowns within a parcel.							
Appendix B:							
Address Posted:		Yes or No? Can emergency responders find a particular structure from the road.					
		If yes the structure rates a 0 or 1, if no address is posted the structure rates a 2.					
Gated:		Is the driveway gated and/or locked.					
		Where there is no gate, structures rated a 0, where a gate is present and no lock, rates a 1,					
		and gated and locked rates a 2.					
Turn-around:		Can emergency responders turn a vehicle around on the property.					
		Are there turn-outs or turn-arounds visable from the road.					
		Some driveways don't require turn-outs, less than 150 feet, rating = 0.					
		Where driveways require turn-outs and are visible rating = 0,					
		but where they are not visible rating = 2.					
Clear Drive:		Is the structure visable from the road.					
		Emergency responders need to see at least the first turn-out from the road.					
		Is there brush or tree limbs growing over the road reducing visibility.					
		When driveways where clear and not overgrown rating = 0 or 1,					
		where they are brushy and overgrown rating is a 2.					
Width/suppport:		Can the private drive support an engine or other emergncy vehicle.					
		Is the road rocked and wide enouph for responders.					
		Paved driveways and rocked driveways received a lower rating of 0 or 1,					
		dirt driveways received a 2 because of reduced support .					

Appendix C

Hazard Assessment

Hazard Assessment*

The Hazard Assessment Process is presented in step functions that are descriptive, not prescriptive in nature. The methods recommended describe an overall approach that combines approaches taken by several jurisdictions throughout the United States. In reviewing each step, consider the extent each step contributes to a realistic assessment of the fire hazard in your area.

Step 1: Select the area to be evaluated

Identify the interface boundary or boundaries on a map. Use a map (preferably a topographic map) of the jurisdictional area and define the known interface areas. After identifying the interface areas on the map, give each area a name or number. Consider naming the areas after related geographic names or land marks for easy reference.

Step 2: Select the hazard components to be considered

The hazard components discussed are divided into three categories—structure hazards, vegetative fuel hazards, and other miscellaneous hazards. The structure hazards include the structure's location, building materials and design. The vegetative fuel hazards include the vegetative cover both within and beyond the vicinity of the structure. Miscellaneous hazards included are the structure density (i.e., the number of structures in an area), slope, and weather and fire occurrence.

Structure hazards: The building materials, design and location and the fuels within the area will all contribute to the ability or inability of the structure to survive a Wildland fire situation. By considering the following structural hazards, new developments can be built with an increased chance of surviving a Wildland/urban fire. Homeowners should be educated on how to reduce the fire risk of existing structures.

Structure location: The structure should be built in a location that will minimize vulnerable design features and maximize its survivability. Structures should be set back at least 30 feet from property lines so that the owners will have control of the adjacent areas. Structures should be located away from dangerous topographic features such as the top of slopes or adjacent to chimneys (draws and canyons).

Building Materials and Design: Should a building come in contact with heat, flames or firebrands, the building materials and design should prevent or retard the penetration of the fire beyond the exterior of the structure.

1) Roof

Roofs are less vulnerable to radiation and convection because of their slope but are more susceptible to ignition by firebrands. Roofs should be covered with nonflammable materials and

* Adapted from the NFPA Assessment Guide

Response Times
Utilities
Water Supply

Vegetative Fuel Hazards: Vegetative fuels include living and dead vegetation materials. The amount of heat energy released during a Wildland fire is defined by the amount, arrangement and rate of combustion of the vegetative fuels. Vegetative fuel flame lengths can exceed 100 feet and the radiated heat can ignite combustible materials from distances of 100 feet or more. Winds can carry live firebrands for several miles. Fuels *within the immediate vicinity* can have a significant impact on the potential of a structure to ignite. The size of the "immediate vicinity" will vary depending on the vegetation and characteristics of the land. Fuels within the immediate vicinity of the structure should be fire resistant and maintained in fire resistant

Fuels *beyond the immediate vicinity* are those that surround the structure but are not immediately adjacent to it. The concern with these fuels is primarily their ability to produce firebrands, which can indirectly cause ignition of the structure, and their ability to produce long flame lengths and intense radiant energy. Fuels beyond the immediate vicinity of the structure should consist of fire resistant ground cover and trees that are thinned and pruned to prevent ground fires from igniting the crowns, or tops of trees.

Additional Considerations
Building Construction
Defensible Space
Fuel Breaks
Fuel Continuity
Fuel Loading
Fuel Type/Models

Miscellaneous Hazards:

1) Structure Density

The density of structures is determined by lot size, structure arrangement and number of structures per lot. This density affects the overall exposure, spread and intensity of wildfires.

Additional Considerations
Endangered Species
Endangered Plants
Environmental Impact
Visual Impact

2) Slope

Slope is defined as the upward or downward incline or slant of the terrain. All other variables being equal, a fire traveling up a slope will move faster and have longer flames than a fire traveling on flat terrain—a fire on a 30 percent slope can produce flames twice the length and travel as much as one and one half times as fast, as a fire on flat ground.

WILDFIRE HAZARD SEVERITY CHECKLIST

SUBDIVISION NAME - _____ DATE - _____

LOCATION - _____

TYPE – ( ) RESIDENTIAL ( ) COMMERCIAL ( ) INDUSTRIAL ELEMENT

	POINTS
A. Subdivision Design	
1. Ingress and egress	
Two or more primary roads	1 ___
One primary road plus one or more emergency roads	3 ___
One way in and out	5 ___
2. Primary road width	
Minimum of 20 ft	1 ___
Less than 20 ft	3 ___
3. Road accessibility	
All weather road (oiled, paved and ploughed)	1 ___
Dirt road (gravel)	3 ___
4. Dead end roads (skip if none)	
<800' long	1 ___
>800' long	3 ___
5. Average lot size	
More than 5 acres	1 ___
1 to five acres	3 ___
Less than 1 acre	5 ___
6. Street signs	
Present	1 ___
Not present	3 ___
B. Vegetation	
1. Fuel hazard	
Low, light fuels (Grass, Weeds, Shrubs, manicured garden)	1 ___
Moderate, Medium fuels (Brush, Large Shrubs, Small Trees)	5 ___

Step 4: Present the hazard rankings in a usable format

Compile the component hazard rankings in a format that will reveal the relationships between the individual hazards and categories of hazards. Three methods are often used to analyze the data collected.

1. A geographic information system (GIS) can define the hazards components on a map of the assessment area. Displaying each hazard on clear overlays, rather than on a single map, allows you to study various combinations of data.
2. A grid index system references specific points of interest on a map. The coordinates of the grid define the hazard rating of a specific property or area.
3. A matrix system describes the severity of each hazard for each area within the assessment.

Any or all of these data analysis methods can be used to understand the relationships between the various hazard components and can also help to develop an overall hazard ranking of each area within the assessment.

Step 5: Develop future Actions

The information developed from the assessment can be used to develop strategies to reduce fire hazards in the Wildland/urban interface. Suggestions on how to use the information follows:

- Develop mitigation strategies
- Develop fire response/evacuation plans
- Provide reference tools for planners, insurers, bankers and local code adoption
- Develop region-wide cooperative fire protection agreements
- Use as a basic fire protection evaluation tool in conjunction with the Insurance Service Office (ISO) fire suppression rating schedule
- Distribute along with public fire safety education information
- Improve fire fighter and public safety
- Perform cost/benefit analyses
- Implement or evaluate existing programs
- Adopt a more sophisticated fire modeling program
- Strategically focus fuel reduction projects
- Educate property owners, local and state governments and fire-service agencies.

Appendix D

Legal References

Table of Contents

MODOC COUNTY FIRE SAFE REGULATIONS
FOR
STATE RESPONSIBILITY AREAS

Chapter 8.30

Fire Safe Regulations for State Responsibility Areas

Sections:

ARTICLE VI I. ROOF STANDARDS

ARTICLE I. PURPOSE AND PROCEDURE

8.30.010 Title. These regulations shall be known as The "Modoc County Fire Safe Regulations for State Responsibility Areas (SRA) ," and shall implement the basic wildland fire protection standards of the California Board of Forestry adopted by the county board of supervisors. (Ord.298 Exh.A(part) , 1991)

8.30.020 Purpose. These regulations are adopted for the purpose of establishing minimum wildfire protection standards in conjunction with building, construction and development in SRA. The regulations become effective upon certification by the State Board of Forestry. The future design and construction of structures, subdivisions and developments in State Responsibility Area (SRA) shall provide for basic emergency access and perimeter wildfire protection measures as specified in the following articles. These measures shall provide for emergency access; signing and building numbering; private water supply reserves for emergency fire use; and vegetation modification. (Ord.298 Exh.A(part), 1991)

8.30.030 Scope. These regulations do not apply to existing structures, roads, streets and private lanes or facilities. These regulations shall apply as appropriate to all construction within SRA, effective upon certification of these regulations by the State Board of Forestry. Affected activities include put are not limited to:

A. Permitting or approval of new parcels, excluding lot line adjustments as specified in Government Code (GC) Section 66412 (d),

B. Application for a building permit for new construction, not relating to an existing structure,

C. Application for a use permit,

D. The siting of manufactured homes, {manufactured homes are as defined by the National Fire Protection Association, National Fire Code, Section 501A, Standard for Fire Safety Criteria for Manufactured Home Installations, Sites and Communities, Chapter 1, Section 1-2, Definitions, page 4, 1987 edition and Health and Safety Code Sections 18007, 18008 and 19971.

E. Road construction, including construction of a road that does not currently exist, or extension of an existing road. Exempted are roads required as a condition of tentative parcel maps prior to the effective date of these regulations; roads for agricultural or mining use solely on one ownership; and roads used solely for the management and harvesting of wood products. (Ord.298 Exh.A{part) , 1991)

8.30.040 Local ordinances. Nothing contained in these regulations shall be considered as abrogating the provisions of any ordinance, rule or regulation of the state or Modoc County, providing such ordinance, rule, regulation or general plan element is equal to or more stringent than these minimum standards. (Ord.298 Exh.A(part), 1991)"

ARTICLE II. DEFINITIONS

8.30.120 Definitions. "Accessory building" means any building used as an accessory to residential, commercial, recreational, industrial or educational purposes as defined in the California Building Code 1989 Amendments, Chapter 11, Group M, Division I, Occupancy that requires a building permit.

"Agriculture" means land used for agricultural purposes as defined in the Modoc County zoning ordinance.

"Building" means any structure used or intended for sup- porting or sheltering any use or occupancy that is defined in the California Building Code, 1989 Amendments, Chapter 11, except Group M, Division 1, Occupancy. For the purposes of this article, building includes mobile homes and manufactured homes, churches, day care facilities.

"CDF" means California Department of Forestry and Fire Protection.

"Dead-end road" means a road that has only one point of vehicular ingress/egress, including cul-de-sacs and looped roads.

"Defensible space" means the area within the perimeter of a parcel, development, neighborhood or community where basic wildland fire protection practices and measures are implemented, providing the key point of defense from an approaching wildfire or defense against encroaching wildfires or escaping structure fires. The perimeter as used in this regulation is the area encompassing the parcel or parcels proposed for construction and/or development, excluding the physical structure itself. The area is characterized by the establishment and maintenance of emergency vehicle access, emergency water reserves, street names and building identification, and fuel modification measures.

"Development" means as defined in Section *66418.L* of the California Government Code. .

"Director" means Director of the Department of Forestry and Fire Protection or his/her designee. '

"Driveway" means a vehicular access that serves no more than two buildings, with no more than three dwelling units on a single parcel, and any number of accessory buildings.

"Dwelling unit" means any building or portion thereof which contains living facilities, including provisions for sleeping, eating, cooking and/or sanitation for not more than one family.

"Exception" means an alternative to the specified .standard requested by the applicant that may be necessary due to health, safety, environmental conditions, physical site limitations or other limiting conditions such as recorded historical sites, that provides mitigation of the problem.

"Fire hazard severity rating zone" means zones designating moderate, high and very high fire hazard set forth on the latest SRA Fire Hazard Severity Maps on file in the county planning department.

"Fire valve": See Hydrant.

"Fuel modification area- means an area where the volume of flammable vegetation has been reduced, providing reduced fire intensity and duration.

"Greenbelts" means a facility or land-use, designed for a use other than fire protection, which will slow or resist the spread of a wildfire. Includes parking lots, irrigated or landscaped areas, golf courses, parks, playgrounds, maintained vineyards, orchards or annual crops that do not cure in the field.

"Hammerhead/T" means a roadway that provides a T-shaped, three-point turnaround space for emergency equipment, being no narrower than the road that serves it.

"Hydrant" means a valved connection on a water sup- ply/storage system, having at least one two and one-half inch outlet, with male American National Fire Hose Screw Threads (NH) used to supply fire apparatus and hoses with water. "Occupancy" means the purpose for which a building, or part thereof is used or intended to be used.

ARTICLE IV. ROADS, STREETS, AND DRIVEWAYS

8.30.150 Roads, streets and driveways: Intent. Road and street networks, whether public or private, unless exempted under Section 8.30.030 (e), shall provide for safe access for emergency wildland fire equipment and civilian evacuation concurrently, and shall provide unobstructed traffic circulation during a wildfire emergency consistent with this article. (Ord. 298 Exh. A(part), 1991)

8.30.160 Road width. All roads shall be constructed to provide a minimum of two nine-foot traffic lanes providing two-way traffic flow, unless other standards are provided in this article or more restrictive county ordinances. (Ord.298 Exh. A(part.), 1991)

8.30.170 Roadway surface. The surface shall provide unobstructed access to conventional drive vehicles, including sedans and fire engines. Surfaces should be capable of sup- porting a forty thousand pound load. (Ord. 298 Exh. A(part) , 1991)

8:30.180 Roadway grades. The grade for all roads, streets, private lanes and driveways shall not exceed sixteen percent. (Ord. 298 Exh. A(part), 1991)

8.30.190 Roadway Radius. No roadway shall have a horizontal inside radius of curvature of less than fifty feet and additional surface width of four feet shall be added to curves of fifty to one hundred feet radius; two feet to those from one hundred to two hundred feet.

B. The length of vertical curves in roadways, exclusive of gutters, ditches, and drainage structures designed to hold or divert water, shall be not less than one hundred feet.
(Ord. 298 Exh. A{part), 1991)

8.30.200 Roadway turnarounds. Turnarounds are required on driveways and dead-end roads as specified in this article. The minimum turning radius for a turnaround shall be forty feet from the center line of the road. If a hammerhead/T is used, the top of the "T" shall be a minimum of sixty feet in length. (Ord. 298 Exh. A(part) , 1991)

8.30.210 Roadway turnouts. Turnouts shall be a minimum of ten feet wide and thirty feet long with a minimum twenty- five foot taper on each end. (Ord. 298 Exh. A(part) , 1991)

8.30.220 Roadway structures. A. All driveway, road, street, and private lane roadway structures shall be constructed to carry at least the maximum load and provide the minimum vertical clearance required by the Vehicle Code Sections 35550, 35750, and 35250.

B. Appropriate signing, including but not limited to weight or vertical clearance limitations, one-way road or single lane conditions, shall reflect the capability of each bridge.

C. A bridge with only one traffic lane may be authorized by the county; however, it shall provide for unobstructed visibility from one end to the other and turnouts at both ends. (Ord. 298 Exh. A(part), 1991)

8.30.230 One-way roads. All one-way roads shall be constructed to provide a minimum of one ten-foot traffic lane. The county may approve one-way roads. All one-way roads shall connect to a two-lane roadway at both ends, and shall provide access to

8.30.290 Visibility and legibility of street and road signs. Street and road signs shall be visible and legible
from both directions of vehicle travel for a distance of at least one hundred feet. (Ord. 298 Exh. A(part), 1991)

8.30.300 Height of street and road signs. Street and road sign height shall be uniform county-wide, and meet the visibility and legibility standards of this article. (Ord. 298 Exh. A{part) , 1991)

8.30.310 Names and numbers on street and road signs.
.Newly constructed or approved public and private roads and streets must be identified by a name or number through a consistent county-wide system that provides for sequenced or patterned numbering and/or non-duplicating naming within each county. All signs shall be mounted and oriented in a uniform manner. This section does not require any entity to rename or renumber existing roads or streets, nor shall a roadway providing access only to a single commercial or industrial occupancy require naming or numbering. (Ord. 298 Exh. A(part), 1991)

8.30.320 Intersecting roads, streets and private lanes. Signs required by this article identifying intersecting roads, streets and private lanes shall be placed at the intersection of those roads, streets, and/or private lanes.
(Ord. 298 Exh. A(part), 1991)

8.30.330 Signs identifying traffic access limitations. A sign identifying traffic access or flow limitations, including but not limited to weight or vertical clearance limitations, dead-end road, one-way road or single lane conditions, shall be placed:

A. At the intersection preceding the traffic access limitation, and

B. No more than one hundred feet before such traffic access limitation. (Ord. 298 Exh. A(part),1991)

8.30.340 Installation of road, street, and private lane signs. Signs required by this section shall be installed prior to final acceptance of road improvements by the county. No road or street sign shall be installed on county or California Department of transportation right-of-way until the appropriate encroachment permit has been obtained. (Ord. 298 Exh. A(part) / 1991)

8.30.350 Addresses for buildings: Intent. Upon adoption of a county-wide address system all buildings shall thereafter be issued an address. Accessory buildings will not be required to have a separate address, however, each dwelling unit within a building shall be separately identified. (Ord. 298 Exh. A(part), 1991)

8.30.360 Size of letters, numbers and symbols for addresses. The size of letters, numbers and symbols for ad- dresses shall be a minimum three-inch letter height, three-eighths-inch stroke, reflectorized, contrasting with the background color of the sign. (Ord. 298 Exh. A(part), 1991)

8.30.370 Installation, location and visibility of addresses. A. All buildings shall have a permanently posted address, which shall be placed at each driveway entrance and visible from both directions of travel along the road. In all cases, the address shall be posted at the beginning of construction and shall be maintained thereafter, and the address shall be visible and legible from the road on which the ad- dress is located.

B. Address signs along one-way roads shall be visible from both the intended direction of travel and the opposite direction.

2. The dwelling is not located in a fire hazard severity rating zone of High or Very High; and

3. Additional fuel modification within fifty feet of each structure, as required, in writing, by the inspecting authority. A maintenance agreement shall be recorded. (Ord. 298 Exh. A(part), 1991)

8.30.410 Hydrant/fire valve. A. The hydrant or fire valve shall be eighteen inches above grade, eight feet from flammable vegetation, no closer than four feet nor farther than twelve feet from a roadway, and in a location where, fire apparatus using it will not block the roadway. Hydrants located on a main circulatory road shall be adequately protected by crash posts. The hydrant serving any building shall:

1. be not less than fifty feet nor more than one half mile by road from the building it is to serve, and

2. be located at a turnout or turnaround, along the driveway to that building or along the road that intersects with that driveway.

B. The hydrant head shall be brass with two and one half inch National Hose male thread with cap for pressure and gravity flow systems and four and one half inch for draft systems. Such hydrants shall be wet or dry barrel as required by the delivery system. (Ord. 298 Exh. A(part) , 1991)

8.30.420 Signing of water sources. Each hydrant/fire valve or access to water shall be identified as follows:

A. If located along a driveway, a reflectorized blue marker, with a minimum dimension of three inches shall be located on the driveway address sign and mounted on a fire retardant post, or,

B. if located along a street or road,

1. a reflectorized blue marker, with a minimum dimension of three inches shall be mounted on a fire-retardant post. The sign post shall be within three feet of said hydrant/fire valve, with the sign no less than three feet nor greater than five feet above ground, in a horizontal position and visible from the driveway, or

2. as specified in the State Fire Marshal's Guidelines for Fire Hydrant Markings Along State Highways and Freeways, May 1988. (Ord. 298 Exh. A(part) , 1991)

ARTICLE VII. ROOF STANDARDS

8.30.430 Roof standards. In the Very High fire hazard severity rating zone all dwellings, and accessory buildings within fifty feet of any dwelling, shall have Class A roofs. Wood shake or shingle roofs do not meet this requirement. (Ord. 298 Exh. A(part) , 1991)

8.30.440 Vegetation modification. To reduce the intensity of a wildfire by reducing the volume and density *of* flammable vegetation, the strategic siting *of* fuel modification and greenbelts shall provide (1) increased safety for emergency fire equipment and evacuating civilians; and (2) a point of attack or defense from a wildfire. (Ord. 298 Exh. A(part), 1991)

8.30.450 Setback for structure defensible space. A. All parcels one acre and larger shall provide a minimum thirty-foot setback for buildings and accessory buildings from all property lines and/or the center of a road.

B. For parcels less than one acre, the county shall provide for the same practical effect. (Ord. 298 Exh. A(part), 1991)

CALIFORNIA CODES
PUBLIC **RESOURCES CODE**
SECTION **4291**-4299

4291. A person that owns, leases, controls, operates, or maintains a building or structure in, upon, or adjoining any mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or any land that is covered with flammable material, shall at all times do all of the following:

(a) Maintain around and adjacent to the building or structure a firebreak made by removing and clearing away, for a distance of not less than 30 feet on each side of the building or structure or to the property line, whichever is nearer, all flammable vegetation or other combustible growth. This subdivision does not apply to single specimens of trees or other vegetation that is well-pruned and maintained so as to effectively manage fuels and not form a means of rapidly transmitting fire from other nearby vegetation to any building or structure.

(b) Maintain around and adjacent to the building or structure additional fire protection or firebreak made by removing all brush, flammable vegetation, or combustible growth that is located within 100 feet from the building or structure or to the property line or at a greater distance if required by state law, or local ordinance, rule, or regulation. This section does not prevent an insurance company that insures a building or structure from requiring the owner of the building or structure to maintain a firebreak of more than 100 feet around the building or structure. Grass and other vegetation located more than 30 feet from the building or structure and less than 18 inches in height above the ground may be maintained where necessary to stabilize the soil and prevent erosion. This subdivision does not apply to single specimens of trees or other vegetation that is well-pruned and maintained so as to effectively manage fuels and not form a means of rapidly transmitting fire from other nearby vegetation to a dwelling or structure.

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

(d) Maintain any tree adjacent to or overhanging a building free of dead or dying wood.

(e) Maintain the roof of a structure free of leaves, needles, or other dead vegetative growth.

(f) Prior to constructing a new building or structure or rebuilding a building or structure damaged by a fire in such an area, the construction or rebuilding of which requires a building permit, the owner shall obtain a certification from the local building official that the dwelling or structure, as proposed to be built, complies with all applicable state and local building standards, including those described in subdivision (b) of Section 51189 of the Government **Code**, and shall provide a copy of the certification, upon request, to the insurer providing course of construction insurance coverage for the building or structure. Upon completion of the construction or rebuilding, the owner shall obtain from the local building official, a copy of the final inspection report that demonstrates that the dwelling or structure was constructed in compliance with all applicable state and local building standards, including those described in subdivision (b) of Section 51189 of the Government **Code**, and shall provide a copy of the report, upon request, to the property insurance carrier that insures the dwelling

facility, or to the property line, whichever distance is shorter.

4292. Except as otherwise provided in Section 4296, any person that owns, controls, operates, or maintains any electrical transmission or distribution line upon any mountainous land, or forest-covered land, brush-covered land, or grass-covered land shall, during such times and in such areas as are determined to be necessary by the director or the agency which has primary responsibility for fire protection of such areas, maintain around and adjacent to any pole or tower which supports a switch, fuse, transformer, lightning arrester, line junction, or dead end or corner pole, a firebreak which consists of a clearing of not less than 10 feet in each direction from the outer circumference of such pole or tower. This section does not, however, apply to any line which is used exclusively as telephone, telegraph, telephone or telegraph messenger call, fire or alarm line, or other line which is classed as a communication circuit by the Public Utilities Commission. The director or the agency which has primary fire protection responsibility for the protection of such areas may permit exceptions from the requirements of this section which are based upon the specific circumstances involved.

4293. Except as otherwise provided in Sections 4294 to 4296, inclusive, any person that owns, controls, operates, or maintains any electrical transmission or distribution line upon any mountainous land, or in forest-covered land, brush-covered land, or grass-covered land shall, during such times and in such areas as are determined to be necessary by the director or the agency which has primary responsibility for the fire protection of such areas, maintain a clearance of the respective distances which are specified in this section in all directions between all vegetation and all conductors which are carrying electric current:

(a) For any line which is operating at 2,400 or more volts, but less than 72,000 volts, four feet.

(b) For any line which is operating at 72,000 or more volts, but less than 110,000 volts, six feet.

(c) For any line which is operating at 110,000 or more volts, 10 feet.

In every case, such distance shall be sufficiently great to furnish the required clearance at any position of the wire, or conductor when the adjacent air temperature is 120 degrees Fahrenheit, or less. Dead trees, old decadent or rotten trees, trees weakened by decay or disease and trees or portions thereof that are leaning toward the line which may contact the line from the side or may fall on the line shall be felled, cut, or trimmed so as to remove such hazard. The director or the agency which has primary responsibility for the fire protection of such areas may permit exceptions from the requirements of this section which are based upon the specific circumstances involved.

4294. A clearing to obtain line clearance is not required if self-supporting aerial cable is used. Forked trees, leaning trees, and any other growth which may fall across the line and break it shall, however, be removed.

duties.

(g) Persons traveling on public roads or highways through the area.

4298. The proclamation by the Governor shall be released to the wire news services in the state, and shall be published at least once in a newspaper of general circulation in each county which contains any lands covered by the proclamation. Notice of closure shall also be posted on trails or roads entering the area covered by the proclamation. The closure shall be effective upon issuance of the proclamation by the Governor. Each notice shall clearly set forth the area to be subject to closure and the effective date of such closure. The closure shall remain in full force and effect until the Governor shall by order terminate it. The notice of such termination shall follow the same procedure by which such closure was effected. The order of termination shall be effected upon issuance.

4299. A person who violates Section 4297 or 4298 is guilty of a misdemeanor and shall be punished by a fine of not less than one hundred dollars ($100) nor more than two thousand dollars ($2,000) or by imprisonment in the county jail for not less than 10 days nor more than 90 days or both the fine and imprisonment. All state and county law enforcement officers shall enforce orders of closure.

51178. If the agency amends the map, pursuant to subdivision (b) or (c) of this section, the notice shall instead identify the location of the amended map.

51180. For the purposes of Division 3.6 (commencing with Section 810) of Title 1, vegetation removal or management, undertaken in whole or in part, for fire prevention or suppression purposes shall not be deemed to alter the natural condition of public property. This section shall apply only to natural conditions of public property and shall not limit any liability or immunity that may otherwise exist pursuant to this chapter.

51181. The director shall periodically review the areas in the state identified as very high fire hazard severity zones pursuant to this chapter, and as necessary, shall make recommendations relative to very high fire hazard severity zones. This review shall coincide with the review of state responsibility area lands every five years and, when possible, fall within the time frames for each county's general plan update. Any revision of areas included in a very high fire hazard severity zone shall be made in accordance with Sections 51178 and 51179.

51182. (a) A person who owns, leases, controls, operates, or maintains any occupied dwelling or occupied structure in, upon, or adjoining any mountainous area, forest-covered land, brush-covered land, grass-covered land, or any land that is covered with flammable material, which area or land is within a very high fire hazard severity zone designated by the local agency pursuant to Section 51179, shall at all times do all of the following:

(1) Maintain around and adjacent to the occupied dwelling or occupied structure a firebreak made by removing and clearing away, for a distance of not less than 30 feet on each side thereof or to the property line, whichever is nearer, all flammable vegetation or other combustible growth. This paragraph does not apply to single specimens of trees or other vegetation that is well-pruned and maintained so as to effectively manage fuels and not form a means of rapidly transmitting fire from other nearby vegetation to any dwelling or structure.

(2) Maintain around and adjacent to the occupied dwelling or occupied structure additional fire protection or firebreaks made by removing all brush, flammable vegetation, or combustible growth that is located within 100 feet from the occupied dwelling or occupied structure or to the property line, or at a greater distance if required by state law, or local ordinance, rule, or regulation. This section does not prevent an insurance company that insures an occupied dwelling or occupied structure from requiring the owner of the dwelling or structure to maintain a firebreak of more than 100 feet around the dwelling or structure if a hazardous condition warrants such a firebreak of a greater distance. Grass and other vegetation located more than 30 feet from the dwelling or structure and less than 18 inches in height above the ground may be maintained where necessary to stabilize the soil and prevent erosion. This paragraph does not apply to single specimens of trees or other vegetation that is well-pruned and maintained so as to effectively manage fuels and not form a means of rapidly transmitting fire from

MODOC COUNTY APCD

(all of Modoc County)

Modoc County APCD 202 West 4th Street Alturas, CA 96101 APCO - Joe Moreo	Phone: (530) 233-6419 Fax: (530) 233-5542
Technician - Lynn Smith Inspector - Kate Haas E-Mail: apcd@modoccounty.us	

Appendix E

Defensible Space Guidelines And Fire Safe Brochures

Table of Contents

1) **State Board of Forestry and Fire Protection – General Guidelines for Creating Defensible Space.**
Http://www.fire.ca.gov/CDFBOFDB/pdfs/4291guideline9_15_05.pdf)

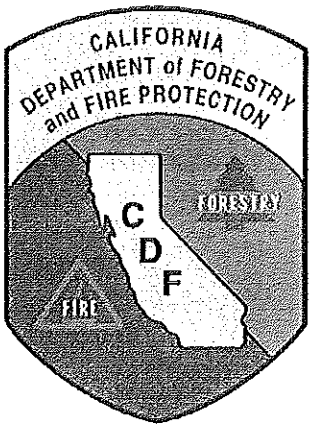
2) **Brochures (http://www.fire.ca.gov)**
Why 100 Feet?
Debris Burning
Are YOU doing the right thing the wrong way?

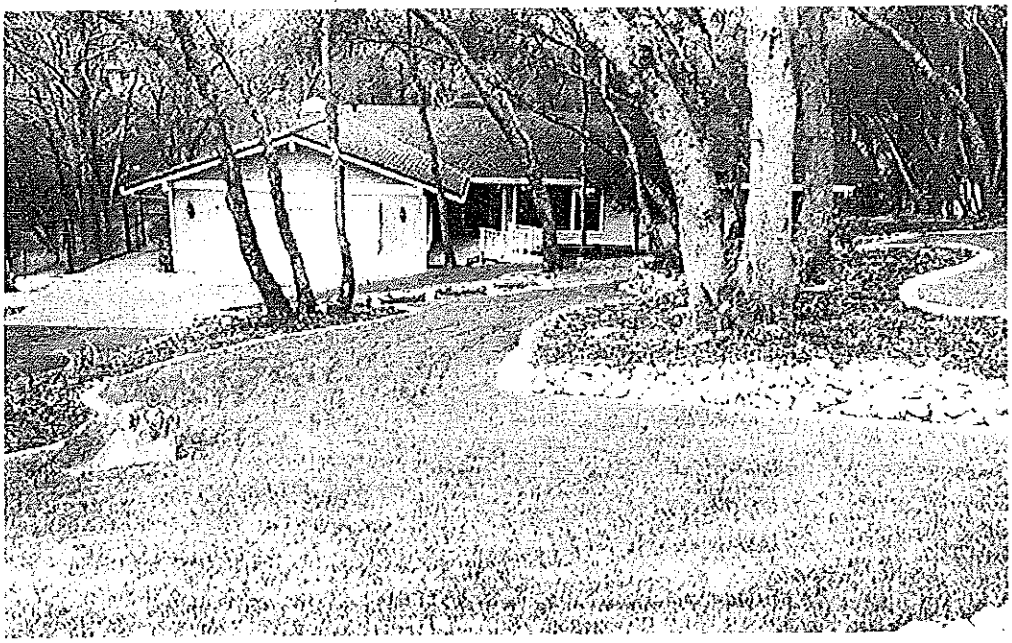
3) **Fire Information Engine Toolkit – Tools for Homeowners to assist with Hazard Assessment, Wildfire Mitigations and various other links/information. (http://firecenter.berkeley.edu/toolkit)**

General Guidelines for Creating Defensible Space

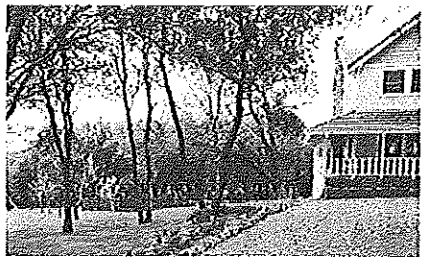
State Board of Forestry and Fire Protection (BOF)
California Department of Forestry and Fire Protection

Adopted by BOF on February 8, 2006
Approved by Office of Administrative Law on May 8th, 2006





A. Purpose of Guidelines



Effective defensible space

Recent changes to Public Resources Code (PRC) 4291 expand the defensible space clearance requirement maintained around buildings and structures from 30 feet to a distance of 100 feet. These guidelines are intended to provide property owners with examples of fuel modification measures that can be used to create an area around buildings or structures to create defensible space. A defensible space perimeter around buildings and structures provide firefighters a working environment that allows them to protect buildings and structures from encroaching wildfires as well as minimizing the chance that a structure fire will escape to the surrounding wildland. These guidelines apply to any person who owns, leases, controls, operates, or maintains a building or structure in, upon, or adjoining any mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or any land that is covered with flammable material, and located within a State Responsibility Area.

The vegetation surrounding a building or structure is fuel for a fire. Even the building or structure itself is considered fuel. Research and experience have shown that fuel reduction around a building or structure increases the probability of it surviving a wildfire. Good defensible space allows firefighters to protect and save buildings or structures safely without facing unacceptable risk to their lives. Fuel reduction through vegetation management is the key to creating good defensible space.

Terrain, climate conditions and vegetation interact to affect fire behavior and fuel reduction standards. The diversity of California's geography also influences fire behavior and fuel reduction standards as well. While fuel reduction standards will vary throughout the State, there are some common practices that guide fuel modification treatments to ensure creation of adequate defensible space:

- Properties with greater fire hazards will require more clearing. Clearing requirements will be greater for those lands with steeper terrain, larger and denser fuels, fuels that are highly volatile, and in locations subject to frequent fires.

- Creation of defensible space through vegetation management usually means reducing the amount of fuel around the building or structure, providing separation between fuels, and or reshaping retained fuels by trimming. Defensible space can be created removing dead vegetation, separating fuels, and pruning lower limbs.

- In all cases, fuel reduction means arranging the tree, shrubs and other fuels sources in a way that makes it difficult for fire to transfer from one fuel source to another. It does not mean cutting down all trees and shrubs, or creating a bare ring of earth across the property.

- A homeowner's clearing responsibility is limited to 100 feet away from his or her building or structure or to the property line, which ever is less, and limited to their land. While individual property owners are not required to clear beyond 100 feet, groups of property owners are encouraged to extend clearances beyond the 100 foot requirement in order to create community-wide defensible spaces.

- Homeowners who do fuel reduction activities that remove or dispose of vegetation are required to comply with all federal, state or local environmental protection laws and obtain permits when necessary. Environmental protection laws include, but are not limited to, threatened and endangered species, water quality, air quality, and cultural/archeological resources. For example, trees removed for fuel reduction that are used for commercial purposes require permits from the

C. Fuel Treatment Guidelines

The following fuel treatment guidelines comply with the requirements of 14 CCR 1299 and PRC 4291. **All persons using these guidelines to comply with CCR 1299 and PRC 4291 shall implement General Guidelines 1., 2., 3., and either 4a or 4b., as described below.**

General Guidelines:

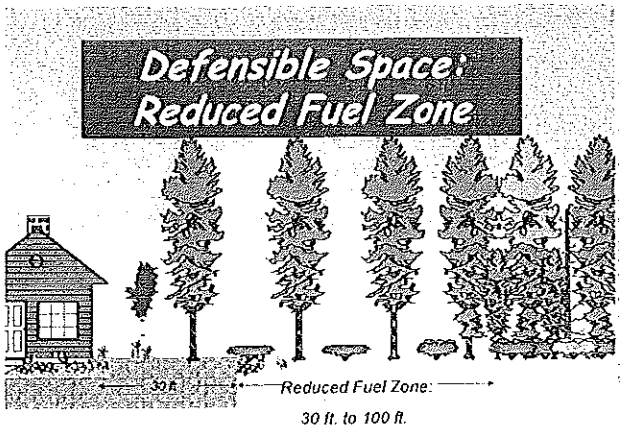
1. Maintain a firebreak by removing and clearing away all flammable vegetation and other combustible growth within 30 feet of each building or structure, with certain exceptions pursuant to PRC §4291(a). Single specimens of trees or other vegetation may be retained provided they are well-spaced, well-pruned,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

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

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

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

4a. Reduced Fuel Zone: Fuel Separation



In conjunction with General Guidelines 1., 2., and 3., above, minimum clearance between fuels surrounding each building or structure will range from 4 feet to 40 feet in all directions, both horizontally and vertically.

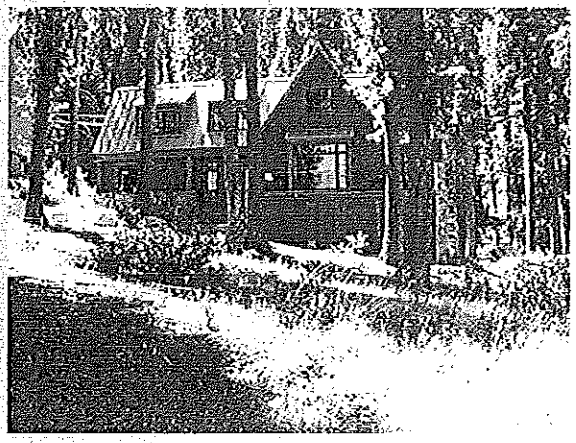
Clearance distances between vegetation will depend on the slope, vegetation size, vegetation type (brush, grass, trees), and other fuel characteristics (fuel compaction, chemical content etc.). Properties with greater fire hazards will require greater separation between fuels. For example, properties on steep slopes having large sized vegetation will require greater spacing between individual trees and bushes (see Plant Spacing Guidelines and Case Examples below). Groups of vegetation (numerous plants growing together less than 10 feet in total foliage width) may be treated as a single plant. For example, three individual manzanita plants growing together with a total foliage width of eight feet can be "grouped" and considered as one plant and spaced according to the Plant Spacing Guidelines in this document.

Plant Spacing Guidelines		
Guidelines are designed to break the continuity of fuels and be used as a "rule of thumb" for achieving compliance with Regulation 14 CCR 1299.		
Trees	**Minimum horizontal space from edge of one tree canopy to the edge of the next**	
	Slope	Spacing
	0% to 20 %	10 feet
	20% to 40%	20 feet
	Greater than 40%	30 feet
Shrubs	**Minimum horizontal space between edges of shrub**	
	Slope	Spacing
	0% to 20 %	2 times the height of the shrub
	20% to 40%	4 times the height of the shrub
	Greater than 40%	6 times the height of the shrub
Vertical Space	**Minimum vertical space between top of shrub and bottom of lower tree branches:** 3 times the height of the shrub	

Adapted from: Gilmer, M. 1994. California Wildfire Landscaping

Case Example of Fuel Separation: Sierra Nevada conifer forests

Conifer forests intermixed with rural housing present a hazardous fire situation. Dense vegetation, long fire seasons, and ample ignition sources related to human access and lightning, makes this home vulnerable to wildfires. This home is located on gentle slopes (less than 20%), and is surrounded by large mature tree overstory and intermixed small to medium size brush (three to four feet in height).



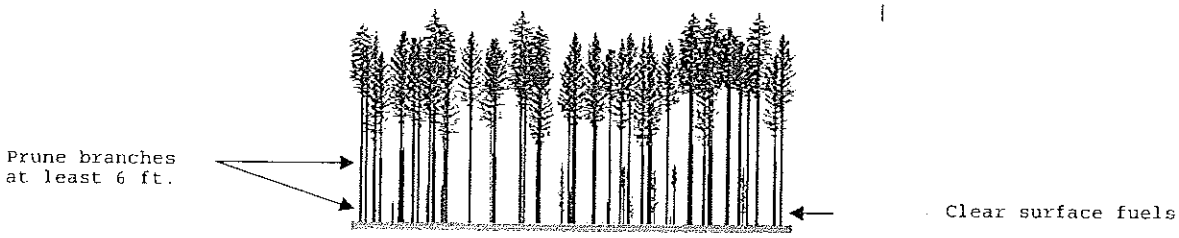
Application of the guideline under 4a. would result in horizontal spacing between large tree branches of 10 feet; removal of many of the smaller trees to create vertical space between large trees and smaller trees and horizontal spacing between brush of six to eight feet (calculated by using 2 times the height of brush).

4b. Reduced Fuel Zone: Defensible Space with Continuous Tree Canopy

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

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

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



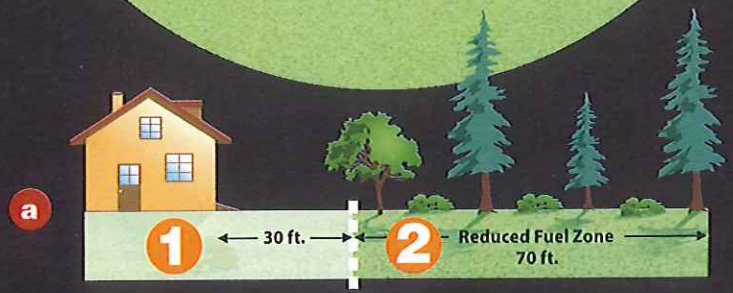
Defensible Space retaining continuous trees

Photo Courtesy Plumas Fire Safe Council.

Defensible space with continuous tree canopy by clearing understory and pruning

Authority cited: Section 4102, 4291, 4125-4128.5, Public Resource Code. Reference: 4291, Public Resource Code; 14 CCR 1299 (d).

100' DEFENSIBLE SPACE
Make Your Home FIRE SAFE



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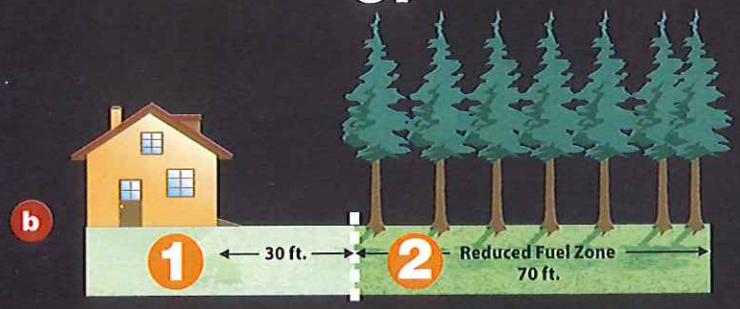


Contact your local CDF office, fire department, or Fire Safe Council for tips and assistance.

www.fire.ca.gov

Why 100 Feet ?

Following these simple steps can dramatically increase the chance of your home surviving a wildfire!

A **Defensible Space** of 100 feet around your home is required by law.[1] The goal is to protect your home while providing a safe area for firefighters.

1 "Lean, Clean and Green Zone."

– Clearing an area of 30 feet immediately surrounding your home is critical. This area requires the greatest reduction in flammable vegetation.

2 "Reduced Fuel Zone."

– The fuel reduction zone in the remaining 70 feet (or to property line) will depend on the steepness of your property and the vegetation.

Spacing between plants improves the chance of stopping a wildfire before it destroys your home. You have two options in this area:

a. Create horizontal and vertical spacing between plants. The amount of space will depend on how steep the slope is and the size of the plants.

b. Large trees do not have to be cut and removed as long as all of the plants beneath them are removed. This eliminates a vertical "fire ladder."

When clearing vegetation, use care when operating equipment such as lawnmowers. One small spark may start a fire; a string trimmer is much safer.

Remove all build – up of needles and leaves from your roof and gutters. Keep tree limbs trimmed at least 10 feet from any chimneys and remove dead limbs that hang over your home or garage. The law also requires a screen over your chimney outlet of not more than ½ inch mesh.

---

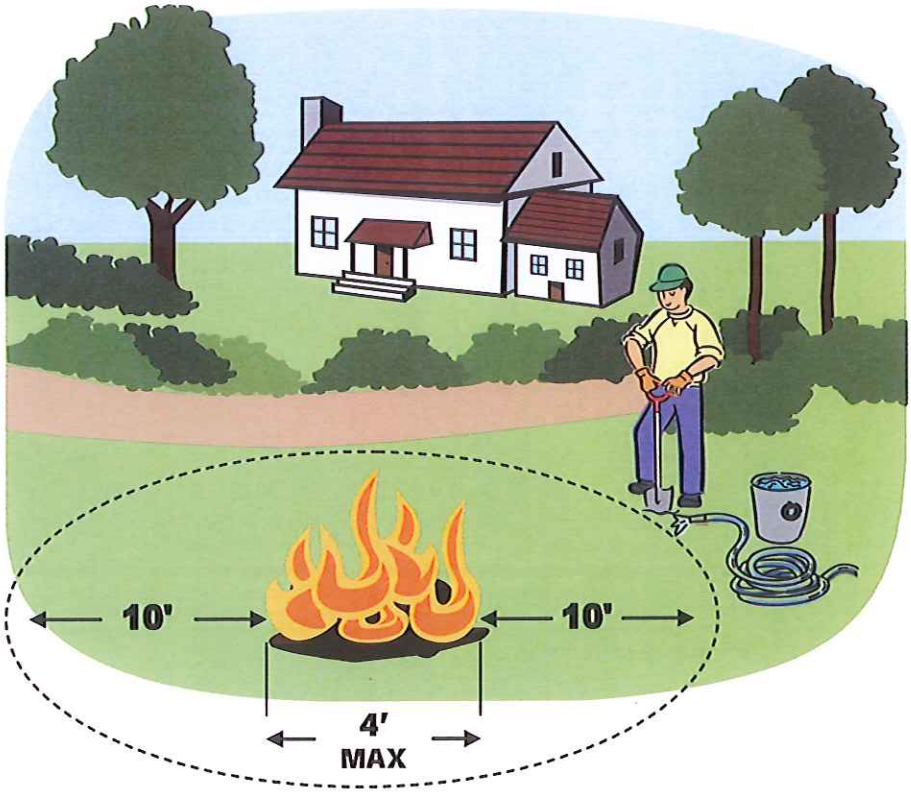
1. These regulations affect most of the grass, brush, and timber-covered private lands in the State. Some fire department jurisdictions may have additional requirements. Some activities may require permits for tree removal. Also, some activities may require special procedures for, 1) threatened and endangered species, 2) avoiding erosion, and 3) protection of water quality. Check with local officials if in doubt. Current regulations allow an insurance company to require additional clearance. The area to be treated does not extend beyond your property. The State Board of Forestry and Fire Protection has approved Guidelines to assist you in complying with the new law. Contact your local CDF office for more details.

April 2006

Debris Burning

THE FOLLOWING ARE BURNING PERMIT REQUIREMENTS FOR BURNING DEBRIS:

- **Maximum pile size 4 foot x 4 foot diameter.**
- **Clear all flammable material and vegetation within 10-feet of the outer edge of pile.**
- **Keep a water supply close to the burning site.**
- **An adult must be in attendance with a shovel until the fire is dead out.**
- **No burning shall occur unless weather conditions, *particularly wind*, are such that burning can be considered safe.**



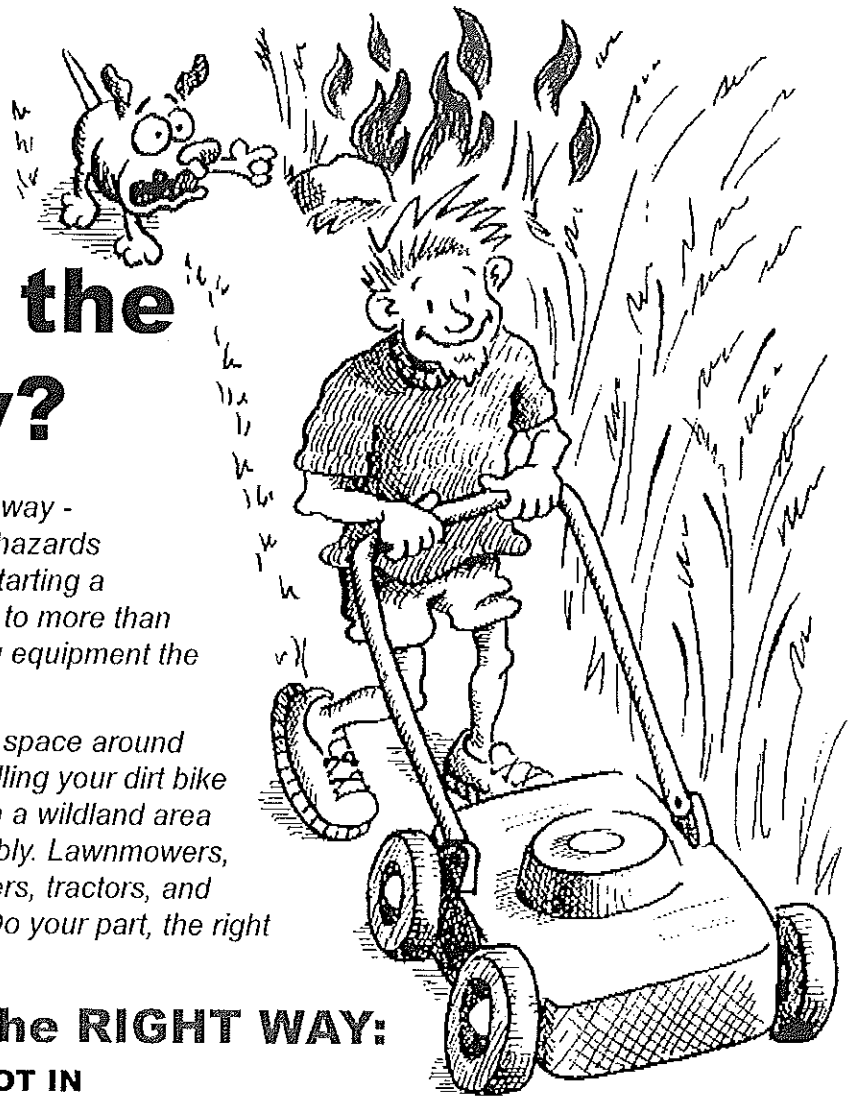
No household trash or garbage can be burned outdoors at residences. Dry, natural vegetation, grown on the property, can still be burned outdoors in open piles, unless prohibited by local ordinances. Burning can only be done on "Permissive Burn Days." Burn permits are only valid on "Permissive Burn Days" as determined by the State Air Resources Board or the local Air Pollution Control District (APCD).

VIOLATION OF ANY BURNING PERMIT TERMS IS A VIOLATION OF STATE LAW

(PUBLIC RESOURCES CODE 4421, 4422, 4423 AND 4425)

www.fire.ca.gov
May 2006

Are YOU doing the right thing the wrong way?



Are you doing the right thing the wrong way - for example, trying to eliminate the fire hazards around your home and in the process starting a wildland fire? Each year CDF responds to more than 1,600 fires started by Californians using equipment the wrong way.

Whether working to create a defensible space around your home, just mowing the lawn, or pulling your dirt bike over to the side of the road, if you live in a wildland area you need to use all equipment responsibly. Lawnmowers, weedeaters, chainsaws, grinders, welders, tractors, and trimmers can all spark a wildland fire. Do your part, the right way, to keep your community fire safe.

Here's how to do it the RIGHT WAY:

- Do your clearance before 10 a.m. **- NOT IN THE HEAT OF THE DAY, OR WHEN THE WIND IS BLOWING!**
- Lawn mowers are designed to mow lawns. **NEVER** use lawn mowers in dry vegetation. Use a weed trimmer to cut down dry weeds and grass.
- Remove rocks in the area before you begin operating any equipment. A rock hidden in grass or weeds is enough to start a fire when struck by a metal blade.
- **In wildland areas**, spark arresters are required on all portable gasoline powered equipment including tractors, harvesters, chainsaws, weedeaters, mowers, motorcycles, and All Terrain Vehicles (ATVs).
- Keep the exhaust system, spark arresters and mower in proper working order and free of carbon buildup. Use the recommended grade of fuel and don't top off
- Keep the engine free of oil and dust, and keep the mower free of flammable materials.
- **In wildland areas**, a permit may be required for grinding and welding operations, and spark shields may be required on equipment. Be sure to have 10 feet of clearance, a 46" round point shovel, and a backpump water-type fire extinguisher ready to use.
- Hot exhaust pipes and mufflers can start fires you won't even see - until it's too late! Don't pull off into dry grass or brush.
- Keep a cell phone nearby and call 911 **IMMEDIATELY** in case of a fire.

CALIFORNIA DEPARTMENT of FORESTRY and FIRE PROTECTION

C D F

www.fire.ca.gov

May 2006

Links to Other Resources

- Center for Fire Research and Outreach
- Firewise Communities
- Living With Fire: Live More Safely with the Threat of Wildfire
- bushfireinfo.com - Great tips for homeowners
- American Red Cross: Wildfire Preparedness
- ecoSmart>Fire
- US Fire Administration
- Federal Emergency Management Agency>Fire
- NASA Earth Observatory>Fire
- Association of Bay Area Governments>Wildfire
- Wildfire News

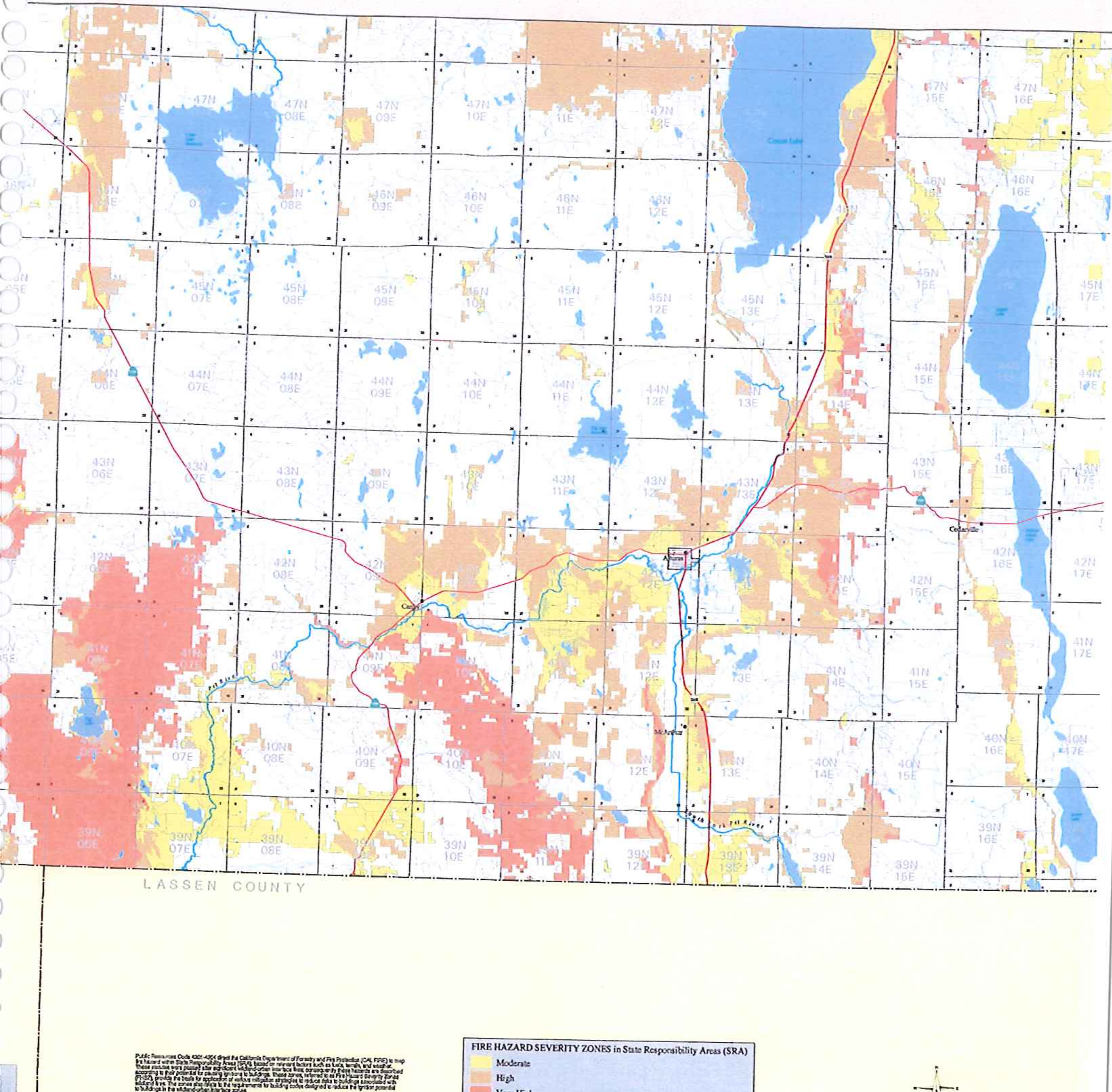
Appendix F

New CALFIRE Wildland Fire Hazard Mapping And New Building Standard Revisions

GUIDE TO WEBSITE LOCATIONS

Note: Only the front page of each website is included in the Appendix

PROPOSED FIRE HAZARD SEVERITY ZONES IN SRA



Public Resources Code 4201-4204 direct the California Department of Forestry and Fire Protection (CAL FIRE) to map fire hazard within State Responsibility Areas (SRA), based on relevant factors such as fuels, terrain, and weather. [illegible] Fire Hazard Severity Zones (FHSZ), provide the basis for application of various mitigation strategies to reduce risk to buildings associated with wildland fires. The zones also relate to the requirements for building codes designed to reduce the ignition potential to buildings in the wildland-urban interface zone.

These maps have been created by CAL FIRE's Fire and Resource Assessment Program (FRAP) using data and models describing development patterns, potential fuels over a 30-50 year time horizon, and expected burn probabilities to quantify the likelihood and nature of vegetation fire exposure to new construction. Details on the project and specific modeling methodology can be found at [illegible]

The version of the map shown here represents the official "Maps of Fire Hazard Severity Zones in the State Responsibility Area of California" as required by PRC 4201-4204 and entitled in the California Code of Regulation, Title 14, Section 1280, Fire Hazard Severity Zones. They are provided for county SRA hearings, public comment, and adoption by the Director of the California Department of Forestry and Fire Protection per the above state statutes.

An interactive system for viewing map data is hosted by the UC Center for Fire at [illegible]

Questions can be directed to [illegible]

FIRE HAZARD SEVERITY ZONES in State Responsibility Areas (SRA)

- Moderate
- High
- Very High

FIRE PROTECTION RESPONSIBILITY

- Federal Responsibility Area (FRA)
- Local Responsibility Area (LRA) - Unincorporated
- Local Responsibility Area (LRA) - Incorporated

0 10 MILES

0 20 KILOMETERS

Projection Albers
Scale 1:150,000
at 34" x 40"
May 09, 2007

Arnold Schwarzenegger, Governor,
State of California
Mike Chrisman, Secretary for Resources,
The Resources Agency

MAP ID
DA
CAL FIRE Fire Hazard Severity Zones
CAL FIRE State Responsibility Area

California Home

Monday, May 21, 2007

Welcome to California

CDF Homepage
CDF FRAP Homepage

Wildland Fire Hazard Areas - Real Estate Disclosure
Fire Hazard Zoning Remapping Project

search

My CA

Fire Hazard Severity Zone Re-Mapping Project

MAP REVIEW

- FHSZ Maps by County
- Review Guidelines (.pdf document, 545kb)
- Model Methods (.ppt document, *65mb*)

Introduction/background:

PRC 4201-4204 and Govt. Code 51175-89 direct the California Department of Forestry and Fire Protection (CDF) to map areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors. These zones, referred to as Fire Hazard Severity Zones (FHSZ), then define the application of various mitigation strategies to reduce risk associated with wildland fires. State Responsibility Area (SRA) was originally mapped in 1985 and has not been updated since, except with respect to changes in SRA boundaries. Local Responsibility Areas (LRA) were originally mapped in 1996, and also has not been updated since, although many local governments have made similar designations under their own authority. Current FHSZ is available for both SRA and LRA.

CDF wishes to remap both SRA and LRA areas to provide updated map zones, based on new data, science, and technology that will create more accurate zone designations such that mitigation strategies are implemented in areas where hazards warrant these investments. The zones will provide specific designation for application of defensible space and building standards consistent with known mechanisms of fire risk to people, property, and natural resources.

Project Description:

The project will be driven by Geographic Information System (GIS) data in conjunction with modeling techniques designed to describe potential fire behavior and fire probability. Areas will be mapped in Moderate, High and Very High Categories. The project will run along two concurrent tracks: one designed to develop and refine the model itself regarding its scientific rigor, spatial accuracy, and data delivery mechanisms designed to facilitate end use by a wide variety of clients. The other track will focus on the roll-out and implementation process whereby local CDF units and local fire agencies review/comment and adjust the zones to conform to local knowledge not captured in the draft model.

Finally, the maps will follow established adoption processes required by state statute, and be made available by Jan 1, 2008, consistent with implementation of new Wildand-Urban Interface (WUI) building codes that have been adopted by the California Building Standards Commission.

Model Development:

The basic elements of the Fire Hazard Zone model will be built from existing data and hazard constructs developed by CDF's Fire and Resource Assessment Program (FRAP) used to develop Fire Threat and Communities at Risk listing in the Federal Register pursuant to the National Fire Plan (see http://frap.cdf.ca.gov/projects/wui/525_CA_wui_analysis.pdf for details). The model will work from these products as starting points, and refine characterization of the zones to directly attempt to characterize fire exposure mechanisms that cause ignitions to structures. These basic constructs follow classical quantitative risk assessment whereby probabilities of fire behaviors define the hazard component of risk analysis. CDF FRAP is partnering with researchers at UC Berkeley and the private sector to develop this model and it promises to use innovative techniques to meet the objectives and usage of the data.

Specific model components will focus on characterizing potential fire behavior arising for vegetation fuels that are by nature dynamic. Since many of the applications of the zones involve permanent engineering mitigations associated with structure construction, it is desirable that the nature of the zone reflect changes in fire behavior/exposure relative to the length of time the structure will be in place. While obviously significant

Welcome to California

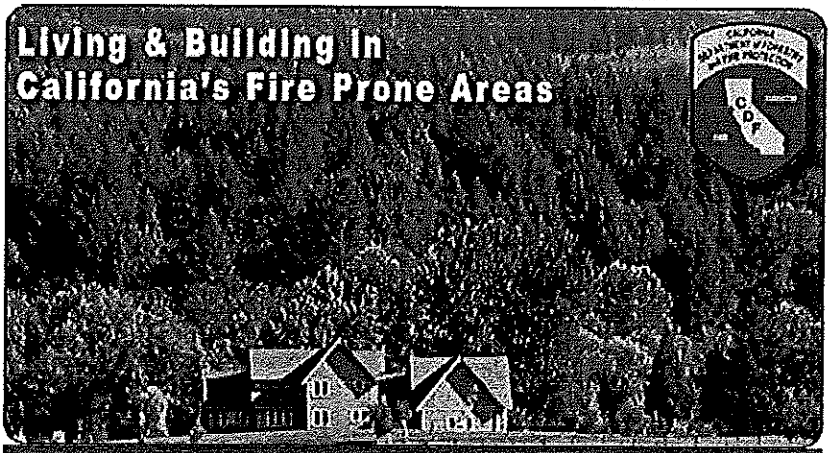
GOVERNOR Schwarzenegger
Click To Visit His Home Page

MAIN LINKS

- CAL FIRE Home
- About CAL FIRE
- Fire and Emergency
- Resource Management
- State Fire Marshal
- State Fire Training
- Wildland Hazard & Building Codes
- Board of Forestry
- FRAP
- Career Opportunities
- Fire Safety Education
  - *En Español*
- News Releases
- Related Links
- FAQs
- Calendar of Events
- Communiqué Magazine
- Fact Sheets
- History
- Photos and Videos

HOT TOPICS

- Search
- Site Map
- CAL FIRE Contacts
- Doing Business with CAL FIRE (DVBE/Small Business)
- CAL FIRE Public Records Act Request Guidelines



Building Codes

NAVIGATION: CAL FIRE Home > Wildland Hazard & Building Codes > Building Codes

Last modified on June 21, 2007

What You Need To Know About California's New Building Codes

Protecting a building from wildfire takes a two-pronged approach:

- Remove flammable materials from around the building
- Construct the building of fire resistant material

The law currently requires that homeowners clear 30 feet and do fuel modification to 100 feet around their buildings to create a defensible space for firefighters to protect their homes.

New building codes will protect buildings from being ignited by flying embers which can travel as much as a mile away from the wildfire. The following ignition-resistant standards are designed to prevent embers from igniting a building:

- Decks
- Eaves
- Roof Coverings
- Walls
- Exterior Windows
- Gutters
- Exterior Vents

Informational Bulletins:

- Enforcement of Building Code

Reference Materials:

New Building Standards have been adopted for areas within local jurisdiction Very High Fire Hazard Severity Zones and in the State Responsibility Areas (SRA). Phase I of the standards are already in effect. Phase II standards will go into effect January 1, 2008.

Quick Search

Search

Advanced Search

Category Links

- Homeowners
- Fire Information Engine Toolkit
- Frequently Asked Questions
- Building Materials Listing
- Publications
- Regulatory Process
- Fire Terminology
- Media Reports

INTERESTED? Sign up to receive updates on this process

enter your email

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In case of an emergency DIAL 9-1-1

CDF Arson Hotline 1-800-468-4408

Appendix G

Landscape Fuel Modeling

USDA United States Department of Agriculture

Forest Service

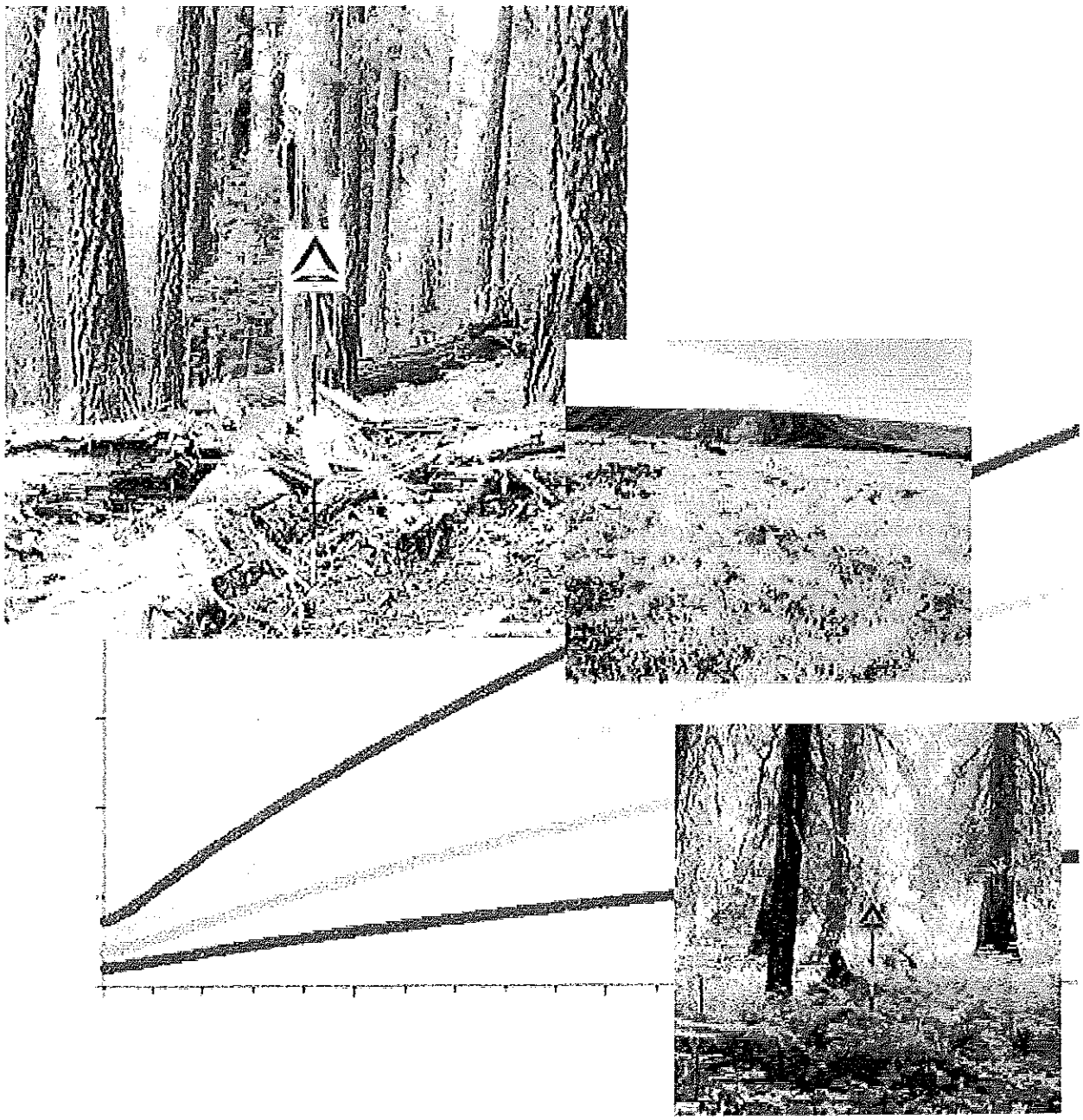
Rocky Mountain Research Station

General Technical Report RMRS-GTR-153

June 2005

Standard Fire Behavior Fuel Models: A Comprehensive Set for Use with Rothermel's Surface Fire Spread Model

Joe H. Scott
Robert E. Burgan



Acknowledgments

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Photos to illustrate fuel models were provided by Roger Ottmar, Pacific Fire Sciences Laboratory, Pacific Northwest Research Station; Bob Burgan, Missoula Fire Sciences Lab (retired); Joe Scott, Systems for Environmental Management; and other published photo guides.

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Standard Fire Behavior Fuel Models: A Comprehensive Set for Use with Rothermel's Surface Fire Spread Model

Joe H. Scott
Robert E. Burgan

Introduction

Predicting the potential behavior and effects of wildland fire is an essential task in fire management. Mathematical surface fire behavior and fire effects models and prediction systems are driven in part by fuelbed inputs such as load, bulk density, fuel particle size, heat content, and moisture of extinction. To facilitate use in models and systems, fuelbed inputs have been formulated into fuel models. A fuel model is a set of fuelbed inputs needed by a particular fire behavior or fire effects model. Different kinds of fuel models are used in fire science; this document addresses only fire behavior fuel models for use in the Rothermel (1972) surface fire spread model.

Fire behavior fuel models are used as input to the Rothermel (1972) fire spread model, which is used in a variety of fire behavior modeling systems. The fire behavior fuel model input set includes:

- Fuel load by category (live and dead) and particle size class (0 to 0.25 inch, 0.25 to 1.0 inch, and 1.0 to 3.0 inches diameter)
- Surface-area-to-volume (SAV) ratio by component and size class
- Heat content by category
- Fuelbed depth
- Dead fuel moisture of extinction.

The National Fire Danger Rating System (NFDRS; Deeming and others 1977) uses Rothermel's (1972) spread model as its core. However, there are differences in the calculations that require the use of different fuel models than those for fire behavior prediction. Therefore, there is a separate set of fuel models for use within NFDRS. This paper does not address NFDRS fuel models; they are not affected by this work. The fuel models described here should not be used in the NFDRS.

Rothermel (1972) defined a fire behavior fuel model as a "complete set of [fuel] inputs for the mathematical fire spread model," and listed parameters for 11 fuel models. To assist in understanding the sensitivity of certain inputs, Rothermel held constant the fuel particle properties (total and effective mineral content, heat content, and particle density). Extinction moisture content was not listed for each fuel model separately, but instead held at 30 percent for all models. Thus, variation in predicted spread rate among models could be attributed to fuel load by size class, fuelbed depth, and fuel particle size. Parameters for 10-hr and 100-hr SAV were listed for each fuel model, but did not vary among models – 109 1/ft and 30 1/ft, respectively.

Albini (1976) refined those 11 fuel models and added two others, Dormant Brush (6) and Southern Rough (7). His tabulated set became what is now called the original 13 fire behavior fuel models. Whereas extinction moisture content was held constant for Rothermel's 11 fuel models, Albini's fuel models specified this value for each fuel

in which the grass fuelbed is not fully cured (that is, outside the severe part of the fire season) leads to overprediction.

- Increase the number of fuel models applicable in high-humidity areas. With the Rothermel spread model, the only way to accommodate fuel complexes that burn well at high humidity is through the moisture of extinction parameter. Only a few of the original 13 fuel models are appropriate for fuelbeds that burn well at relatively high dead fuel moistures.
- Increase the number of fuel models for forest litter and litter with grass or shrub understory. Predicted surface fire behavior drives crown fire models (Alexander 1988; Van Wagner 1977), so increased precision in surface fire intensity prediction will lead to increased precision in crown fire behavior prediction and hazard assessment.
- Increase the ability to simulate changes in fire behavior as a result of fuel treatment by offering more fuel model choices, especially in timber-dominated fuelbeds. This fuel model set does not attempt to directly simulate the effects of the wide variety of available fuel treatment options.

Scope

The development of a new set of standard fire behavior fuel models does not address deficiencies in the Rothermel surface fire spread model itself. Like the original set of 13, the new fire behavior fuel model set is applicable to fire behavior modeling systems that use Rothermel's surface fire spread model. Any description of the presence or absence of overstory trees is due to their potential effect on surface fuels (for example, needle litter in a grass fuel model).

Also like the original fuel models, the new set is for simulating surface fire behavior at the flaming front only, not residual combustion that takes place after the flaming front has passed. Other methods of describing fuel and other types of fuel models are used for prediction of postfrontal combustion, fuel consumption, smoke production, and crown fire behavior. The fuel model parameters presented in this set should not be used as fuelbed characteristics for fuel consumption models.

Finally, the same fuelbed assumptions of homogeneity and continuity apply to these as well as the original 13 fuel models (Rothermel 1972). Methods of addressing heterogeneous or discontinuous fuels are available in fire modeling systems.

Development

We compiled fuel complex information from several volumes of the Natural Fuels Photo Series (Ottmar and Vihnanek 1998, 1999, 2000, 2002; Ottmar and others 1998, 2000, 2002, 2003; Wright and others 2002) and other sources. The range of fuel complex characteristics suggested the range of fuel conditions for which fuel models were needed. We subjectively assigned a fire-carrying fuel type and dead fuel extinction moisture content to each fuel complex, then grouped the complexes by fine fuel load, fuel type, and extinction moisture. We created one fuel model for each of the approximately 60 groups. Surface-area-to-volume ratio for 1-hr timelag, live herbaceous and live woody classes were assigned subjectively for each draft fuel model. Fuelbed depth was assigned after subjective interpretation of fuel complex data and visual inspection of photographs. Heat content of live and dead fuels is 8000 BTU/lb for all fuel models except GR6 (High Load, Humid Climate Grass), which is 9000 BTU/lb for both live and dead fuels.

Next, we made fire behavior simulations over a range of midflame wind speeds and several fuel moisture scenarios. Although the groups of fuel complexes appeared to be distinct from one another, the fuel models we created from them often led to similar flame length and rate of spread, so several models were eliminated. Also, after comparing fire

- (TL) Timber Litter
- (SB) Slash-Blowdown

To facilitate both communication and computation, we use a three-part fuel model reference scheme:

- Fuel model number (between 1 and 256; for use in computer code and mapping applications)
- Fuel model code (three digits; used for oral and written communication and input to fire modeling systems)
- Fuel model name (any length string of characters; used for description and long-hand written communication)

For example:

number	code	name
101	GR1	Short, sparse, dry climate grass

Within a fuel type, fuel models are ordered by increasing heat per unit area (at 8 percent dead, 75 percent live fuel moisture content). Wind speed and slope steepness do not affect heat per unit area. Fuel model numbers were kept below 256 so that an eight-bit number could be used for storing fuel model information in mapping or database applications.

Each fuel type has been assigned a block of fuel model numbers (table 1) so that fuel model maps colored by fuel type are simple to create. For example, a coarse-scale map (for which identifying a specific fuel model is not required) can be colored such that all fuel model numbers in a block (representing a fuel type) are the same color. Only a portion of each block is used by the new fuel model set. The unused fuel model numbers are reserved for future standard fuel models and for custom fuel models. This allows future standard and custom fuel models to be in the correct fuel type number block.

The dead fuel extinction moisture assigned to the fuel model defines the weighted-average dead fuel moisture content at which the fire will no longer spread in the Rothermel model. This modeling parameter is generally associated with climate (humid versus dry), though fire science research has yet to explain the mechanism for the association. Fuel models for dry climates tend to have lower dead fuel moistures of extinction, while fuel models for humid-climate areas tend to have higher moistures of extinction. Fuel model names (and the fuel model selection guide) include reference to the general climate where the fuel model is found.

Table 1—Assignment of current fuel model numbers to standard and custom fuel models.

Fuel type	Fuel model number block	Used in original or new set	Reserved for future standard fuel models	Available for custom fuel models
	1-13	1-13		
	14-89			14-89
NB	90-99	91-93, 98-99[a]	94-95	90, 96-97
GR	100-119	101-109	110-112	100, 113-119
GS	120-139	121-124	125-130	120, 131-139
SH	140-159	141-149	150-152	140, 153-159
TU	160-179	161-165	166-170	160, 171-179
TL	180-199	181-189	190-192	180, 193-199
SB	200-219	201-204	205-210	200, 211-219
	220-256			220-256

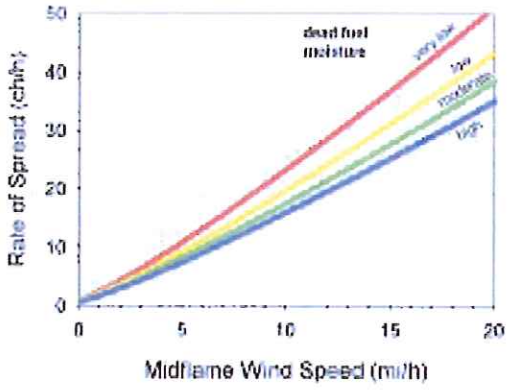
[a] The gap in the NB numbering sequence is to retain fuel model numbers 98 as open water and 99 as "rock" (bare ground), as has been convention in FARSITE.

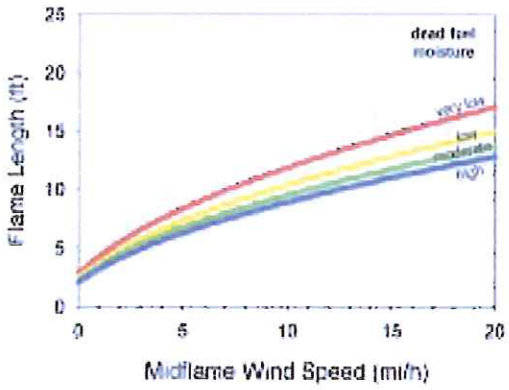
TU5 (165)

Very High Load, Dry Climate Timber-Shrub

Description: The primary carrier of fire in TU5 is heavy forest litter with a shrub or small tree understory. Spread rate is moderate; flame length moderate.

Fine fuel load (t/ac)	7.0
Characteristic SAV (ft-1)	1224
Packing ratio (dimensionless)	0.02009
Extinction moisture content (percent)	25



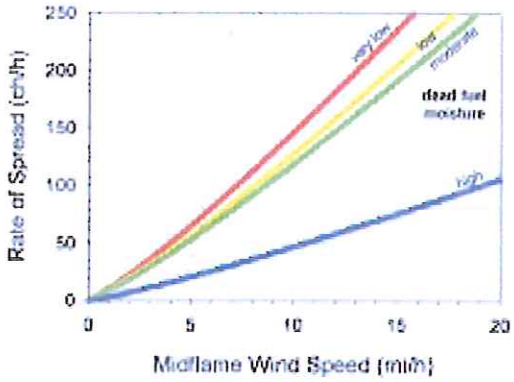


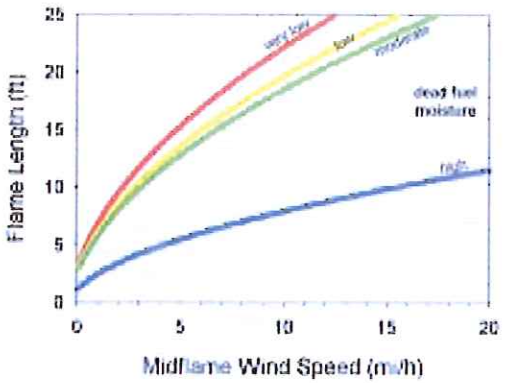
SH5 (145)

High Load, Dry Climate Shrub

Description: The primary carrier of fire in SH5 is woody shrubs and shrub litter. Heavy shrub load, depth 4-6 feet. Spread rate very high; flame length very high. Moisture of extinction is high.

Fine fuel load (t/ac)	6.5
Characteristic SAV (ft-1)	1252
Packing ratio (dimensionless)	0.00206
Extinction moisture content (percent)	15





Appendix H

CDF Lassen Modoc Fire Plan 2005

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Website location for full document:
http://cdfdata.fire.ca.gov/fire_er/fpp_planning_plans_details?plan_id=81

Document Cover Page
Document Table of Contents

Lassen - Modoc Unit

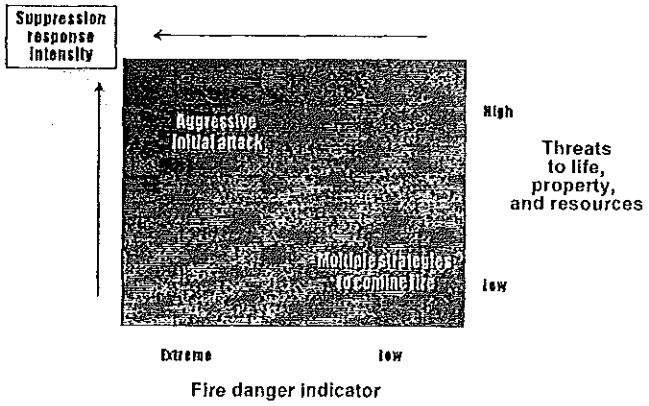
2005

Fire Management Plan

Appendix I

USFS Big Sage Management Unit Plan

Appropriate Management Response



Aggressive Initial Attack

- Wildland fires in the Willow Creek, Rock Creek, Fletcher Creek, Boles Creek, and Lost River drainages. Lateral protection boundaries include the riparian zone only.
- Wildland fires that produce smoke which is detrimental to Class I airsheds and local communities.
- Wildland fires when qualified personal are not present to make the decision on appropriate suppression action under this plan. (Qualification criteria are outlined under management decision).
- Private lands, without legally acceptable agreements, and pockets of NFFL C and K fuels within the interior boundary of the BSFMA. (Internal and external boundaries are shown on the BSFMA map, see appendix).
- Once the decision to take aggressive initial attack action has been made a dedicated Incident Commander will be assigned.

Multiple Strategies to Confine Fire (confinement is the strategy employed in appropriate management responses where a fire perimeter is managed by a combination of direct and indirect actions and use of natural topographic features, fuel, and weather factors)

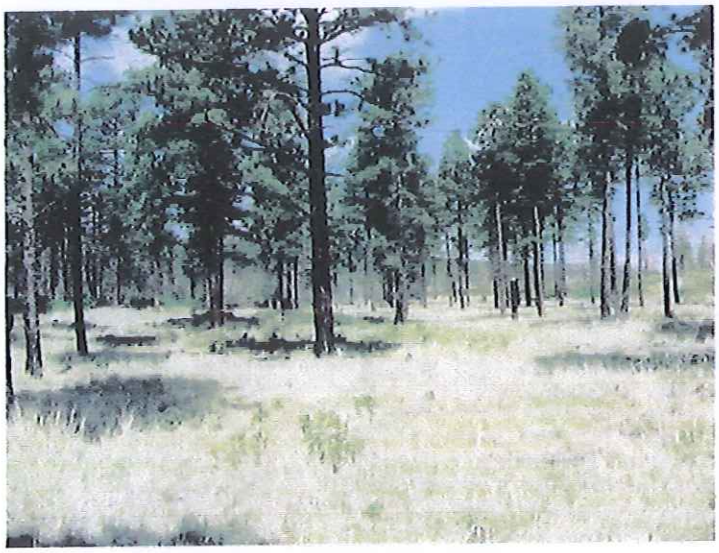
- Wildland fires which threaten the South Mountain, Timbered Mountain, and Timbered Ridge areas. These are primarily commercial timber areas and include all of the NFDR Fuel Models C and K within the BSFMA boundaries.
- Wildland fires with the potential to burn outside BSFMA boundaries.
- Wildland fires that threaten or are on private land, with legally acceptable agreements, within the BSFMA boundaries.
- Wildland fires within critical mule deer range, monitored by a wildlife biologist, where the 40/60 cover-to-forage-ratio is in jeopardy.
- Wildland fires with rates of spread limited by discontinuous fuels and natural barriers that will not cause unacceptable resource damage.

Appendix J

Fuel Treatment Examples

Appendix G *continued.*

Oso Fire 1998, Santa Fe National Forest. Pictures taken four years after fire, summer 2002. Canopy bulk density (CBD) calculated using FFE-FVS.

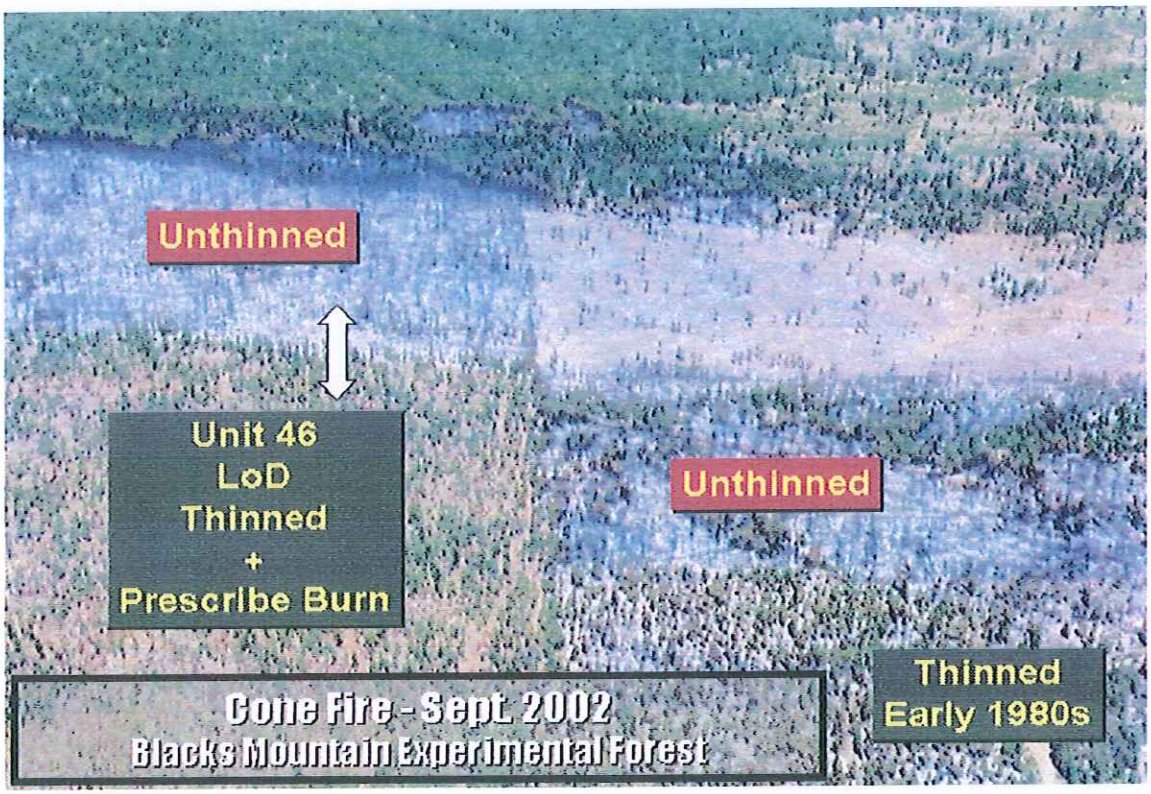


Commercial harvest with prescribed burn.
Terrero study site.
Stand CBD: 0.037 kg/m

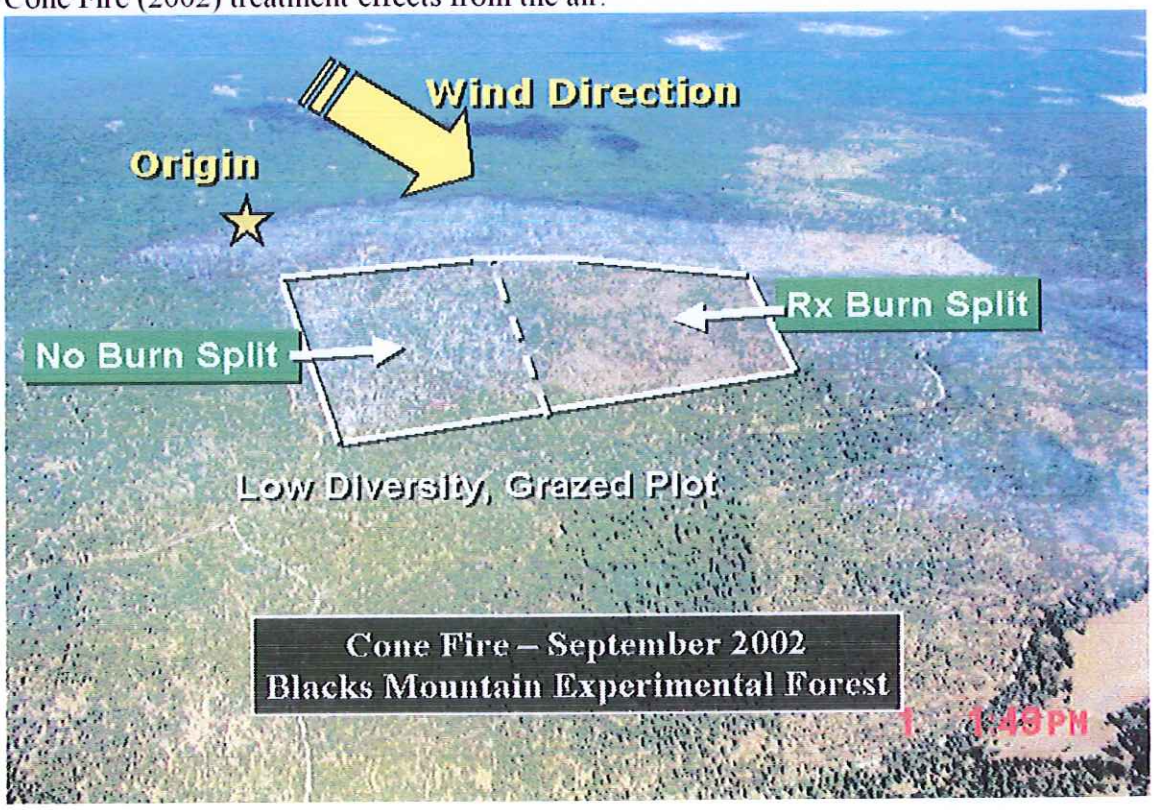
Untreated.
Terrero study site.
Stand CBD: 0.129 kg/m^3

Commercial harvest with prescribed burn.
Ojito study site.
Stand CBD: 0.016 kg/m^3

Untreated.
Ojito study site.
Stand CBD: 0.109 kg/m^3



Cone Fire (2002) treatment effects from the air.



Cone Fire (2002) burn effects from the air.

Appendix K

Grants and Funding Sources

Potential Funding Sources

There are numerous funding sources available that are constantly changing. Most of it is available through the internet. It takes time to regularly check websites for updates.

Websites focused on Fuels Reduction

For grants relating to fuels reductions, fire preparedness and planning there are two primary sites focused on California.

1) **Fire Safe California Grants Clearinghouse**
   www.grants.firesafecouncil.org/
2) **California Fire Alliance**
   www.cafirealliance.org/grants/

Copies of web pages are attached at end of this appendix.

Other Websites that may have grants available

There are many other grants with similar goals but often without a direct connection to fire. One has to be creative with the writing

1) **Grants.gov**
   www.grants.gov
2) **The Catalog of Federal Domestic Assistance**
   www.cdfa.gov/
3) **FEMA Mitigation e-Grants**
   https://portal.fema.gov/famsVu/dynamic/subgrantapplicantqrg.pdf
4) **Homeland Security**
   www.dhs.gov/index.shtm
5) **Local Government Environmental Assistance Network**
   www.lgean.org/html/whatsnew.cfm
6) **USDA National Agricultural Library – Rural Information Center**
   http://ric.nal.usda.gov/nal_display/index.php?info_center=5&tax_level=2&tax_subject=319&topic_id=1566
7) **USDA Rural Information Center – A Guide to Funding Resources**
   www.nal.usda.gov/ric/ricpubs/fundguide.html
8) **California Environmental Enhancement And Mitigation Program**
   http://resources.ca.gov/eem/
9) **California Waste Management Board**
   www.ciwmb.ca.gov/Grants/
10) **Urban Forest Ecosystem Institute**
    www.ufei.org/news.lasso
11) **Alliance for Community Trees**
    http://actrees.org/site/resources/funding/index.php

Copies of web pages are attached at end of this appendix.

Running a Local Council
How to Form a Fire Safe Council
Administration
Outreach
Funding
Grant Clearinghouse
Grant Programs
Links
Archives
Nonprofit Status
Legislative Update
FSC Handbook (Word or PDF)
Ask The Experts (BBS)
Update Your Council's Web Page

Federal Grant Announcements Online
Visit www.grants.gov to view grant announcements and cooperative agreements. The site allows you to search by the type of activity, agency or date. You can also sign up for email notification of grant announcements using the same categories. The agency postings provide a synopsis of the full grant announcement and 27 standard items of information, including a description of the program, due dates for applications, contact information and a link to the full grant announcement.

The www.grants.gov Web site is launching an online application process that allows you to download the application form, fill it in and submit it later. The process should be fully functional by mid-November 2003.

FEMA PDM-03
The new application process for FEMA PDM-03 grants is now available on the OES Web site. Go to www.oes.ca.gov and click on the icon under "news and events" that says "PDM-C Grant Program Information." All repetitive loss communities in the NFIP that submit an application for elevation or acquisition that addresses the repetitive loss properties in the NFIP should be very competitive if the project has a high benefit/cost (B/C) ratio.

All governmental jurisdictions submitting an application for a DMA2K plan should also be very competitive especially if the community has been involved in mitigation activities, is a repetitive loss community, is in CRS, and have participated in FMA. Although the FEMA national priority will be projects that address the repetitive loss properties in the NFIP that does not mean that another type of eligible project will not be selected especially if it has a good B/C.

The website should contain all the information that you will need for submitting an application. The grant application will be by e-grant only. If you have any questions please call or e-mail Ken Leep at 916-845-8174 or Kenneth_Leep@oes.ca.gov.

LEGISLATIVE ALERT:
There has been much discussion in FSC meetings regarding a state proposal to levy per-acre fees on landowners to pay the cost of fire suppression. The plan is aimed at providing funding for CDF. Opposition centers on the economic impact and the fear that those asked to pay the fee will then not have incentive to take private responsibility for fire prevention. This measure is apparently in the budget planning discussions between legislative leadership of both parties. Local Fire Safe Councils or interested individuals should act quickly to contact their local legislators in the Assembly and Senate if they wish to express views on this proposal before it is enacted as part of a budget package.

Total value of projects selected for funding in FFY 2005: $2.5 million.

Average size of grants in FFY 2005: $78,000.

Total value of projects selected for funding in FFY 2006: $1.2 million

Average size of grants in FFY 2006: $102,000

USDA Forest Service State Fire Assistance (SFA)
Funds are available for cost share treatments with Fire Safe Councils statewide for both hazardous fuel reduction on state and private land in high-hazard areas and for development of Community Wildfire Protection Plans.

Hazardous fuel reduction can include the purchase of needed supplies and equipment (such as chainsaws, personal protective equipment, chippers, hand tools, etc.).

Information and education projects, or purchase of vehicles or heavy equipment such as tub grinders and other expensive assets will not be funded (suggest rental or lease of these items).

It is unclear at this time how much funding will be available during this FFY 2007.

Total value of projects selected for funding in FFY 2005: $890,000

Average size of grants in FFY 2005: $136,000

Total value of projects selected for funding in FFY 2006: $4.2 million.

Average size of grants in FFY 2006: $67,000

National Park Service (NPS) Community Assistance/WUI

Community Assistance WUI funds are available for fire hazard mitigation and hazardous fuel reduction projects performed, usually on non-NPS property (in holdings, communities, subdivisions, etc, immediately adjacent to NPS property), to mitigate the risk of wildland fire on NPS lands that may adversely impact these adjacent properties. Emphasis and priority will be given to the areas identified through the state process as being wildland urban interface (WUI) communities.

ELIGIBILITY CRITERIA
Programs or activities proposed for WUI funds must meet the following criteria:

A. Programs or activities must be mutually beneficial to DOI/NPS and the receiving partner or community in protecting lives and property and reducing wildfire-related loss and suppression costs. "Mutually beneficial" means the community receiving an award must be deemed at-risk from a fire ignited on the NPS federal lands.
B. Communities must be identified as a Community-at-Risk in the vicinity of Federal land, either listed on the federal register or through collaboration with their respective States.
C. Programs, projects, or activities must address areas identified and prioritized in a CWPP.

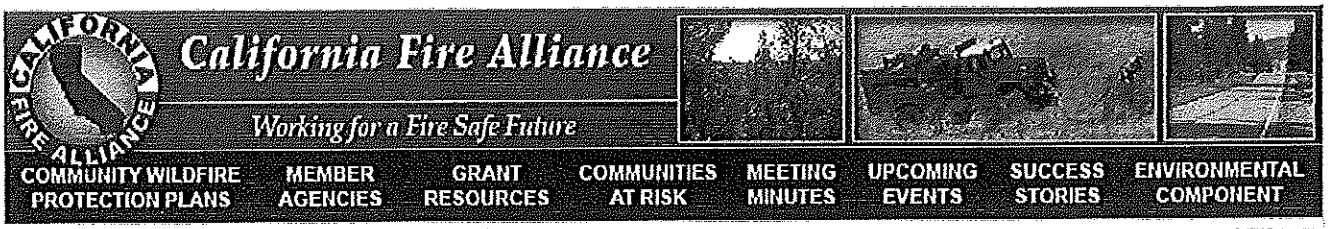
Priority will be given to programs or projects where recipients provide matching contributions or in-kind goods and services, with the following limits on in-kind goods and services:

A. They shall not be derived from other federal assistance programs
B. They shall not be used as an in-kind contribution toward cost matching requirements for any other federal assistance program
C. Their value will be determined using scales and estimate appropriate in the local area, with concurrence of the Agency Administrator and cooperators
D. They will not include grant administration costs and/or grant application preparation fees

The NPS recommends that applicants coordinate design of projects with their local Park.

The NPS uses the Clearinghouse for planning purposes to select projects for the upcoming federal fiscal year. This means that the project will be funded if adequate funds are made available in the next federal fiscal year (FFY). Federal fiscal years begin Oct. 1. For example, the 2008 federal fiscal year begins Oct. 1, 2007.

Applicants should be able to complete projects within an 18-month grant term. If funded, applicants will be asked to report specific accomplishments, such as acres treated, and provide before, during and after photos. Achieving and reporting



GRANT RESOURCES

SECTION LINKS:

- Grants Clearinghouse
- 2006 Rural Fire Assistance Program Grant Announcement and Application

NAVIGATION: Home / Grant Resources

The California Fire Alliance Grant Resources section provides links to information on assistance available from various state and federal agencies to help communities, tribes, and other agencies plan and implement community fire protection and wildfire prevention activities.

National Fire Plan Funding For Community Protection In California

In California, agencies have pooled their National Fire Plan funding into a one-stop shop to help simplify the process of finding and applying for grants which improve California 's community wildfire preparedness. This one-stop shop is located on the internet and hosted by the California Fire Safe Council (FSC). The FSC hosts this web application site in cooperation with its fellow members of the California Fire Alliance.

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National Fire Plan Projects In California

Full details on the National Fire Plan Projects in California can be found on the National Fire Plan website.

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Rural Fire Assistance (RFA)

The Rural Fire Assistance grant program is designed to support the fire protection capabilities of rural and volunteer fire departments that typically fight fires near or on Department of the Interior (DOI) lands. With an annual appropriated budget for the RFA program, the DOI offers awards up to $20,000 to be dedicated to training, equipment purchases, and fire prevention work on a cost-shared basis. DOI lands are administered by one of the following four agencies: Bureau of Land Management (BLM), Bureau of Indian Affairs (BIA), U.S. Fish and Wildlife Service (FWS) and the National Park Service (NPS).

California RFA Contacts

Agency	Name	Phone	E-Mail
Bureau of Land Management	Jane Arteaga Craig Barnes	916-978-4436 916-978-4433	Jarteaga@ca.blm.gov cbarnes@ca.blm.gov
Bureau of Indian Affairs	Yvonne Jones	916-978-6118	mail364914@pop.net
Fish and Wildlife Service	Bruce Babb	503-231-6234	Bruce_Babb@fws.gov
National Park Service	Bob Appling	360-696-7540	Bob_Appling@nps.gov

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State Fire Assistance (SFA)

The State Fire Assistance program assists state forestry agencies in wildfire response coordination and delivery, compliance with the national safety and training standards that ensure state and local crew deployment to federal fires and other emergency situations, hazard assessments, fuels treatment projects, and public education efforts.

California SFA Contacts

Agency	Name	Phone	E-Mail
US Forest Service	Dennis Orbus	916-364-2851	dorbus@fs.fed.us
California Department of Forestry and Fire Protection	Karen Mayer	916-653-6179	Karen.Mayer@fire.ca.gov
California Department of Forestry and Fire Protection	Tom Hoffman	916-653-7472	tom.hoffman@fire.ca.gov

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Volunteer Fire Assistance (VFA)

The Volunteer Fire Assistance program, formerly known as the Rural Community Fire Protection program, is administered by state forestry agencies through 50-50 cost-sharing grants to local fire departments in rural communities. The program's main goal is to provide federal financial, technical, and other assistance in the organization, training, and equipping of fire departments in rural areas with a population of 10,000 or less.

California VFA Contacts

For Applicants
About Grants.gov
What is a Grant?
Who is Eligible for a Grant?
Grants.gov Accomplishments
Grants.gov in the News
Program Status
For Agencies
Applicant System-to-System
Resources
Help
Contact US
Site Map

WHO IS ELIGIBLE FOR A GRANT?

PLEASE NOTE: If you are in need of personal financial assistance such as Social Security/Supplemental Security Income, Medicaid or State Social Services, you can find help at www.GovBenefits.gov. This type of individual assistance is not available on this website. If you are interested in student loans, please go to www.Studentaid.ed.gov. If you are a small business looking for a loan, please visit the Small Business Administration.

There are many groups of organizations that are eligible to apply for government grants. Typically, most grantee organizations fall into the following categories. To find out what grants are currently available for these different eligibility categories, please refer to the Grants.gov Advanced Search.

Government Organizations

- State Governments
- Local Governments
- City or Township Governments
- Special District Governments
- Native American Tribal Governments (Federally Recognized)
- Native American Tribal Governments (Other than federally Recognized)

Education Organizations

- Independent School Districts
- Public and State Controlled Institutions of Higher Education
- Private Institutions of Higher Education

Public Housing Organizations

- Public Housing Authorities

Quick Links
- Grant Search
- Grant Email Alerts
- Get Registered
- Applicant Login
- E-Biz POC Login
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WHO IS ELIGIBLE FOR A GRANT?

PLEASE NOTE: If you are in need of personal financial assistance such as Social Security/Supplemental Security Income, Medicaid or State Social Services, you can find help at www.GovBenefits.gov. This type of individual assistance is not available on this website. If you are interested in student loans, please go to www.Studentaid.ed.gov. If you are a small business looking for a loan, please visit the Small Business Administration.

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Government Organizations
- State Governments
- Local Governments
- City or Township Governments
- Special District Governments
- Native American Tribal Governments (federally recognized)
- Native American Tribal Governments (other than federally recognized)

Education Organizations
- Independent School Districts
- Public and State Controlled Institutions of Higher Education
- Private Institutions of Higher Education

Public Housing Organizations
- Public Housing Authorities
- Indian Housing Authorities

Non-Profit Organizations
- Nonprofits having a 501(c)(3) status with the IRS, other than institutions of higher education
- Nonprofits that do not have a 501(c)(3) status with the IRS, other than institutions of higher education

For-Profit Organizations (other than small businesses)

Small Businesses
Small business loans and small business grants may be awarded to companies that meet the size standards that the U.S. Small Business Administration (SBA) has established for most industries in the economy. The most common size standards are as follow:

- 500 employees for most manufacturing and mining industries
- 100 employees for all wholesale trade industries
- $6 million for most retail and service industries
- $28.5 million for most general & heavy construction industries
- $12 million for all special trade contractors
- $0.75 million for most agricultural industries

Note that about one-fourth of industries have a size standard that is different from these levels. They vary from $0.75 million to $28.5 million for size standards based on average annual revenues and from 100 to 1500 employees for size standards based on number of employees.

With few exceptions, all federal agencies, and many state and local governments, use the size standards established by SBA. You can search for further information and for loan opportunities on the Small Business Administration's website .

Individuals
An individual submits a grant on their behalf, and not on behalf of a company, organization, institution, or government. Individuals sign the grant application and its associated certifications and assurances that are necessary to fulfill the requirements of the application process. So, if you register as an Individual, you will only be able to apply to grant opportunities that are open to individuals. An individual cannot submit a grant application to a grant opportunity that is just open to organizations.

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Succeed
A NEWSLETTER

GRANTS.GOV℠
SUMMER 2007

AT-A-GLANCE

MANAGING PARTNER

Fulfilling the President's Management Agenda

GRANTS.GOV REACHES 150,000 SUBMISSIONS!

Grants.gov has received its 150,000th electronic grant application for fiscal year 2007, far exceeding a program milestone of 130,000 on June 18, 2007. The Office of Management and Budget (OMB) established operational objectives for the program, including that federal agencies make electronic grant applications available for all discretionary grant opportunities on the Grants.gov website. This landmark achievement illustrates the institutionalizing of Grants.gov for finding and applying for federal grants, and shows that the program eliminates the need for grant seekers to learn and comply with multiple agency systems and requirements. Grants.gov supports electronic applications that can be downloaded to any computer and provides online user support tools and personalized assistance from a dedicated customer support team. The result is a simplified and effective environment for the grant community to find and apply for grants. Grants.gov appreciates the support of the 26 federal grant making agencies, OMB, and the applicant community in reaching this important milestone. There were 90,000 total submissions at the end of FY 06 compared to 153,930 submissions by July 16 of FY07 with three months remaining in the fiscal year. Grants.gov's total submissions to date are 260,135. Grants.gov has been utilized by all the federal agencies and the largest growth shown by agency to date is the Department of Defense that had seven packages with 196 submissions at the end of Q3 FY 06 and at the end Q3 FY 07 had 163 packages with 6,986 submissions. For more information please go to www.grants.gov.

2007 SYSTEM UPDATE LAUNCHED JULY 9, 2007

Grants.gov is pleased to announce upgrades to the website. Federal grant-making agencies will now have the option to post opportunities using Adobe forms rather than the IBM Workplace Forms currently being used. Please be sure to download the Adobe 7.0.9 Reader at http://www.grants.gov/resources/download_software.jsp#adobe prior to downloading your application package.

Please note that Grants.gov will continue to receive and process application packages using the IBM Workplace Forms until the remaining Adobe forms are made available in September 2007. Please continue to check the Program Status page on the website for updates on this transition.

Frequently Asked Questions (FAQs) about the new Adobe forms are available at http://www.grants.gov/assets/AdobePEFAQs.pdf.

CCR IS KEY TO THE GRANTS.GOV AND IAE STRATEGIC PARTNERSHIP

The Central Contractor Registration (CCR), part of the Integrated Acquisition Environment (IAE) E-Gov initiative managed by the U.S. General Services Administration (GSA), provides several benefits to organizations applying for government grants. The strategic partnership between the grants community and IAE offers the grants community IAE services such as CCR to avoid duplicate and repetitive data processing.

Registration in CCR is required for organizations applying for assistance awards from the federal government. CCR validates the applicant's organization information and electronically shares the secure and encrypted data with Grants.gov, as well as other federal agencies, thus reducing

FEDERAL GRANT STREAMLINING

The Grants Policy Committee (GPC) announces its next GPC Stakeholder Meeting and Webcast, scheduled for October 30, 2007, to discuss the long term planning of the GPC. This will be the fourth in a series of GPC Webcasts designed to keep the stakeholder community updated on federal grant management and streamlining activities. Meeting materials and a solicitation for public comments on the GPC activities will be posted under "Grants Streamlining Initiative News" in the fall. See http://www.grants.gov/aboutgrants/grants_news.jsp.

GRANTS.GOV HONORED AS FINALIST FOR 2007 INTERGOVERNMENTAL SOLUTIONS AWARD

Grants.gov was selected as a finalist for the 2007 Intergovernmental Solutions Award. More than 100 nominations were received for these awards that honor the outstanding progress being made at all levels of government through the innovative use of technology as a tool for more efficient and effective business processes.

This is truly a reflection of the hard work and dedication of the 26 Federal grant-making agencies that post their competitive discretionary grant synopses and application packages on Grants.gov, as well as the continued support of the applicant community as exhibited by the over 100,000 successfully submitted application packages. Grants.gov appreciates everyone's support in this effort. Our thanks go out to the Department of Health and Human Services Office of the Assistant Secretary for Resources and Technology for the nomination.

CONGRESSIONAL WORKSHOP JULY 13TH

Representatives from the Grants.gov Program Management Office conducted a Grants.gov workshop for the Congressional staff on Capitol Hill. The workshop provided an overview onthe Grants.gov Find and Apply process. Staffers were invited to attend and learn about the changes Grants.gov has been making in their continuing efforts to streamline the process of finding and applying for federal grants.

GET CONNECTED

Sign up to receive the Succeed Newsletter – If you are receiving the Grants.gov Succeed Newsletter from a colleague or at a meeting, sign up to receive it by email – directly to your inbox. **Subscribe Today!**

http://www.grants.gov/resources/subscribe.jsp

NEED HELP FINDING AND APPLYING FOR GRANTS?

There are many resources available online to assist you in finding and applying for opportunities on Grants.gov. Click on HELP in the left navigation and check out the applicant and agency user guides, FAQs and comprehensive glossary of terms. You may also want to view the newly updated Grants.gov Overview. Click on RESOURCES in the left navigation, and then click on Grants.gov Animated Overview for a narrated tutorial on getting started with Grants.gov.

The Contact Center is also available to respond to your questions. You can email your inquiries to support@grants.gov or call 1-800-518-4726. When emailing or calling the Contact Center for support, the following will help to expedite your request:

- Funding Opportunity Number (FON)
- Name of the agency you are applying to
- Specific area of concern

RECENT OUTREACH ACTIVITIES

Management of Change Conference, American Council for Technology on June 4, 2007

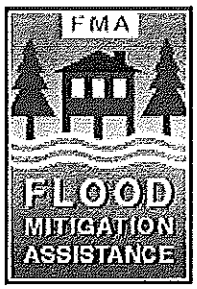
Congressional Workshop July 13, 2007 on Capitol Hill

UPCOMING EVENTS

Connect with Grants.gov at the following upcoming events:

July 17-19, 2007
Workforce Innovations Conference

July 19, 2007
Grants.gov Stakeholder Webcast



FEMA Mitigation e-Grants

System Training

Subgrant Applicant Quick Reference Guide

January 12, 2005 Version 2.01.00

About This Guide

This guide introduces you to the FEMA's Mitigation ***e-Grants*** System and helps you to master creating and submitting subgrant applications to FEMA.

This guide tells you:

- About the Mitigation ***e-Grants*** System
- How to become registered and access the Mitigation ***e-Grants*** System
- How to use the Mitigation ***e-Grants*** System to create and submit subgrant applications
- How to use the Mitigation ***e-Grants*** System to manage a submitted subgrant application as it progresses through the application and award processes

Because this guide is a "quick reference guide," it focuses specifically on the information you need to step through the activities associated with creating, managing, and submitting grant and subgrant applications.

In addition, this guide offers tips to help you enter the information needed and use the Mitigation ***e-Grants*** System effectively.

Look for this symbol for tips on how to use ***e-Grants*** effectively.

Your Experience

This guide assumes that you know how to use a personal computer and are familiar with how to operate the computer using the Microsoft Windows operating system. It also assumes that you have at least some experience working with Web-based applications and Internet browsers.

to law enforcement and public safety departments to support critical terrorism prevention activities, including establishing and enhancing intelligence fusion centers. Allocations are determined based on analysis of relative risk and the effectiveness of proposed investments.

The following programs receive formula allocations and were announced in January:

- **Metropolitan Medical Response System (MMRS): $32 million**
  Each of the 124 MMRS jurisdictions will receive $258,145 to establish and sustain local capabilities to respond to all-hazards mass casualty incidents, including terrorism, epidemic disease outbreaks, natural disasters, and large-scale hazardous materials incidents.

- **Citizen Corps Program: $14.6 million**
  The FY 2007 Citizen Corps Program will provide a total of $14.6 million to states and territories to enhance citizen and community involvement in emergency preparedness, planning, mitigation, response, and recovery. States and territories receive a minimum allocation, with remaining funds distributed on a population-share basis.

The FY 2007 HSGP involved extensive collaboration with state and local homeland security and emergency management officials. In addition, approximately 150 state and local homeland security officials reviewed HSGP investment justifications to assess the effectiveness of proposed investments in addressing identified homeland security needs.

For more information on the HSGP and other DHS programs, visit www.dhs.gov.

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This page was last modified on July 18, 2007

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- EPA Announces Commitment and Achievement Awards to Recognize Community Development and Active Aging
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General Environmental Management

- Free Workshop on Environmental Management Systems
- The Cross-Media Electronic Reporting Regulation
- EPA Announces Study at Municipal Beach to Develop Rapid Beach Water Quality Tests
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Smart Growth

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- **Foundations & Resources for Grantseekers**
  National Association of Development Organizations.
- **Fundraising on the Internet**
  Network for Good.
- **GuideStar: Nonprofit Organizations and Charities in the United States**
  Philanthropic Research, Inc.
- **Idealist.org**
  Action Without Borders.
- **Local Initiatives Support Corporation**
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- **Charles Stewart Mott Foundation**
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- **National Rural Funders Collaborative**
  National Rural Funders Collaborative
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  Northwest Area Foundation.
- **The Pew Charitable Trusts**
  The Pew Charitable Trusts.
- **Community Development Program Areas**
  Rural Community Assistance Corporation.
  This resource serves 13 Western states, including Alaska, Arizona, California, Colorado, Hawaii , Idaho , Montana, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming.
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  The W.K. Kellogg Foundation.

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  - Emergency Farm Loans
- **Disaster Unemployment Assistance**
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- **Emergencies & Disasters**

- **Small Farm Funding Resources**
  USDA. NAL. Rural Information Center.

Last Modified: Jun 1, 2007

info_center=5&tax_level=2&tax_subject=211&topic_id=1157.

For additional information, contact the **RIC** at 1-800-633-7701 or ric@nal.usda.gov

This resource guide was revised and updated by Patricia LaCaille John, November 2004.
Rural Information Center Publication Series; no. 68 2004

The Funding Process

The process of grantsmanship covers a broad scope of activities including preliminary planning and research, proposal development, and proposal follow-up. Through this process, two questions are commonly asked by grantseekers, "Where is the money available?" and "How do I get it?" The following discussion addresses these questions and provides useful information for grantseekers in search of funding dollars.

Where Does the Money Come From?

The two primary sources of grant money are public and private funds. Public funds are obtained from governmental units, such as federal, state, and local agencies. Private funds, on the other hand, come from organizations involved in charitable giving, such as foundations, direct giving programs, voluntary agencies, and community groups.

Federal Funding

The Federal government is the largest of all the grantmakers. However, much of the federal grant budget moves to the states through formula and block grants. From there it is up to the states to decide how to use the money.

The federal government administers several types of grants designed to accomplish different purposes, such as conducting scientific research, demonstrating a particular theory, or delivering services to a specific population. Examples of these grants include:

- **research grants** to support investigations aimed at the discovery of facts, revision of accepted theories, or application of new or revised theories;
- **demonstration grants** to demonstrate or establish the feasibility of a particular theory or approach;
- **project grants** to support individual projects in accordance with legislation that gives the funding agency discretion in selecting the project, grantees, and amount of award;
- **block grants** to provide states with funding for a particular purpose; and
- **formula grants** to provide funding to specified grantees on the basis of a specific formula, using indicators such as per capita income, mortality, or morbidity rates, outlined in legislation or regulations.

a corporation.

- **community foundations** involved in grant giving within a specific community or region.
- **direct giving programs** philanthropic arms of corporations which donate goods and services for charitable causes.
- **voluntary agencies** private organizations which support charitable programs that are consistent with their overall mission. The American Red Cross, for example, provides printed materials and staff consultation for health projects in various communities.
- **community groups** local organizations which focus on supporting projects within their communities. Examples of these organizations include churches, Junior Leagues, and civic organizations.

How Can I Obtain Funding?

Regardless of the type of funding desired, the grantsmanship process involves three distinct phases: preliminary planning and research, effective proposal writing, and proposal follow-up. To complete these phases successfully, the grantseeker should consider the following steps:

STEPS IN THE FUNDING PROCESS	
Steps	**Questions to Consider**
Step 1: Identify a Need	- What is the problem? - How does my plan address the problem?
Step 2: Identify Funding Sources	- Who should I approach for funding? - How do I obtain information about potential funders?
Step 3: Develop Proposal	- What are the goals and objectives of the program? - How will the program be carried out? - How will I budget the program? - What type of proposal format should be used? (e.g., forms or letters)
Step 4: Submit Proposal	- Am I consistent with the funder's application deadlines? - Am I sending the proposal to the appropriate contact?
Step 5: Follow-up	- Was the proposal accepted? - If not, why? - Should I submit a revised proposal?

Although not exhaustive, these steps provide a general "game plan" for individuals embarking on a grant search. By following these guidelines, grantseekers can prepare a more effective funding strategy and increase their overall chances for success.

How Do I Get Started?

Perhaps the hardest part of the grantsmanship process is getting started! With this in mind, the following checklist has been developed to help grantseekers get off on the right track.

- **Become Familiar with the Grantsmanship Process!**

If you are a first time grantseeker, you may wish to attend a grant writing workshop or team up

http://www.grants.gov
Grants.gov is an online database containing information on more than 900 federal grant programs.

Private Funding Databases

1. ***GuideStar*** at: http://www.guidestar.org/search/index.jsp allows you to search more than 1 million U.S. nonprofits by subject, category, keyword, state, nonprofit type, etc. to identify local or state organizations.
   Guide to GuideStar: http://www.charitablegift.org/planning_research_guidestar.shtml.
   Tutorial: http://www.guidestar.org/help/tutorial/index.jsp

2. ***The Foundation Center.*** http://fdncenter.org/

   - ***Links to Community Foundation Websites*** listed by state at: http://fdncenter.org/funders/grantmaker/gws_comm/comm.html
   - ***Foundation Funder*** at: http://fdncenter.org/funders/
   - ***Links to Private Foundation websites***, A-Z, Subject, Geographic, or Keyboard search at: http://fdncenter.org/funders/grantmaker/gws_priv/priv1.html
   - ***Links to Grantmaking Corporate Foundation websites***, A-Z, Subject, Geographic, or Keyboard search at: http://fdncenter.org/funders/grantmaker/gws_corp/corp1.html
   - ***Links to Grantmaking Public Charities***, A-Z, Subject, Geographic, or Keyboard search at: http://fdncenter.org/funders/grantmaker/gws_pubch/pubch1.html
   - ***Foundation Finder*** at: http://lnp.fdncenter.org/finder/

3. ***Community Foundations by State***. TGCI, The Grantsmanship Center.
   http://www.tgci.com/funding/community.asp

4. ***Community Foundations by State***. Fundsnet.
   http://www.fundsnetservices.com/2001/commfoundations.htm

5. ***Idealist.org*** at: http://www.idealist.org allows you to search more than 40,000 nonprofit and community organizations in 165 counties by city, state, keyword, etc.

6. ***Search for Charities.*** IRS. Search by city, city and state, or state.
   http://www.irs.gov/charities/article/0,,id=96136,00.html

Guides to State Foundations

1. ***Finding Local Funding: A Guide to State Foundation Directories.*** Marc Green. TGCI,

13. ***SC: South Carolina Foundation Directory.*** South Carolina State Library. http://www.state.sc.us/scsl/pubs/founddir/

14. ***SD: South Dakota Grant Directory (Database).*** South Dakota State Library. http://www.sdstatelibrary.com/info/GrantDirectory.htm

Newsletters

1. ***Federal Register.*** Washington, DC: Office of the Federal Register, National Archives and Records Administration. Monday through Friday. http://www.gpoaccess.gov/fr/index.html

   Includes information on federal assistance such as grants and contracts.

2. ***Giving Forum Newspaper Online.*** Minneapolis, MN: Minnesota Council on Foundations. Quarterly. http://www.mcf.org/mcf/forum/

   Features articles on funding programs, profiles people in philanthropy, lists grants made by both foundations and corporate giving programs, and includes a calendar of philanthropic events and educational opportunities.

3. ***The Grantsmanship Center Magazine.*** Los Angeles: The Grantsmanship Center. Quarterly. http://www.tgci.com/magazine/archives.asp.

   Contains articles about grantsmanship, fundraising techniques, grantsmanship seminars and reference literature on funding sources. Available free to staff of nonprofits and government agencies.

4. ***Humanities: The Magazine of the National Endowment for the Humanities.*** Washington, DC: National Endowment for the Humanities (NEH). Bimonthly. http://www.neh.gov/news/humanities.html

   Describes NEH projects and programs in the humanities. It lists recent grants, application deadlines, and other useful information for grant seekers.

5. ***Philanthropy News Digest.*** New York: Foundation Center. Weekly. http://fdncenter.org/pnd/

   Compendium of philanthropy-related articles and features culled from print and electronic media outlets nationwide.

6. ***PND Connections***. New York: Foundation Center. Biweekly. http://fdncenter.org/pnd/connections/index.jhtml

   Covers philanthropy-related content on the web.

7. ***PND RFP Bulletin.*** New York: Foundation Center. Weekly. http://fdncenter.org/pnd/rfp/

14. ***Writing A Successful Grant Proposal.*** Minnesota Council on Foundations. http://www.mcf.org/mcf/grant/writing.htm

Guides for Research Grants

15. ***The Art of Grantsmanship.*** Jacob Kraicer. http://www.med.unc.edu/toxicology/students-webpage/advice-students-grantmanship-jacob-kraicer.pdf

16. ***Grant Policy Manuel.*** National Science Foundation. http://nsf.gov/pubs/2002/nsf02151/start.htm

17. ***Grants and Grant-Proposal Writing.*** 3rd ed. John O'del. http://eweb.slu.edu/papers2/grantOlv32e.pdf

18. ***A Guide for Proposal Writing.*** National Science Foundation. http://www.nsf.gov/pubs/2004/nsf04016/start.htm

19. ***Proposal Writer's Guide.*** Don Thackrey. http://www.research.umich.edu/proposals/pwg/pwgcontents.html

20. ***Writing From the Winner's Circle: A Guide to Preparing Competitive Grant Proposals.*** David Stanley. http://www.unl.edu/nepscor/newpages/noframes/pubs/winners/writing.html

Sample Grant Proposals

21. ***Examples of Grant Proposals***. Foundation Center. http://fdncenter.org/learn/faqs/html/propsample.html

22. ***Examples of Successful Proposals***. Appalachian Regional Commission. http://www.arc.gov/index.do?nodeId=1730

23. ***Funding: Templates.*** SERA Learning. http://www.sera.com/index.php?section=funding&option=funding&page=funding_templates

24. ***A Sample Grant Proposal***. Plugged In. http://www.pluggedin.org/tool_kit/sample_grant.html

25. ***Sample Grant Proposals***. The Idea Bank. `http://theideabank.com/onlinecourse/samplegrant.html

26. ***Sample National Grant Proposal: Nashville Cares***. Gill Foundation. http://www.gillfoundation.org/tata_materials/tata_materials_show.htm?doc_id=90214

27. ***Sample Proposals***. Non-Profit Guides. http://www.npguides.org/guide/sample_proposals.htm

28. ***Sample Proposals***. SchoolGrants. http://www.schoolgrants.org/Samples/samples.htm

of books, periodicals, and research documents relating to foundations and philanthropy. The Center's website contains many useful funding information resources. The Foundation Center provides both CD-ROM and online subscription access to the ***Foundation Directory Online,*** Providing access to more than 77,000 grant makers.

- ***Grants Database***
  Greenwood Publishing Group, Inc.
  88 Post Road West, P.O. Box 5007
  Westport, CT 06881-5007
  (800)-225-5800
  http://www.greenwood.com

  Grants provides information on more than 10,000 available grants offered by federal, state, and local government, commercial organizations, associations, and private foundations. Each entry includes full description, qualification, money available, and renewability. Full name, address, and telephone number for each sponsoring organization, if available, are also included. The Grants database corresponds to the print publications ***Directory of Research Grants, Directory of Biomedical and Health Care Grants, Grants in the Humanities, Funding Sources for Community and Economic Development, Funding Sources for K-12 Schools and Educational Organizations and Operating Grants for Nonprofit Organizations.*** The ***Grants Database*** in available from DIALOG online on a fee-based subscription service.

Grant Writing Publications

1. ***Asking for Money***. The Grantsmanship Center. Los Angeles: TGCI.

   Brief guide on how to approach face-to-face situations in fund raising.

2. ***Best of Both Worlds: Winning Government Funding for Commercial Product Development under the Small Business Innovation Research Program.*** Wellesley Hills, MA: SPHINX Technologies, 1994. 245 p.

   Presents an overview of the SBIR and STTR programs. Includes topics formulating a winning technical proposal, preparing a cost proposal, and managing your SBIR project.

3. ***Earning More Funds: Effective, Proven Fundraising Strategies for Every Nonprofit Group***. Chip & Ralfie Blasius. Fort Wayne, IN: B.C. Creations, 1995. 180 p.

   Provides an overview of several tested fundraising strategies.

4. ***Finding Funding: Grant Writing From Start to Finish, Including Project Management and Internet Use***, 4th ed. Ernest W. Brewer, Charles M. Achilles, and Jay R. Fuhriman. Thousand Oaks, CA: Corwin Press, 2001. 392 p.

   Introduces where to look for government grants and how to write proposals. Describes the steps involved with implementing, conducting, and following a project through to completion.

Reviews steps involved in choosing the right project to bid on, conducting research, and producing documents to follow up the project. It also has samples from every stage of the process, including helpful graphics.

13. ***The "How To" Grants Manual: Successful Grantseeking Techniques for Obtaining Public and Private Grants***. David. G. Bauer. 5th ed. Westport, CT: Praeger Publishers. 2003.

    Describes how to organize the grantseeking process, discusses proposal development, and describes how to research funding sources.

14. ***Keys to Successful Funding: A Small Community Guide to Federal & Foundation Resources***. Hamilton Brown, Nancy Stark, Dennis Reader. Washington, DC: National Center for Small Communities, 1999. 96 p.

    Focuses on federal grants for small towns and rural areas, especially in the areas of infrastructure rebuilding and economic development. It also offers a section on grant proposal writing.

15. ***Practical Guide to Planned Giving***. Taft Group. Farmington Hills, MI: Taft Group. .

    Includes basic information on marketing and running a planned giving program, describes planned giving options and explains the advantages and disadvantages of each, lists additional information sources, and discusses tax laws related to planned giving.

16. ***Program Planning & Proposal Writing.*** Expanded Version. TGCI. Los Angeles: TGCI. 48 p.

    Offers a basic introduction to the fundamentals of proposal writing.

17. ***Proposal Planning & Writing.*** 3d ed. Lynn E. Miner, Jeremy T. Miner. Westport, CT: Greenwood Press, 2003. 216 p

    Features a concise, straightforward, and topical approach to grant seeking. It identifies print and non-print foundation, corporate, and federal funding resources. Charts, outlines, and proposal examples are included.

18. ***Proposal Writer's Guide.*** 2nd ed. Michael E. Burns. New Haven: Development and Technical Assistance Center, 1993. 64 p.

    Provides quick information on proposal writing.

19. ***Raising Money from Grants and Other Sources Success Kit***. Tyler G. Hicks. Merrick, NY: International Wealth Success, Inc., 1998-9.

    Collection of seven books on fundraising.

20. ***Successful Fundraising for Arts and Cultural Organizations***. 2nd ed. Karen Brooks Hopkins and Carolyn Stolper Friedman. Phoenix, AZ: Oryx Press, 1997. 280 p.

Research Grant Guides, Inc.

Includes over 5,000 funding entries covering grants for building, equipment, and renovation.

5. ***Directory of Computer and High Technology Grants***. Loxahatchee, FL: Research Grant Guides, Inc.

   Includes over 500 foundations that provide funding for computers and technological equipment are profiled.

6. ***National Guide to Funding for Information Technology***. New York: Foundation Center. Updated regularly.

   Covers grantsmakers of awards for projects in computer science, engineering and technology, telecommunications, and related fields of information technology.

Disabilities

7. ***Directory of Grants for Organizations Serving People with Disabilities***. Loxahatchee, FL: Research Grants Guides, Inc.

   Contains information on more than 800 foundations and 2,700 grant entries. Indexed by subject categories.

8. ***Financial Aid for Persons with Visual Impairments***. El Dorado Hills, CA: Reference Service Press. Updated regularly.

   Describes nearly 200 programs that offer financial aid to persons with visual impairments. Available in regular and large print versions.

9. ***Financial Aid for the Disabled & Their Families***. El Dorado Hills, CA: Reference Service Press. Updated regularly.

   Describes scholarships, fellowships, loans, grants, awards, and internships.

Education

10. ***The Distance Learning Funding $ourcebook: A Guide to Foundation, Corporate, and Government Support for Telecommunications and the New Media***. Arlene Krebs, ed. Dubuque, IA: Kendall/Hunt Publishing, 1998. 448 p.

    Provides information about foundations, federal government programs, regional and local telephone companies, corporations, and contacts in the cable television industry.

11. ***Funding Sources for K-12 Schools and Adult Basic Education***. Westport, CT: Oryx Press. Updated regularly.

    Covers grants/funding available for technology, arts in education, teacher development, career education, literacy, language and citizenship, and job-skills training for minorities,

Updated annually.

Profiles over 8,000 private foundations that have assets of at least $1.8 million or that distribute at least $250,000 annually in grants, describes 3,900 corporate giving programs, and gives details on nearly 50,000 actual grants. Customized versions are available on diskette and magnetic tape.

20. ***Directory of Operating Grants***. Loxahatchee, FL: Research Grant Guides, Inc. Updated annually.

    Profiles more than 640 foundations and includes 4,000 funding entries in the following categories: AIDS, animal welfare, community funds, culture, disabled, education, elderly, environment, health, hospitals, minorities, recreation, religion, social welfare, universities, women, and youth.

21. ***Foundation 1000***. New York: Foundation Center. Updated regularly.

    Profiles the largest 1,000 grant makers listed in The Foundation Directory. It also includes extensive lists of grants the donors have made in the past.

22. ***The Foundation Center's Guide to Grantseeking on the Web***. New York: Foundation Center. 2003. Approx. 800 p.

    Includes an introduction to the World Wide Web and a structured guide through Web-based grants resources. Provides abstracts of 200+ Web sites; profiles of searchable databases; and lists of government resources, online journals and newsletters, and interactive services.

23. ***The Foundation Directory***. New York: Foundation Center. Updated annually.

    Provides information, arranged by state, on over 10,000 U.S. grantmaking foundations that hold assets of at least $2 million or that award grants totaling $200,000 or more annually. Information is included for more than 200 specific subject areas.

24. ***Foundation Directory Part 2: A Guide to Grant Programs $50,000-$200,000***. New York: Foundation Center. Updated annually.

    Provides information, arranged by state, on the second 10,000 U.S. grantmaking foundations that award grants totaling $50,000 to $200,000 annually. Information is included for more than 200 specific subject areas.

25. ***Foundation Yearbook: Facts and Figures on Private and Community Foundations***. New York: Foundation Center. Updated annually.

    Presents an overview of recent trends in grantmaking and summarizes the history of the growth in foundation giving.

26. ***Foundation Grants Index***. New York: Foundation Center. Updated annually.

    An index of recently awarded grants, divided into subject areas, then broken down

34. ***The PRI Directory: Charitable Loans and Other Program-Related Investments by Foundations, 2nd ed.*** New York: Foundation Center, 155 p. 2003.

    Lists leading PRI(program-related investing) providers and includes tips on how to seek out and manage PRIs. PRIs have been used to support community revitalization, low-income housing, microenterprise development, historic preservation, human services, and more.

35. ***Who Gets Grants: Foundation Grants to Nonprofit Organizations***. New York: Foundation Center. Updated regularly.

    Allows grantseekers to pinpoint typical funding sources for organizations similar to their own. Indexed by subject areas and by locale within each subject area.

Government, Community, and Economic Development

36. ***Funding Sources for Community and Economic Development***. Westport, CT: Oryx Press. Updated regularly.

    Includes funding for capital construction, equipment, travel, outreach, and ongoing support for community programs and projects.

37. ***National Guide to Funding for Community Development***. New York: Foundation Center. Updated regularly.

    Profiles more than 2,600 programs and focuses on grantmakers that have contributed to economic development projects. Examples include housing construction and rehabilitation, community groups, and employment and vocational training programs.

38. ***Foundation Grants to Individuals***. New York: Foundation Center. Updated regularly.

    Includes opportunities for support in education, the arts and culture, and research, and grants for company employees, professionals, and others. Also includes prizes and awards, and grants by nomination. Indexed by subject area, types of support, geographic area, sponsoring company, educational institution, and grantmaker name.

Libraries and Museums

39. ***The Big Book of Library Grant Money, 2004/2005***. Prepared by the Taft Group for the American Library Association. Chicago, IL: The Association, 2004.

    Includes library-specific funding programs from the broader, more expensive funding directories.

40. ***The Big Book of Museum Grant Money***. American Association of Museums. Washington, DC: The Association, 1996. 896 p.

    Profiles 3,000 private sector funders that have contributed to museum programs.

41. ***Libraries and Information Services Grant Guide***. New York: Foundation Center.

49. ***Directory of Research Grants***. Westport CT: Oryx Press. Updated regularly.

    A comprehensive guide to research funding from foundations, private sources, state and local organizations, and federal sources.

Social Services

50. ***Directory of Social Service Grants***. 2nd ed. Loxahatchee, FL: Research Grant Guides, Inc, 1998.

    Profiles more than 900 foundations that offer grants to disadvantaged groups and special populations. Examples of subject categories include child welfare, the disabled, the elderly, family services, food banks, substance abuse, and women.

51. ***Fund Raiser's Guide to Human Service Funding***. Taft Group. Farmington Hills, MI: Taft Group. Updated.

    Profiles more than 1,850 leading private and corporate foundations that provide support for human service organizations. Cites potential funding sources for programs for the elderly, homeless, disabled, children, family, and for other human service programs.

52. ***National Guide to Funding for Children, Youth, and Families***. New York: Foundation Center. Updated regularly.

    Includes data on foundations and corporate direct giving programs that award grants for programs designed to benefit children, youth, or families.

Veterans

53. ***Financial Aid for Veterans, Military Personnel, and Their Dependents***. El Dorado Hills, CA: Reference Service Press. Updated regularly.

    Describes scholarships, fellowships, loans, grants, awards, and internships set aside specifically for veterans, military personnel, and their families.

Women

54. ***Directory of Financial Aids For Women***. El Dorado Hills, CA: Reference Service Press. Updated regularly.

    Aids in locating fellowships, awards, grants, internships, loans, and scholarships for women.

55. ***National Guide to Funding for Women and Girls***. New York: Foundation Center. Updated regularly.

    Profiles foundations and corporate giving programs that award grants to programs designed to benefit women and girls. Funding is available for education programs, health clinics, shelters for abused or homeless women, girls' clubs, employment programs, and in other subject areas.

Contains reviews on federal funding information, private grants, and legislative actions that affect community programs such as education and health.

10. ***Federal Grants & Contracts Weekly.*** Washington, DC: Capital Publishing Group. Weekly.

    Highlights notices from the ***Federal Register*** and the ***Commerce Business Daily*** and contains information on federal grants and contracts related to research, training, and services.

11. ***Foundation Giving Watch.*** Farmington Hills, MI: Taft Group. Twelve issues per year.

    Covers foundation funding, including foundation giving trends, grant programs, and new foundations. Include new grant-related resources and publications, as well as information on private foundation grantmaking trends.

12. ***Foundation Grants Index Quarterly.*** New York: Foundation Center. Quarterly.

    Covers more than 5,000 recently awarded grants. Includes updated information on grant makers and on recent publications such as annual reports and newsletters produced by corporate giving programs, foundations, and grant-maker associations.

13. ***Foundation News & Commentary.*** Washington, DC: Council on Foundations, Inc. Bimonthly.

    Profiles private foundation funding programs and discusses trends in giving.

14. ***The Local/State Funding Report.*** Washington, DC: Government Information Services. Fifty issues per year.

    Focuses on grants and funding information for state and local governments, non-profits, and community groups. Keeps readers abreast of federal regulations and new and existing programs and features selected announcements from the ***Federal Register*** and ***Commerce Business Daily***.

15. ***Responsive Philanthropy.*** Washington, DC: National Committee for Responsive Philanthropy (NCRF). Quarterly.

    Includes information on trends in philanthropic giving to racial and ethnic, women's, low-income, and other social justice movements.

16. ***Taft Monthly Portfolio.*** Farmington Hills, MI: Taft Group. Twelve issues per year.

    Contains articles on fundraising, with cases studies and surveys, especially aimed at non-profits.

Welcome to California

California Resources Agency Home

Agency News

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California Resources Agency

EEM Program Procedures and Criteria

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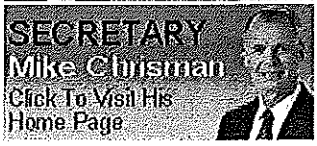
My CA This Site



Environmental Enhancement And Mitigation Program

The Environmental Enhancement and Mitigation Program (EEMP) funding is now available:

Applicants selected for an Environmental Enhancement and Mitigation (EEM) grant for Fiscal Year 2005/06, and still in need of funding should update their FY 2005/06 applications and resubmit them to the Resources Agency by **October 31, 2006**. Please indicate the level of funding required, revisions to the project scope and timeline as all expenditure must be made within three fiscal years and the final invoice submitted to Caltrans by **April 30, 2009**. The revised applications will be forwarded to the California Transportation Commission (CTC) for funding approval.

Grant funds should be expended as soon as possible after the CTC allocation for the project. If the applicant cannot submit its first invoice for reimbursement to Caltrans by **May 31, 2008**, the applicant must submit an official statement of project progress to Caltrans by **May 31, 2008** appropriate to the project that provides solid assurances that the project will be completed prior to **April 30, 2009**.

The Environmental Enhancement and Mitigation Program (EEMP) was established by the Legislature in 1989. It offers a total of $10 million each year for grants to local, state, and federal governmental agencies and to nonprofit organizations for projects to mitigate the environmental impacts caused by new or modified state transportation facilities. State gasoline tax monies fund the EEMP. Grants are awarded in three categories:

Highway Landscape and Urban Forestry-- Projects designed improve air quality through the planting of trees and other suitable plants.

Resource Lands -- Projects for the acquisition, restoration, or enhancement of watersheds, wildlife habitat, wetlands, forests, or other natural areas.

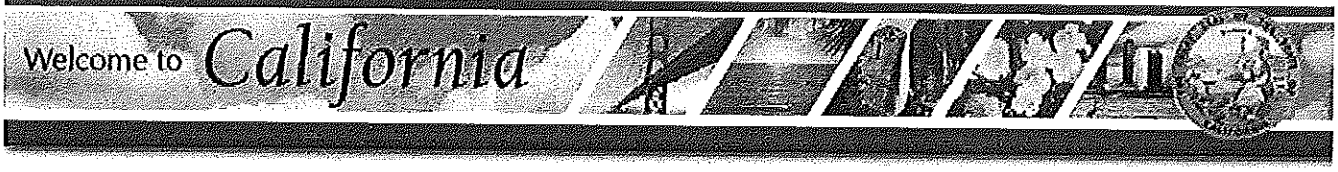
Roadside Recreational -- Projects for the acquisition and/or development of roadside recreational opportunities.

Program Procedures and Criteria, including specific application dates and funding limits, are generally published by the Resources Agency each year in September. The Resources Agency evaluates project proposals and provides a list of recommended projects to the California Transportation Commission (CTC) for consideration. The Department of Transportation (Caltrans) administers the approved grant agreements.

The EEM program Procedure Guide (311k) and application form (588k) are available here in Adobe Acrobat format.

Add my e-mail address to the EEMP Mailing List

Submit



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Integrated Waste Management Board

Grants and Loans

The California Integrated Waste Management Board offers funding opportunities authorized by legislation to assist public and private entities in the safe and effective management of the waste stream.

For a brief overview of the Board's grant programs, consult our two-page grants brochure. Use the list below to access more detailed information about the individual grant and loan programs currently offered by the Board. You may also use the grants database to develop reports on grants by county or cycle, or grant cycles by fiscal year. Information is also available about grants available from other state agencies that includes available funding opportunities from the Department of Conservation, Division of Recycling.

Farm and Ranch Cleanup Grants
Provides funding to cities, counties, Resource Conservation Districts, and Native American tribes for the cleanup of illegal solid waste sites on farm or ranch property.

Household Hazardous Waste Grants
Provides local government funding for programs to expand or initially implement HHW programs such as collection programs, educational programs, load checking programs, and programs emphasizing waste reduction, source reduction, reuse or recycling of HHW.

Landfill Closure Loans
Provides zero interest loans to operators of unlined, older-technology landfills who are interested in early closure of their facilities.

NEW **Liquefied Natural Gas (LNG) from Landfill Gas Demonstration Grant**
This competitive grant provides funding for implementation of a landfill gas to liquefied natural gas (LNG) commercial-scale demonstration project at a permitted solid waste landfill in California (Demonstration Project).

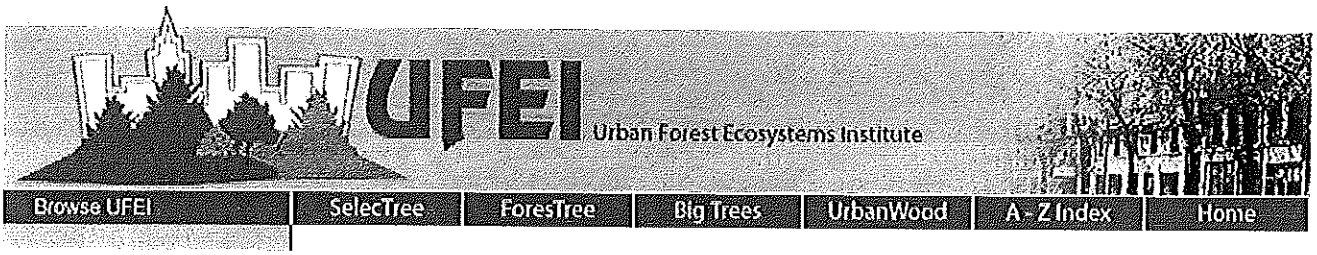
Local Enforcement Agency Grants
Provides grant funds, based on population and solid waste facilities, to Local Enforcement Agencies to assist in their solid waste facilities permit and inspection program.

Recycling Market Development Zone (RMDZ) Loans
Provides direct loans to businesses that use postconsumer or secondary waste materials to manufacture new products, or that undertake projects to reduce the waste resulting from the manufacture of a product.

Reuse Assistance Grants
This competitive grant program provides incentives for local public agencies to promote and apply the concept of reuse to their business communities.

Solid Waste Disposal and Site Cleanup Grants
Local governments can apply for funds to finance a wide range of remediation projects, including funds for cleanup or emergency actions, loans to responsible parties, or matching funds to assist in remediation of environmental problems at landfill.

Sustainable Building Grants
Provides local government funding for that projects that advance the use of green building design and construction practices in California.



News

New California ReLeaf Grant
Posted: Jul 10, 2007

Davis, CA, July 5, 2007 -- California ReLeaf announced today that funding is available to nonprofit and community-based groups throughout California for urban forestry education, outreach, and tree care projects. The program is funded through a contract with the California Department of Forestry and Fire Protection (CAL FIRE).

Eligible applicants include incorporated nonprofit organizations and unincorporated community-based groups, with a financial sponsor, located in California. Individual funding requests range from $1,000 to $7,500. Applicants may submit only one proposal.

Proposals must be postmarked by August 17, 2007. Grant recipients will have until the summer of 2008 to complete their project. The guidelines and application are available online at www.californiareleaf.org. To request a hard copy, please contact California ReLeaf at info@californiareleaf.org or (530) 757-7332.

California ReLeaf's mission is to empower grassroots efforts and build strategic partnerships that preserve, protect, and enhance California's urban and community forests. Working statewide, we promote alliances among community-based groups, individuals, industry, and government agencies, encouraging each to contribute to the livability of our cities and the protection of our environment by planting and caring for trees.

View online information ...

MORE NEWS LISTINGS BELOW....

CONFERENCES AND EVENTS - view all

Brown Bag Lunch Series
Live Online Webcasts -- Jun 28, 2007 - Mar 21, 2008
Woody Biomass Utilization Workshop - San Bernardino, CA
San Bernardino National Forest - Danny Rhynes Training Center -- Jul 31 - Aug 1, 2007
Professional Grant Proposal Writing Workshop
Humboldt State University -- Aug 13-15, 2007
5 "Sure-Fire" Ways to Improve Urban Resource Planning
-- Aug 21, 2007
Forest Stewardship Workshops Planned For Southern California
-- Oct 6-27, 2007
The Practice of Restoring Native Ecosystems National Conference
Arbor Day Farm Lied Lodge & Conference Center - Nebraska City, NE -- Oct 8-9, 2007

JOB LISTINGS - view all

Regional Program Coordinator - So Cal USDA
Job closing date: Jul 31, 2007
Landscape Instructor, Spokane, WA
Posting ends: Aug 13, 2007
Urban Forest Project Manager - Our City Forest
Posting ends: Sep 26, 2007
Urban Forester - Biloxi, MS
Posting ends: Sep 28, 2007

(Just Passed)
Program Coordinator - Kansas City, KS Posting
Removed on: Jul 9, 2007

The Tiffany & Co. Foundation provides grants to nonprofit organizations dedicated to the education and preservation of the arts and environmental conservation. The mission of the Foundation's Environment Program is to support organizations that focus on the conservation of natural resources in the areas of responsible mining, coral reef conservation, and land protection. An additional focus is on the preservation and conservation of national cultural treasures.

For more, click here...

AMA Scholarship Opportunity for Nonprofit Leaders

Deadline: November 15, 2007

The American Management Association (AMA), in collaboration with the Leader to Leader Institute, offers the AMA Scholarship Program to assist the social sector nonprofit organizations in developing the strong leaders today who will lead the organizations of the future. The program is designed to provide nonprofit leaders with an opportunity to interact with peers across the sectors and develop practical skills they can apply immediately within their organizations.

For more, click here...

2007 Alabama Community Forestry Program

Deadline: August 31, 2007

The Alabama Power Foundation now is accepting applications for grants up to $2,000 to buy trees for planting by local governments, community groups, and others. The foundation is working with the Alabama Urban Forestry Association in accepting applications for the 2007 Community Forestry Program.

For more, click here...

Grants for Developers Constructing Green Affordable Housing

Deadline: August 31, 2007

Enterprise announces grant funds of up to $50,000 per project now available for developers committed to providing green affordable housing. Grant guidelines and an application are available at their website. Grant awards are expected to be made by November 2007.

For more, click here...

State Farm Companies Grants Program

Deadline: Rolling

The State Farm Companies Grants Program is committed to meeting the needs of company communities in the U.S. and Canada. Support is provided to nonprofit organizations, educational institutions, and government agencies working in the areas of safety, community development, and education.

For more, click here...

Putting Trees to Work

Deadline: September 30, 2007

A new DNR grant program called "Putting Trees to Work" now allows Indiana cities, towns, and 501c3 non-profits to apply for funds to purchase and plant trees in areas where they can benefit an area most.

For more, click here...

Aga Khan Foundation Funds Solutions in Social Development

Deadline: Rolling

The Aga Khan Foundation seeks to develop and promote creative solutions to problems that impede social development. Major areas of interest include health, education, rural development, civil society, and the environment. The Foundation's international geographical spread includes the United States.

For more, click here...

Delaware Estuary Watershed Grants Program Invites Applications

PepsiCo Foundation Targets Company Communities

Deadline: Rolling

The PepsiCo Foundation supports nonprofit organizations throughout the United States in communities where company employees live and work. While the Foundation generally prefers to invest in local U.S. communities where PepsiCo has a presence, international programs are also funded.

For more, click here...

NFWF Keystone Initiatives Matching Conservation Grants

Deadline: September 1, 2007

The mission of the National Fish and Wildlife Foundation is to sustain, restore, and enhance the nations fish, wildlife, plants, and habitats. Through its Keystone Initiatives Grants Program, the Foundation awards matching grants in the categories of bird conservation, fish conservation, marine and coastal conservation, and wildlife and habitat conservation.

For more, click here...

CS Fund and Warsh/Mott Legacy Protect Environmental Health

Deadline: August 13, 2007

The CS Fund and Warsh/Mott Legacy are private foundations that are dedicated to preserving biodiversity, defending democracy, preventing the commodification of life, and protecting human and environmental health.

For more, click here...

Holdin' out for a Hero

Deadline: Rolling

Nominations for the sixth annual Volvo for Life Awards are currently being accepted online. The Awards honor American heroes - ordinary people who act with conscience, care, and character to help others in need. There are three distinct categories for which individuals can be nominated: Safety, Quality of Life, and Environment.

For more, click here...

Staples Supports Education

Deadline: August 3, 2007

The Staples Foundation for Education is accepting applications for its second 2007 funding cycle. The Foundation provides funding to nonprofit organizations that support or provide job skills training and/or education for all people, with a special emphasis on disadvantaged youth. The goal of this support is to positively impact the grantees' communities on a daily basis.

For more, click here...

Norfolk Southern Foundation Funds Community Programs

Deadline: September 30, 2007

The Norfolk Southern Foundation supports nonprofit organizations that focus on educational, cultural, environmental, and economic development opportunities within the region served by Norfolk Southern, primarily in the Eastern and Central states. (A system map of Norfolk Southern Railway system is available on their website.)

For more, click here...

Urban Forestry Environmental Justice Pilot Grant Program

Deadline: November 1, 2007

The Massachusetts Department of Conservation and Recreation (DCR) Urban and Community Forestry Program, in collaboration with the Executive Office of Energy and Environmental Affairs (EOEEA), is offering competitive 75-25 matching grants to municipalities and nonprofit organizations working in environmental justice (EJ) communities in Massachusetts.

Company Grants

State Farm® is committed to meeting the needs of our communities by focusing our giving in three areas: Safe Neighbors (safety), Strong Neighborhoods (community development), and Education Excellence (education). In addition, there's limited funding available to meet community-based needs.

Grant requests for local initiatives are considered by State Farm field offices. Each office determines the types of grants (outlined below) it will fund, based on available funding.

Safe Neighbors (safety)

State Farm values the importance of keeping our neighbors safe. Our funding is directed to:

- Improving driver, vehicle, and roadway safety
- Shielding homes from fires, criminals, and natural disasters
- Supporting disaster preparedness programs and recovery services
- Enhancing personal financial security

Strong Neighborhoods (community development)

Communities are the foundation and lifeblood of society. The condition of available housing and services greatly affects the quality of life for residents and the stability of the community. State Farm is committed to helping maintain the vibrancy and culture of neighborhoods in various communities throughout the U.S. and Canada. We demonstrate this commitment by supporting nonprofit organizations' programs that:

- Make housing affordable
- Promote first-time homeownership
- Eliminate barriers to homeownership
- Educate homebuyers about insurance, loss mitigation, and homeownership
- Foster sustainable communities
- Rehabilitate neighborhoods or communities

K-12 Public Schools

The following types of grants for K-12 Public Schools will be considered:

- Teacher excellence programs that improve teacher quality
- Service-Learning programs that integrate core classroom curriculum with service to the community
- Programs that incorporate the Systemic Improvement criteria into education systems to improve overall effectiveness

(More information about State Farm's K-12 Service-Learning and Baldrige initiatives is located in Education Excellence.)

A State Farm field office may support grants for a designated college or university.

Related Links

Our Communities, Our Story
News Releases
State Farm Story
Our Mission
Our Chairman & CEO
Annual Reports
Diversity at State Farm
Good Neighbor Service
State Farm Companies
Fast Facts
Awards & Recognition

Our Programs

Foundation Grants
Doctoral Dissertations
Company Grants
American Indian College Fund
Hispanic Scholarship Fund
National Merit Scholarship
SFCV
Project Ignition
Other Programs

(*These questions do not apply if this request is for a school.)

In addition to the above, the proposal must address the following questions:

- What is the purpose and objective(s) of the program?
- Does the program meet a community need that falls within our focus areas (Safe Neighbors/safety, Strong Neighborhoods/community development, or Education Excellence/education)?
- How many participants will benefit from our contribution if we make one? (Please give an approximate number if necessary.)
- What is the amount of the request and what time period does it cover (e.g., six months or one year)?
- What is the total funding required for this project or program? Who are the other funding sources, including the amount they've contributed or committed?
- What specifically is State Farm being asked to support? Please submit an itemized budget.
- How will the program yield measurable results for participants? If the program is new, what does the organization plan to measure to determine these results? (These results will be needed to consider future funding.)

Grant requests must be submitted in writing on the requesting organization's letterhead. Telephone and e-mail solicitations cannot be considered. Grant proposals can be submitted to the appropriate State Farm office nearest you, attention: Public Affairs, GNC Coordinator.

Select your state/province Go

Proposals are accepted year-round and are reviewed in a timely manner. However, approval time depends on the requesting amount and completeness of the proposal.

The State Farm corporate office also provides funding for our Safe Neighborhoods, Strong Neighborhoods, and Education Excellence initiatives that are national in scope.

Questions?

For more information or questions, please contact the State Farm Good Neighbor Citizenship® team.

GRANT WRITING RESOURCES

FEDERAL GRANT RESOURCES

- **The Catalog of Federal Domestic Assistance** – Information source for grant funding from all federal agencies
  - http://www.cfda.gov/
- **Rules and responsibilities of Federal grant-giving agencies** – Office of Management and Budget circulars describe all of the fiduciary responsibilities when an organization accepts a federal grant
  - http://www.whitehouse.gov/omb/circulars/index.html

COOPERATIVE FORESTRY GRANT WRITING RESOURCES

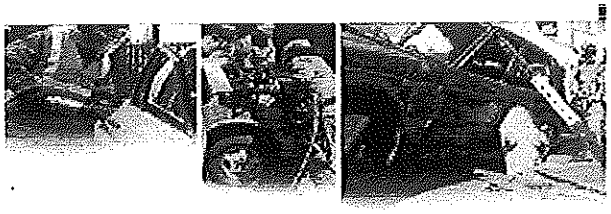
- **Northern and Intermountain Regions (Regions 1-4) Grants Technical Assistance and Implementation** – Describes areas of assistance, opportunities, and grant administrator contact information. Also includes a link to grant request information and forms for each state in these regions.
  - http://www.fs.fed.us/r1-r4/spf/grants_assistance.html
- **Grant resources provided by the Region 6 (Oregon and Washington) office of Cooperative Forestry**
  - A list of State and Federal on-line Resources that may be useful while preparing grant applications or searching for other grant opportunities - http://www.fs.fed.us/r6/coop/resources.htm
  - A comprehensive list of grant forms commonly used to apply for funding for Cooperative Forestry Programs http://www.fs.fed.us/r6/coop/programs/forms/grant_forms.htm
- **Southern Region's (Region 8) Rural Community Assistance Website**
  - Steps for Forest Service funding with links to grant forms and guidelines - http://www.southernregion.fs.fed.us/spf/coop/rca/default.htm

- A link to several experts' hints on grant writing - http://www.un.org/Depts/dhl/sflib/libmgnt/grantproposals.htm
- Ten common elements found in winning proposals - http://teacher.scholastic.com/professional/grants/WinningProposals.htm

- **A Grant Seekers Guide to the Internet** – A good primer on how to use the internet for grant writing, and information on other grant resources on the net.

  - http://www.mindspring.com/~ajgrant/guide.htm

Action Training
SYSTEMS



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Ideas for Raising Matching Funds

Raising Matching Funds - The Hard Match

Don't let this happen to you:

Several departments we know of actually turned down an award because they did not have the necessary matching funds. Don't let this happen to you.

Matching funds dollars are a hard match. That does not mean they are hard to get, just that you must match real dollars with real dollars. You can't use salaries or time for matching funds.

You need to have your matching funds lined up when you put your application together. You do not need to have the money in hand at that time, just the **commitment that you will have the money before the end of your performance period**. (that is 12 months from the date of your award) You may not find out if you are approved for your grant request unt 6 months to a year after you applied.

IDEAS FOR RAISNING MATCHING FUNDS - **if your department budget will not cover them.**

- ❑ Send out a press release to local papers to get the word out to ask the community to help
- ❑ Open house contributions, pancake breakfast, chili cook-off, barbecue.
- ❑ Free blood pressure screening at local mall or supermarket.

Ask for donations.

- ❑ Direct business contributions.

Be specific on the money needed - see item number 2 below

- ❑ Raffle

Ask for local business donations for items to raffle off.

- ❑ Sell birthday parties at the fire station.

Children can sit in apparatus, put on bunker gear and have picture taken etc.

- ❑ Contact local Chamber of Commerce or business groups to help.

Have the chief / asst. chief / training officer make presentation.

- ❑ Sell photo's of kids or groups at fire station.
- ❑ Set up a bank account and put out donation jar at local bank, convenience stores.
- ❑ Recruit for volunteers at local fairs, show you are raising funds for training.

Tips for Rural Fire Department Assistance in California

1. Form a local fire department assistance committee

Create a contact list with your local fire protection partners including federal and state agencies, other fire departments, local government, and fire safe council members. Form your local fire assistance committee which may be subgroup of your fire safe council. Committee members should participate, at various levels, to assess local fire protection needs and option to address these issues. See links to assist you in finding contacts for your committee:

- Local Fire Safe Councils in California: http://www.firesafecouncil.org/councils/home.cfm
- Bureau of Land Management, California Field Offices: http://www.ca.blm.gov/fieldoffices.html
- CDF Units: http://www.fire.ca.gov/FireEmergencyResponse/FirePlan/units_countyfireplan.asp
- US Forest Service, California National Forests: http://ceres.ca.gov/ceres/calweb/nfs.html
- National Parks: http://www.nps.gov/parks.html
- Tribal Groups in California: http://www.kstrom.net/isk/maps/ca/california.html
- National Wildlife Refuges: http://refuges.fws.gov/refugeLocatorMaps/california.html
- California Fire Alliance: http://www.cafirealliance.org/
- Volunteer Fire Departments: http://www.volunteerfd.org/
- US Fire Administration Points of Contact: http://www.usfa.fema.gov/fire-service/pocs/poc_ca.shtm

2. Asses your department needs

Determine what qualifications or standards in equipment and training are needed to function effectively in your community. You will need information about your current level of qualifications as well as future training needs for the department. Gather information about the quality and standards of your current and needed firefighting equipment and supplies. Asses existing training options in your area such as local agency annual training programs, agency training centers (OES, CDF, USFS) and community college wildland fire programs. See links to training organizations, centers and programs.

- National Fire Academy: http://www.usfa.fema.gov/fire-service/nfa/nfa.shtm
- National Volunteer Fire Council: http://www.nvfc.org/training.html
- California Wildland Fire Training: http://www.nationalfiretraining.net/ca/catrain/
- California Fire Chiefs Association: http://calchiefs.org/index.cfm
- Firescope: http://www.firescope.org/

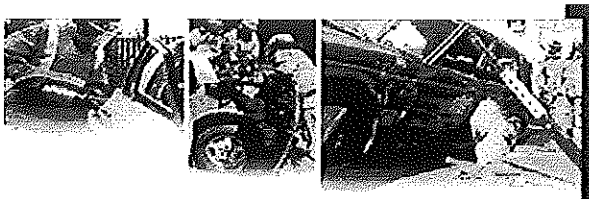
3. Develop cost estimates for your training and equipment needs

Determine or estimate the costs of the training, equipment, supplies and prevention activities that you are requesting assistance with. Costs for prevention and mitigation activities may include your staff/ volunteer time. Costs can be estimated with assistance from your agency contact or agreement specialist or by following standard wage estimates for particular positions.

4. Determine the agency grant requirements and asses how you will comply

Review the applicable agency guidance and requirements for the grant or assistance that you are considering. Things to consider: Individual program matching requirements- Rural Fire Assistance Program has a 10 percent match, Volunteer Fire Assistance Program has a 50 percent match; Other federal funding sources cannot be used as a match to federal grants; Matching can include in-kind costs and services (staff time, building use, etc).

ActionTraining
SYSTEMS



FEATURES
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AQs
PRODUCTS
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Pumping Apparatus
Aerial Apparatus
MS Behind the Wheel
mergency Ops
Vehicle Extrication New!
Rescue
Rapid Intervention
AZMAT
HAZMAT Response
HAZMAT Awareness
Decon/Containment
ICS for HAZMAT
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Incident Safety Officer
Public Info Officer
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info@action-training.com
ction Training Systems
040 NE Hostmark Street,
ite 100
ulsbo, WA 98370-7337
hone: 1-800-755-1440

Ideas for Raising Matching Funds

Raising Matching Funds - The Hard Match

Don't let this happen to you:

Several departments we know of actually turned down an award because they did not have the necessary matching funds. Don't let this happen to you.

Matching funds dollars are a hard match. That does not mean they are hard to get, just that you must match real dollars with real dollars. You can't use salaries or time for matching funds.

You need to have your matching funds lined up when you put your application together. You do not need to have the money in hand at that time, just the **commitment that you will have the money before the end of your performance** period. (that is 12 months from the date of your award) You may not find out if you are approved for your grant request unt 6 months to a year after you applied.

IDEAS FOR RAISNING MATCHING FUNDS - If your department budget will not cover them.

- ❑ Send out a press release to local papers to get the word out to ask the community to help.
- ❑ Open house contributions, pancake breakfast, chili cook-off, barbecue.
- ❑ Free blood pressure screening at local mall or supermarket.

  Ask for donations.
- ❑ Direct business contributions.

  Be specific on the money needed - see item number 2 below
- ❑ Raffle

  Ask for local business donations for items to raffle off.
- ❑ Sell birthday parties at the fire station.

  Children can sit in apparatus, put on bunker gear and have picture taken etc.
- ❑ Contact local Chamber of Commerce or business groups to help.

  Have the chief / asst. chief / training officer make presentation.
- ❑ Sell photo's of kids or groups at fire station.
- ❑ Set up a bank account and put out donation jar at local bank, convenience stores.
- ❑ Recruit for volunteers at local fairs, show you are raising funds for training.

The Catalog of Federal Domestic Assistance

Features

Types of Assistance
Applying for Assistance
Writing Grant Proposals
Top 10% Program List
New Programs
Historical Index

Featured Links

Firstgov
Grants.gov
FedBizOpps
Federal Asset Sales

The Catalog of Federal Domestic Assistance (CFDA)

The online Catalog of Federal Domestic Assistance gives you access to a database of all Federal programs available to State and local governments (including the District of Columbia); federally -recognized Indian tribal governments; Territories (and possessions) of the United States; domestic public, quasi-public, and private profit and nonprofit organizations and institutions; specialized groups; and individuals. After you find the program you want, contact the office that administers the program and find out how to apply.

User's Guide

What this website can do for you.

Search for Assistance Programs (HTML)

Live System Updated as often as daily.
Search for assistance programs in a variety of ways!

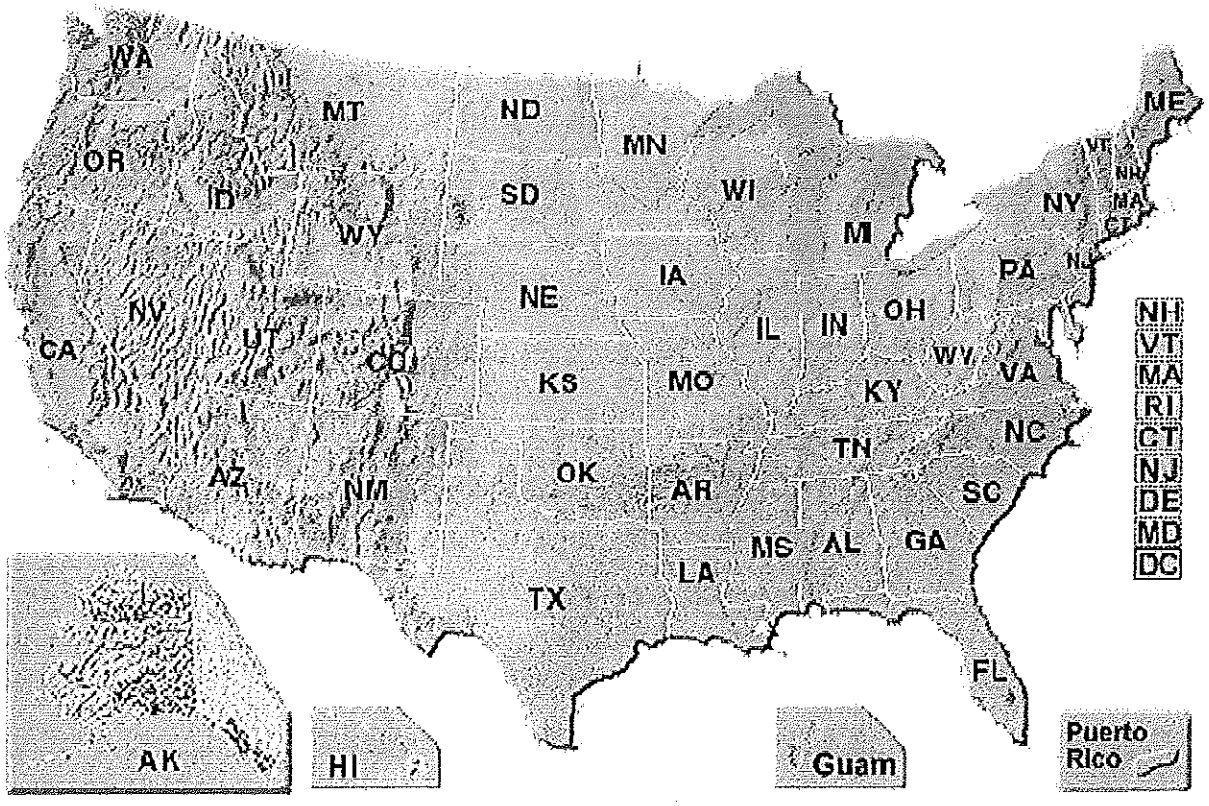
CFDA September 2006 Print Edition (PDF)

PDF's last updated September 2006
Entire Catalog Available in Portable Document Format (PDF).

Additional Catalog Resources

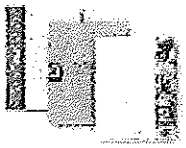
Helpful information applying for assistance.

General Services Administration
Office of Chief Acquisition Officer
Regulatory and Federal Assistance Division (VIR)



Location: http://www.forestsandrangelands.gov/stewardship/index.shtml
Last modified: Thursday June 14 2007

- **Downloading and Ordering all *Ready* Publications**



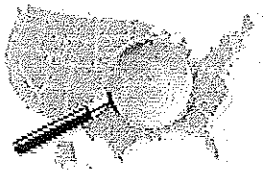
- Get A Kit Checklist
- Ready Brochure
- Family Emergency Plan

Adobe Acrobat Reader required.

Community and State Information

Want to reach your state or local government to see how you can prepare for events that happen in your area?

Use the menu below or **click here**.



Jump to a state or territory... Go!

citizen corps

Appendix L

Juniper Ecology

Table of Contents

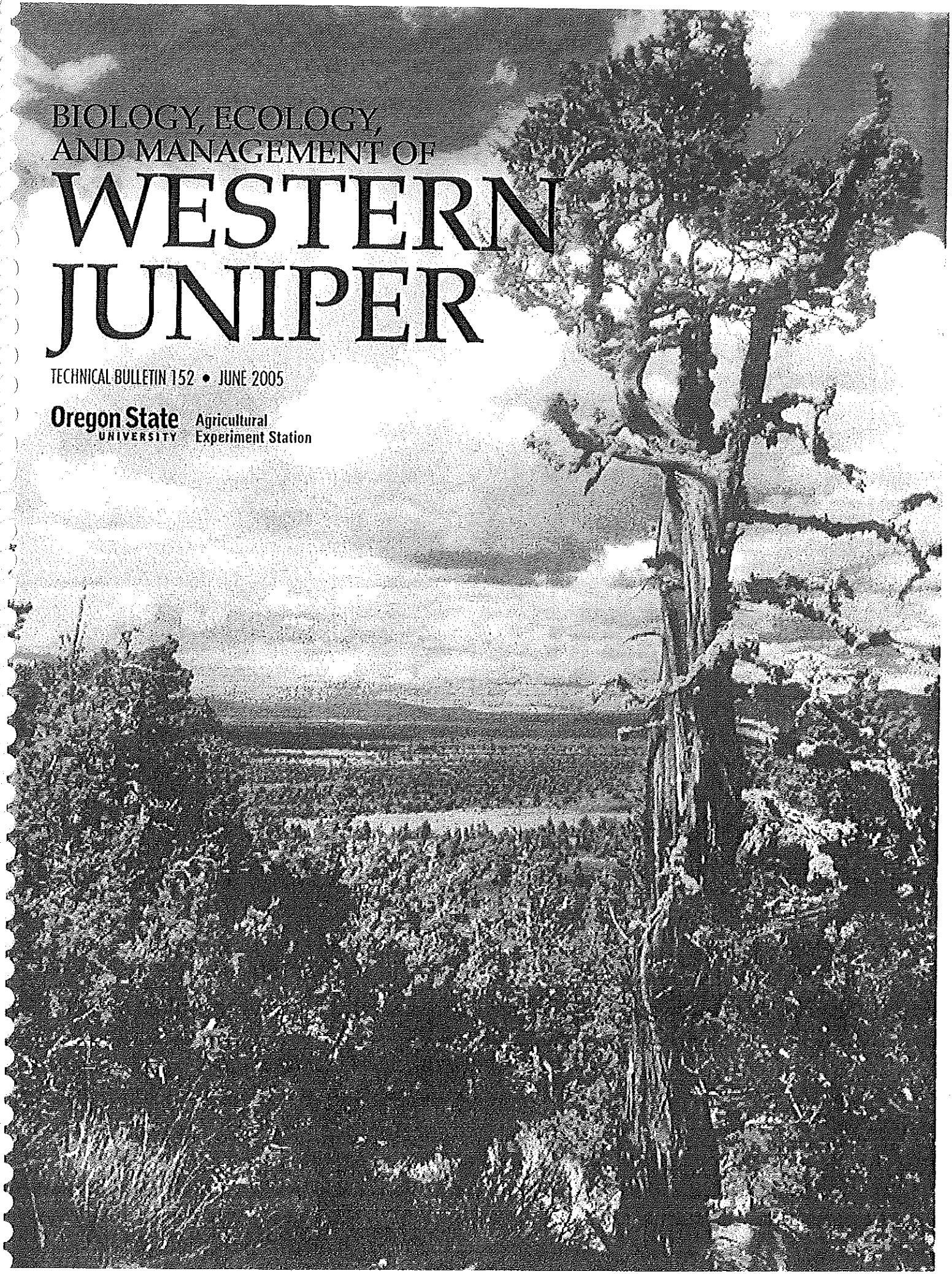
Biology, Ecology, and Management of Western Juniper
.pdf is available on the internet by typing in the full name in your search engine

Sagebrush Steppe and Associated Ecosystem Restoration Through Improved Resource and Western Juniper Management in Northeast California and Northwest http://www.fs.fed.us/r5/modoc/projects/sagebrush-restoration-web/juniperstrategy.shtml

BIOLOGY, ECOLOGY, AND MANAGEMENT OF WESTERN JUNIPER

TECHNICAL BULLETIN 152 • JUNE 2005

Oregon State UNIVERSITY Agricultural Experiment Station



CONTENTS

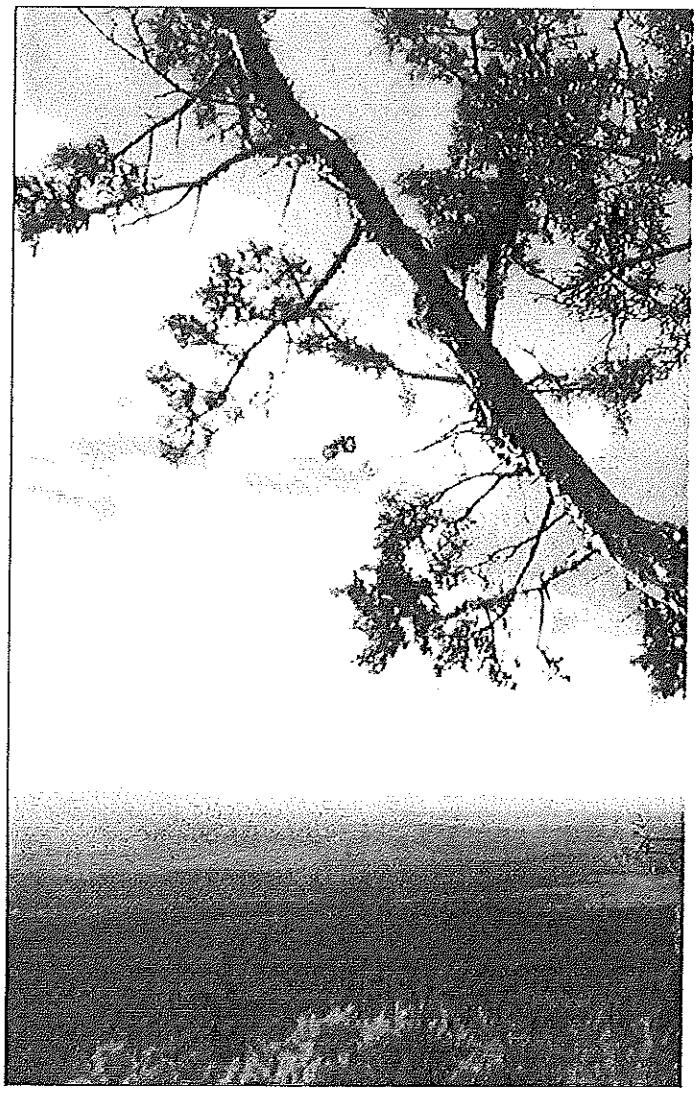
Summary

The rapid expansion of western juniper into neighboring plant communities during the past 130 years has caused considerable concern because of increased soil erosion, reduced stream flows; reduced forage production; altered wildlife habitat; changes in plant community composition, structure, and biodiversity; and the replacement of mesic and semi-arid plant communities with woodlands. However, the impacts of post-settlement woodland expansion are not always clear or consistent across sites and have led to debate and legal challenges over control projects and management plans for western juniper.

This publication represents a synthesis of what is known about the history, biology, ecology, and management of western juniper. Western juniper occupies 9 million acres in central and eastern Oregon, northeastern California, southwestern Idaho, and northwestern Nevada, and occurs in a few outlying stands in southern Washington. Presettlement changes in woodland abundance and distribution are largely attributed to long-term changes in temperature, amounts and distribution of precipitation, and the extent and return intervals of fire. Evidence supporting rapid post-settlement expansion is derived from old surveys, photographs, the distribution of relict presettlement woodlands, and tree-ring chronologies.

Western juniper represents the northwestern portion of the piñon and juniper region in the Intermountain West. The tree is submonoecious and develops male cones in early spring, which attain full size the first summer and mature during the second summer. Female cones persist on trees for nearly 2 years. Seeds are dormant and germination potential is greatly enhanced by prolonged cool-moist stratification, which is cumulative from year to year. Seed dispersal of western juniper occurs through gravity, overland flow, and animals. At least 12 species of birds feed on the fruits and as a group are the most important disseminator's of western juniper seed. Western juniper grows on a wide variety of parent materials and soils including materials derived from aeolian (e.g., pumice sands), sedimentary, and igneous sources (e.g., rhyolite, andesite, basalt). Soil textures range from clay to sandy and soil temperature regimes from mesic to frigid.

Western juniper communities may be separated into presettlement (old-growth) or post-settlement (expansion) communities. We suggest 1870 as a cut-off to separate the two age classes. Western juniper is a long-lived species (more than 1,000 years). However, old-growth represents only a small proportion of the population throughout most of its range with the exception of the Mazama Ecological Province. Old-growth trees and stands



can easily be separated from post-settlement stands based on morphological and stand structure characteristics. The majority of post-settlement communities are still in a state of transition. The stage of woodland succession (defined in this publication as Phases I, II, and III) directly affects plant community structure, composition, seed pools, wildlife habitat, and ecological processes including hydrologic and nutrient cycles. The phase of woodland development also affects the selection of management treatment, response following treatment, follow-up management, and treatment cost. As the tree layer increases in dominance, the shrub and herb layer decline. The degree that the herb layer is depleted is dependent upon soil depth to a restrictive layer. The minimum time for the tree overstory to begin suppressing the understory is 45–50 years and to approach stand closure 70–90 years on cool wet sites and 120–170 on dry warm sites. Western juniper expansion into sagebrush grassland

Modoc National Forest

Environmental Impact Statement

Sagebrush Steppe and Associated Ecosystem RestorationThrough Improved Resource and Western Juniper Management in Northeast California and Northwest Nevada

The BLM Alturas Office is a joint federal lead agency with the Modoc National Forest in developing a management strategy for Northeastern California. The Modoc National Forest is actively participating in this effort.

The Modoc County Resource Advisor Committee has approved specific treatment projects on the Modoc National Forest as well as provided funding for the development of the Western Juniper Management Strategy.

Scoping and Content Analysis

The summary of public comments received in response to the issuance of a proposed action and notice of intent (scoping) is released and available for review. MORE

Background

Why are we undertaking it? Find answers to these questions and how we got to where we are today. MORE

Maps

View maps and download GIS data that is being used in the project.
Site Map

Timeline and Process

How long is the process? Follow the project from start to finish with our timeline of events. Page to be Developed)

Newsroom

Newsletters and news releases about this project. (Page to be Developed)

Contact Us

Complete the attached form to make a comment: MORE

or for questions regarding the content of this site, contact:

Rob Jeffers

Documents

View documents relating to Sagebrush Steppe and Associated Ecosystem Project. (Page to be Developed)

Analysis Team

A team of specialists dedicated to the analysis project. **Get to know them.**

Get Involved

We would like to hear your thoughts and ideas as we begin the process of analysis of this project. MORE

Links

Informational web sites that are associated with this project. (Page to be developed)

Who else is involved?

BLM - Alturas Field Office
BLM - Surprise Field Office
Central Modoc Resource Eagle Lake Field Office
Conservation District
Lassen National Forest
Modoc County Cattlemen
North Cal-Neva Resource

EIS Partners

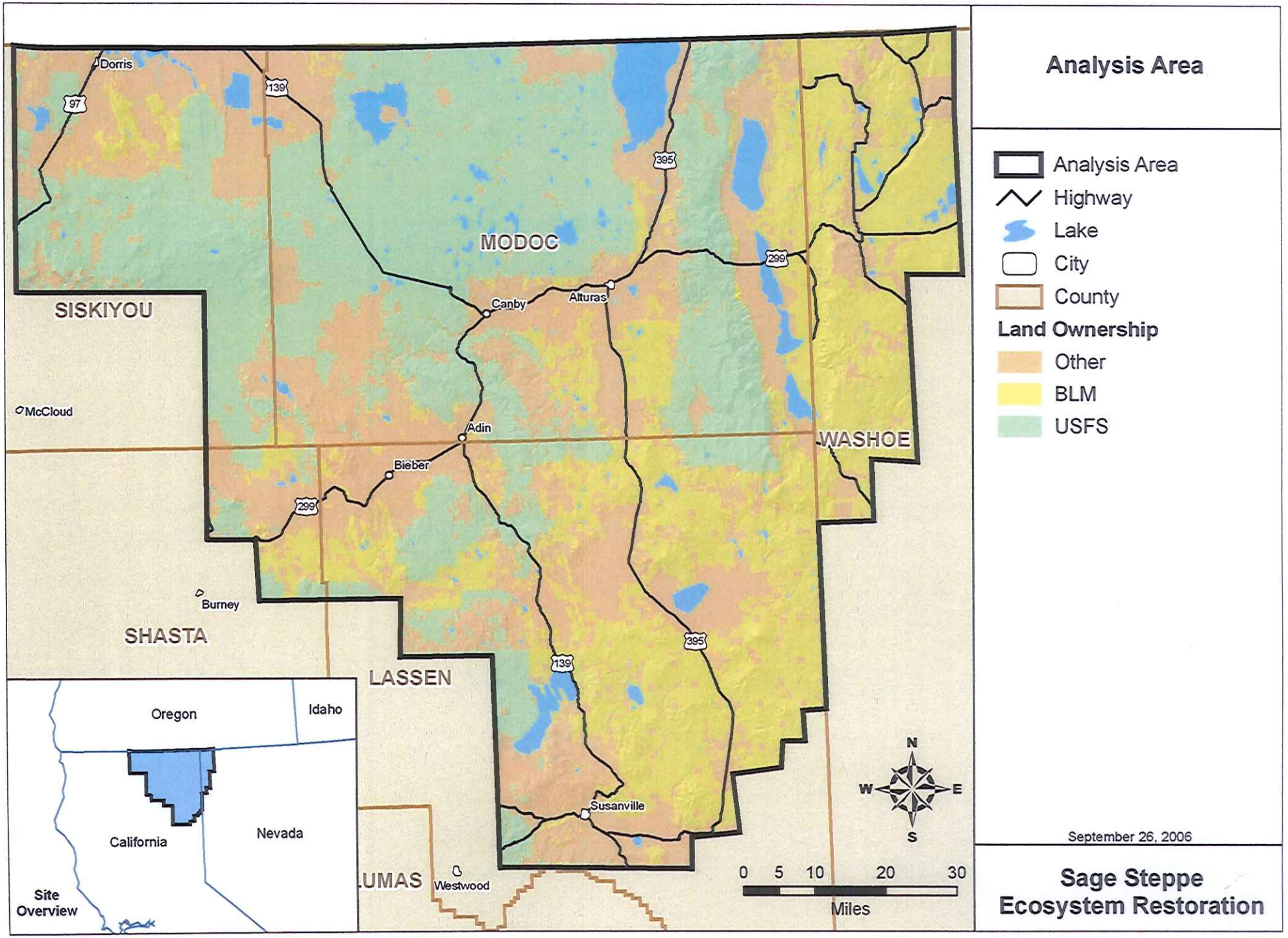
Modoc National Forest
Alturas BLM Field Office
Modoc County

Additional Links

Provide Comments on this Project

-New-

Sage Steppe Ecosystem Restoration EIS - Scoping Report


Analysis Area
Analysis Area
Highway
Lake
City
County
Land Ownership
Other
BLM
USFS
Dorris
97
139
395
MODOC
299
Canby
Alturas
SISKIYOU
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SHASTA
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California
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Site Overview
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Miles
September 26, 2006
Sage Steppe Ecosystem Restoration