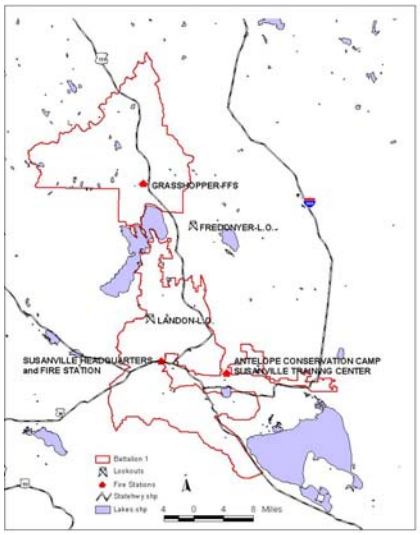
FIRE MANAGEMENT PLAN 2008
Lassen-Modoc Unit

IV. The Fire Situation

A. General Description

The Lassen-Modoc Unit has a strong cooperative relationship with federal and local government firefighting agencies in addition to the Governor's Office of Emergency Services. This cooperation is formally defined and authorized in interagency agreements. This includes the four-party agreement with the federal agencies, and the Master Mutual Aid Agreement, with local government. Mutual aid agreements and cooperative agreements with all fire departments and fire protection districts are also in place within the Unit. The cooperative efforts of fire service providers comprise the entire fire protection delivery system within the Unit.

BATTALION 1



Battalion 1 (Susanville Battalion) is located in the central and southeastern portion of Lassen County, with the communities of Susanville, Johnstonville, Janesville, Standish, Litchfield, Lake Forest Estates, Stones Landing and Spaulding. The City of Susanville is an incorporated City, which is in the center of the Battalion.

U. S. Highway 395 travels through the Battalion on its east side. State Highways 44, 139 and 36 also travel through the Battalion and intersect with U.S. 395. The elevation of the Battalion is approximately 4500' in the Honey Lake Valley to 7700' on Diamond Mountain, with an average elevation of approximately 5800' on the northeastern plateau of California.

Approximately 32,000 acres of this Battalion are State Responsibility Lands; the only Local Responsibility Land is located within the Honey Lake Valley area, in Susanville City, and portions of the communities of Standish, Janesville and Johnstonville. The highest housing and population concentration in the Unit is located in Battalion 1.

Fuels

The vegetative cover in Battalion 1 is comprised of standing timber on the west and northwest sides of the Battalion and high desert sage, bitterbrush and juniper on the mid and east side of the Battalion. Most of the large fires in Lassen Modoc Unit over the years have occurred in Battalion 1 in the timbered areas.

Fire Weather

Fire weather in Battalion 1 can be extreme because of its location and elevation. Most of the 32,000 acres are in a very dry climate due to being in the rain shadow of the Sierra Nevada/Cascade Range. The rainfall for 2007, Susanville Station had 7.64 inches and Grasshopper receiving 11.24 inches for a battalion total of 18.88 inches. Single digit relative humidity during the summer months is not uncommon and many of the forest fuels remain ready to burn in the late spring – early summer, prior to the finer fuels drying.

Battalion 1 Resources

Susanville Station	Grasshopper Station
2- Fire Engines	2 – Fire Engines
1- Bull Dozer	
1- Reserve Fire Engine	
Landon Lookout	Fredonyer Lookout

Fire Protection Districts and Volunteer Departments include:

- California Correctional Center
- Susanville City Fire Department
- Susan River Fire Protection District
- Janesville Fire Protection District
- Standish-Litchfield Fire Protection District
- Doyle Fire Protection District
- Eagle Lake Fire Protection District
- Stones-Bengard Fire Protection District
- Lake Forest Fire Protection District
- Milford Fire Protection District
- Sierra Army Depot Fire Department
- Ravendale Volunteer Fire Department

FIRE MANAGEMENT PLAN 2008
Lassen-Modoc Unit
Battalion 1 Response Report (2007)

State Responsibility Area-SRA Local Responsibility Area- LRA

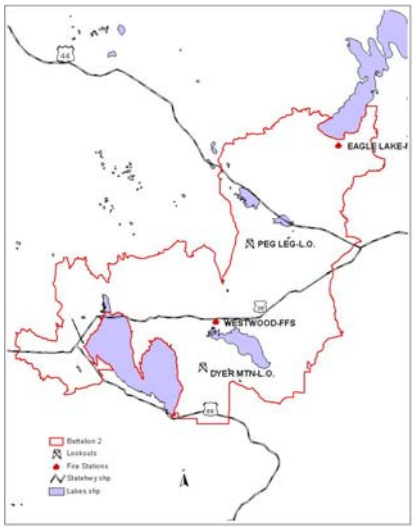
WILDLAND	**LRA**	15	**SRA**	52
STRUCTURE	**LRA**	24	**SRA**	0
OTHER/FALSE ALARM	**LRA**	64	**SRA**	19
TRAFFIC COLLISION	**LRA**	44	**SRA**	0
MEDICAL AIDS	**LRA**	59	**SRA**	0
HAZARDS	**LRA**	6	**SRA**	0
PUBLIC ASSIST	**LRA**	7	**SRA**	0
MISCILLANEOUS	**LRA**	10	**SRA**	0

Ignitions

There were 68 known ignitions in Battalion 1 in 2007. The largest cause of these fires was lightning for a total of 35 fires. The following is a break down of the ignitions within the Battalion:

UNDETERMINED	2
LIGHTNING	35
CAMP FIRE	4
SMOKING	0
DEBRIS BURN	20
ARSON	1
EQUIPMENT	5
VEHICLE	1
PLAYING WITH FIRE	0

BATTALION 2



Battalion 2 (Westwood Battalion) is located on the west side of Lassen County and includes the Almanor Basin, in Plumas County. The communities of Westwood, Pinetown, Clear Creek, Hamilton Branch, Canyon Dam, Prattville, Almanor West and Chester are all within this Battalion. State Highways 36, 147, 89 and 44 traverse through Battalion 2.

In Battalion 2 approximately 13,000 acres are State Responsibility Lands; Local Responsibility Land is located in the town of

Chester and the community of Westwood. The population is concentrated in Westwood and all around the Lake Almanor Basin. Approximately 3600 people make the communities of Battalion 2 their home.

Fuels

The vegetative cover in Battalion 2 is predominately standing timber, with grass and sage cover.

Fire Weather

Fire weather in Battalion 2 is typically wetter than that of Battalions 1 and 4, which are both located on the eastern slopes of the Sierra/Cascade mountain range. The 2007 rainfall totals have Battalion 1 receiving just over 3.70 inches more rainfall than Battalion 2. During 2007, Westwood received 6.39 inches of rainfall**.** Eagle Lake received 8.76 inches for a battalion total of 15.15 inches.

Battalion 2 Resources

Westwood Station	Eagle Lake Station
2- Fire Engines	1 – Fire Engine
Peg Leg Lookout	
Dyer Mountain. Lookout	

Fire Protection Districts and Volunteer Departments include:

- Westwood Community Services District and Volunteer Fire Department
- Chester Fire Department
- Almanor West Fire Department
- Hamilton Branch Fire Department
- Clear Creek Volunteer Fire Department
- Prattville Fire Protection District
- Peninsula Fire Protection District

Battalion 2 Response Report (2007)

State Responsibility Area-SRA Local Responsibility Area- LRA

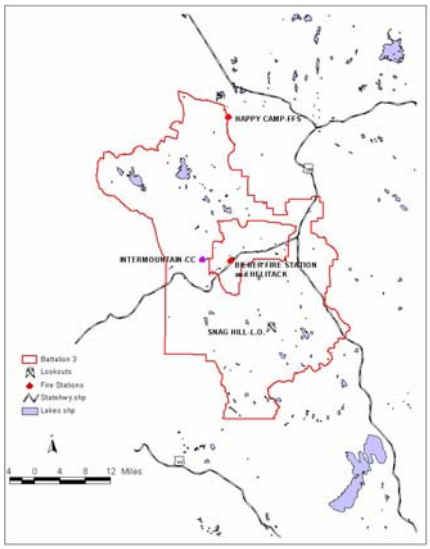
WILDLAND	**LRA**	1	**SRA**	20
STRUCTURE	**LRA**	16	**SRA**	0
OTHER/FALSE ALARM	**LRA**	36	**SRA**	9
TRAFFIC COLLISION	**LRA**	28	**SRA**	0
MEDICAL AIDS	**LRA**	122	**SRA**	0
HAZARDS	**LRA**	4	**SRA**	0
PUBLIC ASSIST	**LRA**	12	**SRA**	0
MISCILLANEOUS	**LRA**	6	**SRA**	0

Ignitions

In 2007, Battalion 2 had a total of 48 ignitions, which resulted in fires. The leading cause of these fires was debris burns for a total of 18 fires. The following is a break down of the ignitions within the Battalion:

UNDETERMINED	1
LIGHTNING	17
CAMP FIRE	2
SMOKING	2
DEBRIS BURN	18
ARSON	1
EQUIPMENT	2
VEHICLE	4
PLAYING WITH FIRE	1

BATTALION 3



Battalion 3 (Bieber Battalion) is located in the northwest portion of Lassen County, southwest corner of Modoc County and borders to the west along Shasta – Trinity and Siskiyou Units. The communities of Bieber, Nubieber, Day, Lookout, Little Valley and Adin are located within its boundaries.

State Highway 299 and 139 traverse the Battalion. Approximately 17,260 acres of this Battalion are State Responsibility Lands; Local Responsibility Land is located in the Big Valley area around the towns of Bieber, Nubieber and in the Pittville. The population within the Battalion is found in Bieber, Nubieber, Lookout, Day, Little Valley and Adin. Approximately 1400 people make the communities of Battalion 3 their home.

Fuels

The vegetative cover in the Battalion 3 is predominately standing timber with grass/sage cover. The Big Valley area of the Battalion is agricultural with much of the land committed to the production of hay. Many fires in this Battalion grow quite

quickly, due to its remoteness of and the lack of roads.

Fire Weather

Fire weather in Battalion 3 is typically wetter than that of Battalions 1 and 4 which are located in the rain shadow of the Sierra/Cascade Mountains however Battalions 1 and 2 received more rainfall in 2007 than did Battalion 3. Rainfall totals for Happy Camp unavailable. The precipitation total in 2007 for Battalion 3 was 4.27 inches.

Battalion 3 Resources

Bieber Station	Happy Camp Station
2- Fire Engines	1 – Fire Engine
1- Helicopter and crew	
Snag Hill Lookout	

Intermountain Conservation Camp is located just outside of Nubieber and has 4 Fire Crews, one Dozer and one Camp Fire Protection Engine.

Fire Protection Districts and Volunteer Departments include:

Big Valley Fire Protection District
Lookout Volunteer Fire Department
Adin Volunteer Fire Department
McArthur Volunteer Fire Department (Day Bench)
Little Valley Community Services District
Newall Fire Protection District

Battalion 3 Response Report (2007)

State Responsibility Area-SRA Local Responsibility Area- LRA

WILDLAND	**LRA**	4	**SRA**	37
STRUCTURE	**LRA**	4	**SRA**	0
OTHER/FALSE ALARM	**LRA**	15	**SRA**	3
TRAFFIC COLLISION	**LRA**	17	**SRA**	0
MEDICAL AIDS	**LRA**	35	**SRA**	0
HAZARDS	**LRA**	1	**SRA**	0
PUBLIC ASSIST	**LRA**	0	**SRA**	0
MISCILLANEOUS	**LRA**	3	**SRA**	0

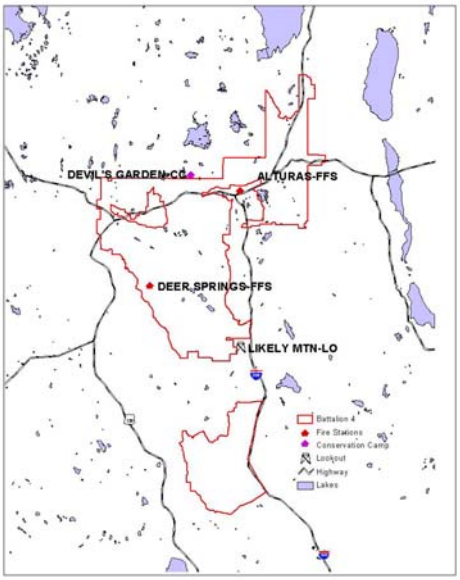
Ignitions

During 2007, Battalion 3 had a total of 35 ignitions, which resulted in fires. The leading cause of these fires was lightning for a total of 24 fires. The following is a break down of the ignitions within the Battalion:

UNDETERMINED	2
LIGHTNING	24
CAMP FIRE	0
SMOKING	0
DEBRIS BURN	9
ARSON	0
EQUIPMENT	0
VEHICLE	0
PLAYING WITH FIRE	0

BATTALION 4

Battalion 4(Alturas Battalion) is located in the northeastern portion of the Lassen – Modoc Unit. It is located on the east half of Modoc County with Oregon to the north and Nevada to the east. The most southern end of the Battalion is within the northeastern part of Lassen County. The communities of Alturas, Canby, Likely, and Madeline are located within its boundaries. Battalion 4 also services the communities of Davis Creek, New Pine Creek, Willow Ranch, Cedarville, Eagleville, Lake City and Fort Bidwell.



U. S. Highways 395, 299 and 139 travels through the Battalion. Approximately 21,500 acres of this Battalion are State Responsibility Lands; Local Responsibility Land surrounds the community of Alturas and runs south to Likely. Approximately 1800 people live within the boundaries of Battalion 4.

Fuels

The vegetative cover in the Battalion is predominately standing timber in the mountains, with juniper grass/sage cover in the eastern half of the battalion where the

terrain is at a lower elevation. Many fires in this Battalion grow quite quickly due to the remoteness of the area and lack of roads.

Fire Weather

Fire weather in Battalion 4 is drier on average than Battalion 2 and 3 with Battalion 4 being in the rain shadow of the Sierra Cascade/Mountains. During 2007, Alturas received 8.60 inches of rainfall. Deer Springs Station rainfall totals were unavailable.

Battalion 4 Resources

Alturas Station	Deer Springs Station
2- Fire Engines	1 – Fire Engine
Likely Mountain. Lookout	

Devils Garden Conservation Camp is located to the west of Alturas just outside of town and has 5 Fire Crews, one Dozer and one Camp Fire Protection Engine.

Fire Protection Districts and Volunteer Departments include:
Alturas City Fire Department
Alturas Rural Fire Protection District
Cal Pines Community Service District
Canby Fire Protection District
Cedarville Fire Protection District
Davis Creek Fire Protection District
Eagleville Fire Protection District
Fort Bidwell Fire Protection District
Lake City Fire Protection District
Likely Fire Protection District
Madeline Fire Protection District
Willow Ranch Fire Protection District
New Pine Fire Protection District

Battalion 4 Response Report (2007)

State Responsibility Area-SRA Local Responsibility Area- LRA

WILDLAND	**LRA**	2	**SRA**	17
STRUCTURE	**LRA**	3	**SRA**	0
OTHER/FALSE ALARM	**LRA**	34	**SRA**	6
TRAFFIC COLLISION	**LRA**	22	**SRA**	0
MEDICAL AIDS	**LRA**	86	**SRA**	0
HAZARDS	**LRA**	2	**SRA**	0
PUBLIC ASSIST	**LRA**	0	**SRA**	0
MISCILLANEOUS	**LRA**	5	**SRA**	0

Ignitions

In 2007, Battalion 4 had a total of 18 ignitions, which resulted in a fire. The leading cause of these fires was debris burns for a total of 7 fires. The following is a break down of the ignitions within the Battalion:

UNDETERMINED	1
LIGHTNING	6
CAMP FIRE	0
SMOKING	1
DEBRIS BURN	7
ARSON	0
EQUIPMENT	2
VEHICLE	1
PLAYING WITH FIRE	0

B. General Description of the Desired Future Condition

Fire History

Wildfire history is a significant factor of the pre-fire management planning process. The fire plan assessment framework incorporates detailed information for determining the most beneficial locations for pre-fire management projects, an idea of the level of service in SRA for the unit, and various assets at risk information. Fire history is a piece of the puzzle that allows unit personnel to learn from our past and make an attempt to prepare for future fire behavior. Having knowledge of fire history provides an account of historic fire travel in a particular area. Armed with knowledge of historic fire spreads, fire suppression forces are better equipped to predict fire spread potentials. Identifying where the largest and most damaging fires have occurred is a necessary step in preparing for future wildfire. The most significant aspect of fire history in Lassen-Modoc Unit is that personnel are able to compare the relationship between identified assets at risk and the historic burning patterns of wildfire which allows for more informed decision making processes when preparing fire planning documents and procedures.

Appendix B shows fire history just for 2007. Appendix C shows the Fire History from 1998 to 2007. Appendix D includes fire history from 1900 through 2007. Appendix E shows the fuels diversity. The maps display significant patterns that are used in pre-fire planning processes.

Ignition Workload Assessment (Level of Service)

The legislature has charged the Board of Forestry and Cal Fire with delivering a fire protection system that provides an equal level of protection to lands of similar type and is based in *Public Resources Code 4130*. In order to do this, Cal Fire needed an analysis process that would define a level of service rating that could be applied to the

wildland areas in California to provide a comparison of the level of fire protection being provided. The rating is expressed as the percentage of fires that are successfully attacked.

California has a complex fire environment, and Cal Fire data on assets at risk to damage from wildfire is incomplete. These factors combine to make it very difficult to develop a true performance-based fire protection planning system. Cal Fire has resorted to prescription-based fire protection planning (travel times of firefighting resources to incidents, report times for the detection system, the same acreage goal statewide, etc.) as a way to overcome the complexity of the issues. Prescription-based planning is possible but tends to oversimplify some issues. Prescription standards also make it difficult to integrate the interrelationships of various fire protection programs, such as the value of fuel-reduction programs in reducing the level of fire protection effort required.

The following approximation method is proposed to overcome these shortcomings and allow the Unit to proceed with a damage-plus-cost analysis of fire protection performance. This is a relative system, attempting to measure the impact of fire on the various assets at risk. At the same time, this process produces a level of service rating (LOS). The rating can be used to describe fire protection services to civilian stakeholders. The level of service rating also provides a way to integrate the contribution of various program components (fire prevention, fuels management, engineering and suppression) toward the goal of keeping damage and cost within acceptable limits. It is important to reiterate that this system is a relative system and that the ratings are only approximations. In this system, a fire may be considered a failure, based on the firefighting resource draw and size of fire; however, the final fire size and assets protected may have been a true success based on firefighting activities in extreme fire weather conditions.

The Level of Service (LOS) rating is a ratio of successful fire suppression efforts to the total fire starts, a method to measure initial attack success and failure rates throughout the Unit and is based on fire sizes. The LOS uses a Geographic Information System (GIS) that overlays a 10 year history of wildfires onto a map and derives the average annual number of fires by size, severity of burning and assets lost. This data provides an LOS rating, in terms of a success and failure calculation.

$$\text{Success Rate} = \frac{\text{Annual number of fires that were small and extinguished by initial attack}}{\text{total number of fires}} * 100 = \text{Success rate in percent}$$

The result is an initial attack success rate in percentage of fires by vegetation type and area. “Success” is defined as those fires that are controlled before unacceptable damage and cost are incurred and where initial attack resources are sufficient to control wildfires. “Failure” is not meant pejoratively; it just means that, for whatever reasons (access, lack of resources, etc.) the ignition was not contained before it became a more dangerous and damaging fire.

The Fire Plan Ignition Workload Assessment is designed to show effectiveness of the suppression organization in meeting the initial attack fire workload. The attempt at

controlling fires before they become large and costly is evaluated in this assessment. The underlying assumption is that fires, successfully contained in the initial attack stages, are not the primary problem. Problem fires are the few that are costly to control or exceed suppression organization capabilities and cause damage.

Fires are grouped into "success" and "failure" categories based on various factors. The assessment groups fires by general vegetation or fuel types (planning belts). Within the fuel type, fires are further classified based on final fire size and weather conditions at the time of ignition. Each fire is classified and labeled as either a successful initial attack or a failure.

Initial attack Success and Failures:

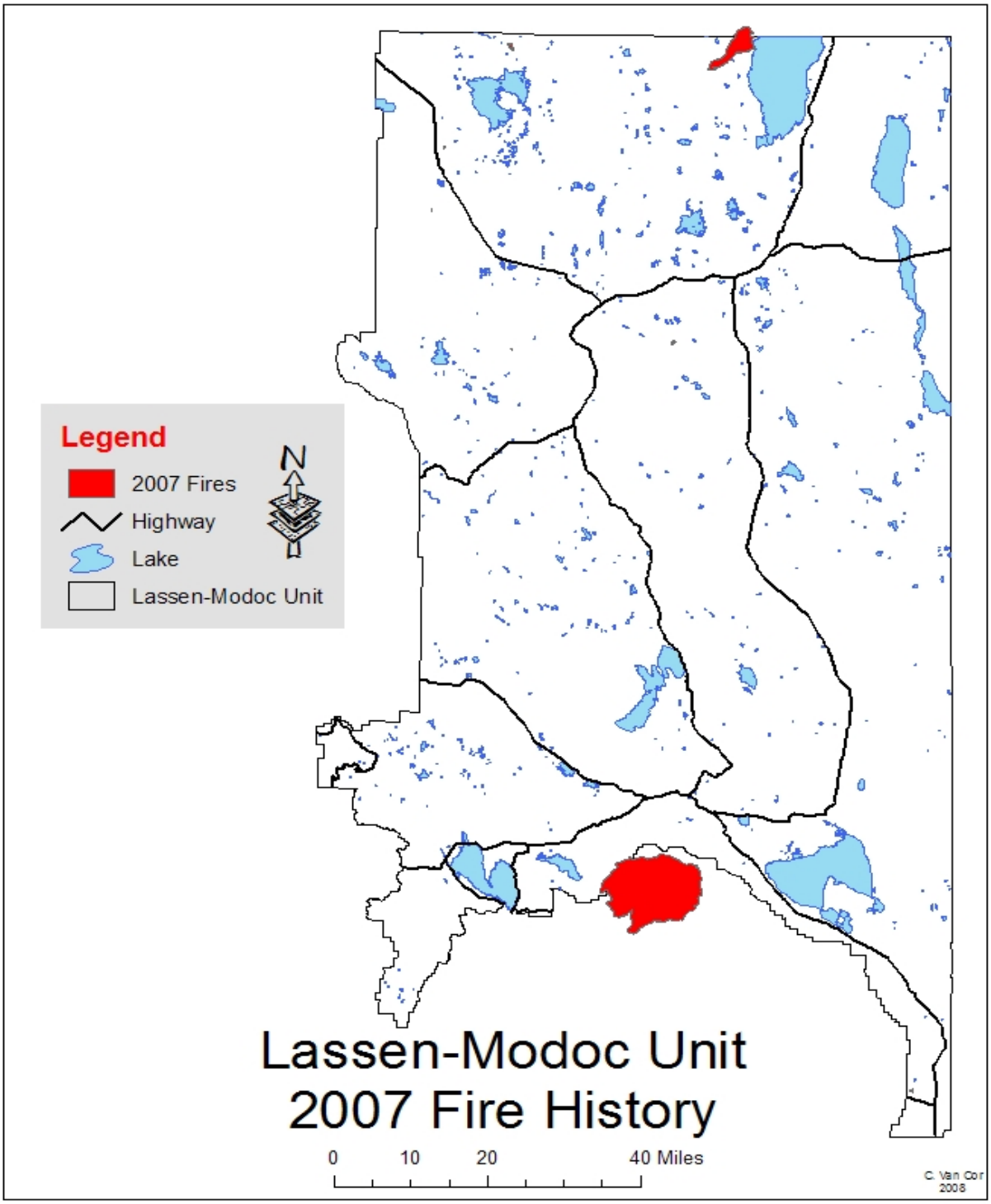
Represents a ten year period for analyses May thru September 2005; planning belt vegetation types were analyzed.

Planning Belt	Success Rate	Successful I.A.	I.A. Failure
Grass	100%	54	0
Brush	95%	370	20
Interior	98%	1920	34
Woodland	98%	3523	80
Agricultural or Urban	96%	248	9

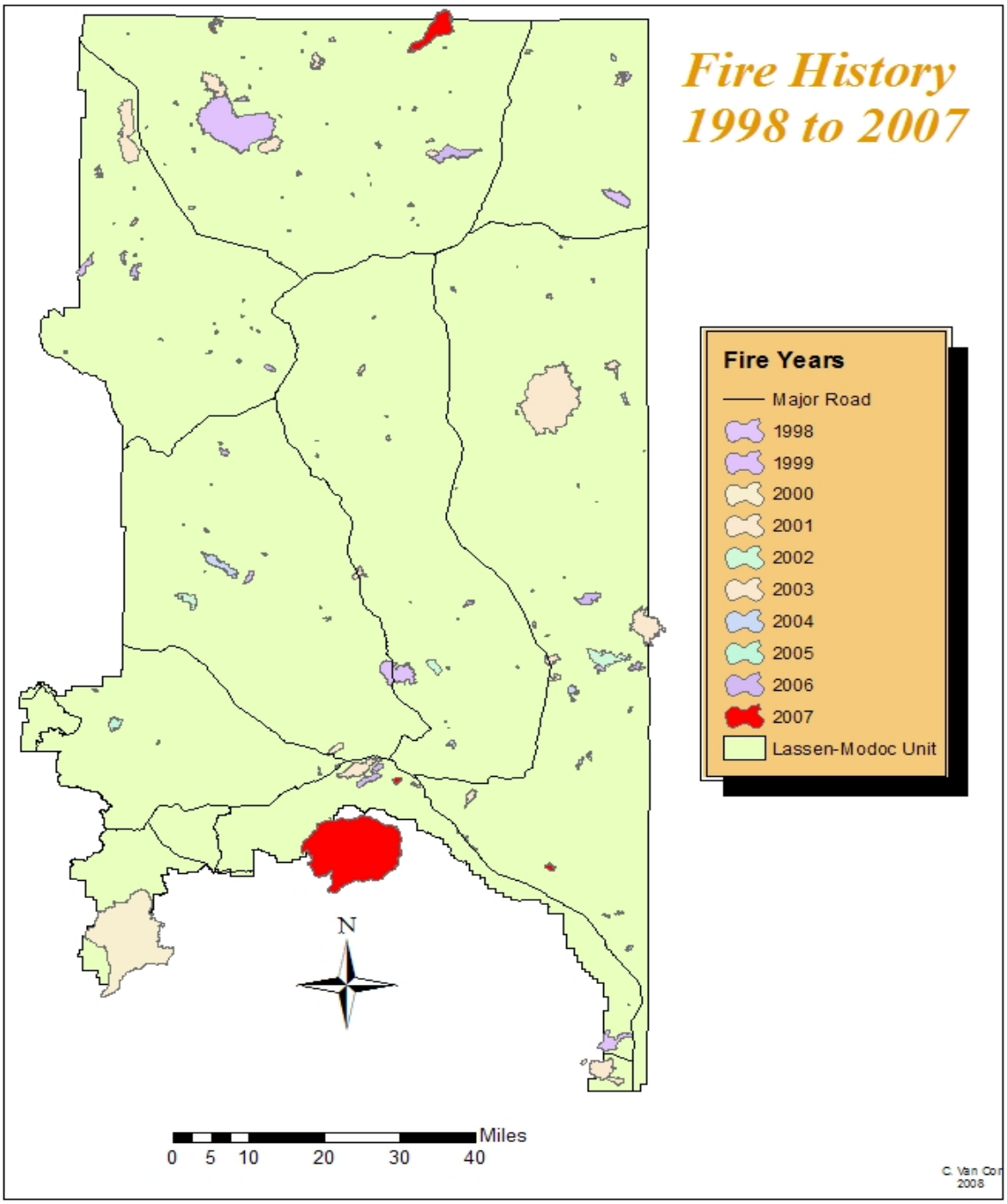
Failures were defined as:

Grass: Fires = 10 acres and above
Brush: Fires = 5 acres and above
Interior: Fires = 3 acres and above
Woodland: Fires = 5 acres and above
Agricultural or Urban: Fires = 10 acres and above

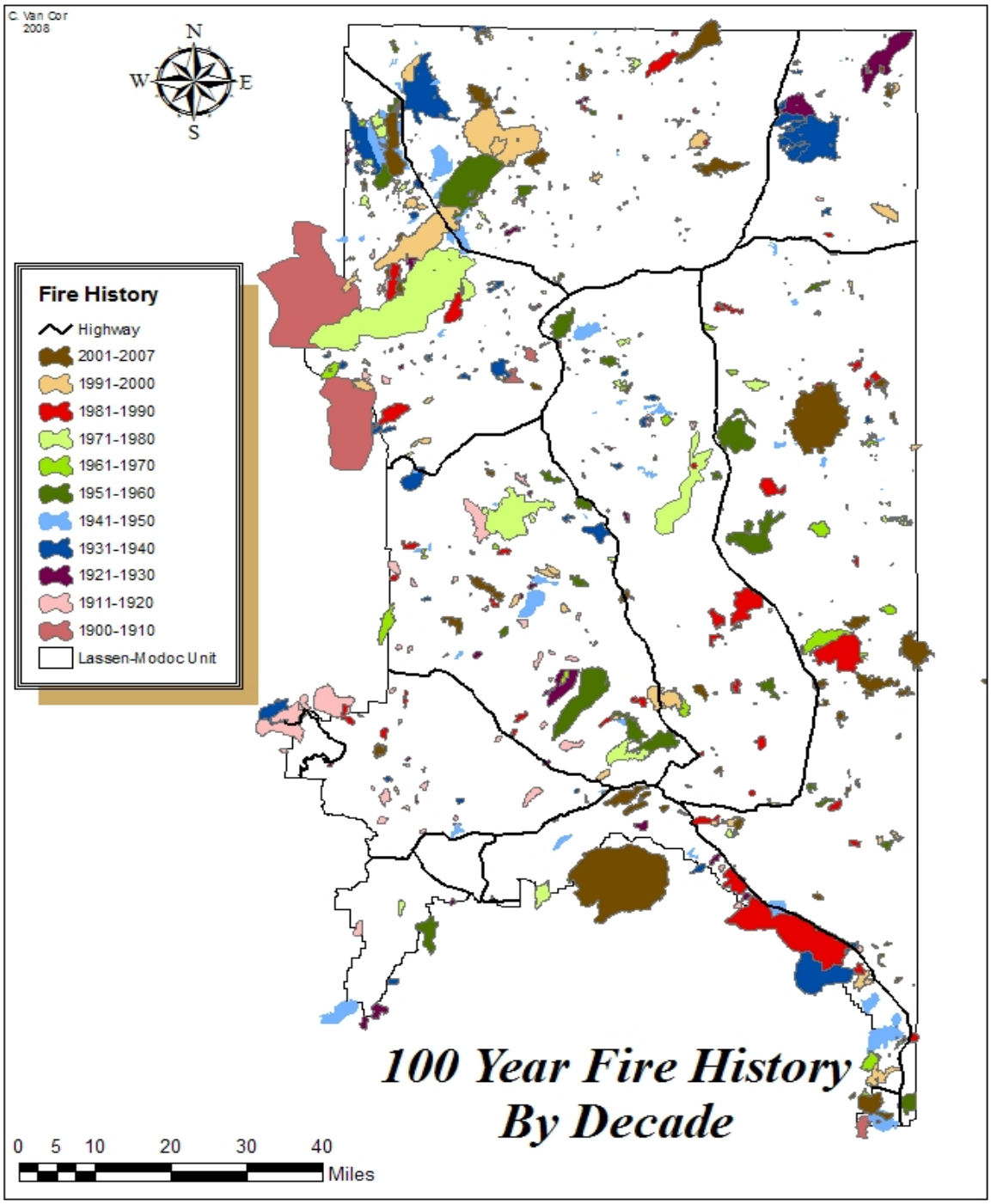
Appendix B


Legend
2007 Fires
Highway
Lake
Lassen-Modoc Unit
N
Lassen-Modoc Unit
2007 Fire History
0
10
20
40 Miles
C. Van Cor
2008

Appendix C


Fire History
1998 to 2007
Fire Years
Major Road
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
Lassen-Modoc Unit
N
Miles
0 5 10 20 30 40
C. Van Cor
2008

Appendix D


C. Van Cor
2008
N
W
E
S
Fire History
Highway
2001-2007
1991-2000
1981-1990
1971-1980
1961-1970
1951-1960
1941-1950
1931-1940
1921-1930
1911-1920
1900-1910
Lassen-Modoc Unit
100 Year Fire History
By Decade
0 5 10 20 30 40
Miles

C. Vegetative Wildfire Fuels

The fuels assessment is used to explain the local fire situation. This can help focus attention on fuels management related solutions. These fuels are identified as defined in the "Aids to Determining Fuel Models for Estimating Fire Behavior" NEFS 1574 by Hal E. Anderson.

Fuel models for the National Fire Danger Rating System (NFDRS) have increased to 20, while fire predictions and applications have utilized the 13 fuel models tabulated by Rothermal (1972) and Albini (1976). These fuels have been classified into four groups- grasses, brush, timber and slash.

In the fire plan, we use these fuel models to develop assessments considering the current flammability of wildland fuels, given the location on the slope, the average fire weather severity conditions, ladder fuels and crown density. Each fuel has its own burning characteristic based on various inherent factors, such as fuel moisture content, arrangement and volume. All of these contribute to how a fire will spread in intensity, and ultimately, threaten assets.

Fuel loading is measured in tons per acre; grass is considered a light fuel with approximately ¾ tons per acre. Conversely, thick heavy brush, a heavy fuel, can have a volume of over 21 tons per acre. Fire intensity is directly related to the fuel loading over the landscape. Grass will burn rapidly with short periods of intense and maximum heat output and brush will produce greater heat output for a longer period of time, thus increasing the difficultly to control.

The arrangement of these wildland fuels is critical to how the fuel behaves during a wildfire. Un-compacted fuels, such as grass, will allow for rapid fire spread since more of its surface can be heated at one time. Compacted fuels, such as pine litter, burn slower because heat and air reach only the top of the fuel.

Fuel Types

Vertical arrangement refers to a fuel's ability to spread upward into the treetops. These are called ladder fuels and are influential factors in fire spread. The ignition of ladder fuels allows the fire to spread from the ground into the treetops. Crown or canopy refers to the tops of trees or the limb cover of the vegetation. It is very important during a timber fire, as fire has the potential of using ladder fuels to gain access to the tops of the trees and become a moving crown fire. These fires can spread as fast as a grass fire from treetop to treetop.

(Note: See Appendix E for Fuels Map)

FIRE MANAGEMENT PLAN 2008

Lassen-Modoc Unit

Common Fuel Models within Lassen-Modoc Unit

<u>Fuel Model 1</u>

Grass

The fine, very porous, and continuous herbaceous fuels that have cured or are nearly cured govern fire spread. Fires are surface fires that move rapidly thought the cured grass and associated material. Very little shrub or timber is present, generally less than one third of the area.

- Total fuel load, <3” dead and live, tons/acre = .74
- Dead fuel load, ¼”, tons/acre=. 74
- Live fuel load, foliage tons/acre = 0
- Fuel bed depth, feet = 1.0

<u>Fuel Model 2</u>

Grass and Pine

Fire spread is primarily through the fine herbaceous fuels, either curing or dead. These are surface fires where the herbaceous material, in addition to litter and dead-down stem wood from the open shrub or timber over story, pine stands may include clumps of fuels that generate higher intensities and that may produce firebrands.

- Total fuel load, greater than 3” dead and live, tons/acre = 4.0
- Dead fuel load, ¼”, tons/acre = 2.0
- Live fuel load, foliage, tons/acre = 0.5
- Fuel bed depth, feet = 1.0

<u>Fuel Model 4</u>

Brush

Fire intensity and fast-spreading fires involve the foliage and live and dead fine woody material in the crowns of a nearly continuous secondary over story. Stands of mature shrubs, 6 or more feet tall, such as California mixed chaparral. Besides flammable foliage, dead woody materials in the stands significantly contribute to the fire intensity. Height of stands qualifying for this model depends on local conditions. A deep litter layer may also hamper suppression efforts.

- Total fuel load, < 3” dead and live, tons/acre = 13.0
- Dead fuel load, ¼”, tons/acre = 5.0
- Live fuel load, foliage, tons/acre = 5.0
- Fuel bed depth, feet = 6.0

Fuel Model 5
Brush

Litter cast by shrubs in the understory carries fire in this brush model. The fires do not burn intensely (4 foot flame lengths), or rapidly since the young shrubs are green and the foliage does not burn. Usually shrubs are short and almost totally cover the area. Young green stands with no dead wood would qualify.

- Total fuel load, < 3” dead and live, tons/acre = 3.5
- Dead fuel load, ¼” tons/acre = 1.0
- Live fuel load, foliage, tons/acre = 2.0
- Fuel bed depth, feet = 2.0

Fuel Model 6
Brush

Unlike the fuel model 5, fires in this model will burn in the foliage of standing vegetation, but only when wind speeds are greater than 8 mph. Fires burn with an average flame length of 6 feet and spread at a rate of 2,112 feet feet/hour. Interior live oak, young chamise and Pinyon-juniper with sagebrush are all associated with this fuel model. In many instances a fuel model 5 will evolve into this model by the latter part of the summer.

- Total fuel load, <3” dead and live, tons/acre = 6.0
- Dead fuel load, ¼”, tons/acre = 1.5
- Live fuel load, foliage, tons/acre = 0
- Fuel bed depth, feet = 2.5

Fuel Model 8
Timber

Slow burning ground fires with low flame lengths are generally the case, although the fire may encounter an occasional “jackpot” or heavy fuel concentration that can flare up. Only under severe weather conditions involving high temperature, low humidity, and high wind do the fuels pose fire hazards. Closed canopy stands of short – needle conifers or hardwoods that have leafed out support fire in the compact litter layer. This layer is mainly needles, leaves, and occasionally twigs because little undergrowth is present in the stand. Representative conifer types are white pines and lodgepole pine.

- Total fuel load, <3” dead and live, tons/acre = 5.0
- Dead fuel load, ¼”, tons/acre = 1.5
- Live fuel load, foliage, tons/acre = 0
- Fuel bed depth, feet = 0.2

Fuel Model 9
Timber

Fires in this model also burn in needle or leaf fall under a conifer or hardwood canopy, but at a faster rate than in a fuel model 8 and more intensely. Concentrations of heavier dead material add to the possibility of the fire spreading to the crowns of trees. This model is found in a wide range of areas under timber stands which have been treated for fuel reduction, or have seen low intensity fires over the last decade. Concentrations of dead-down woody material will contribute to possible torching out of trees, spotting, and crowing.

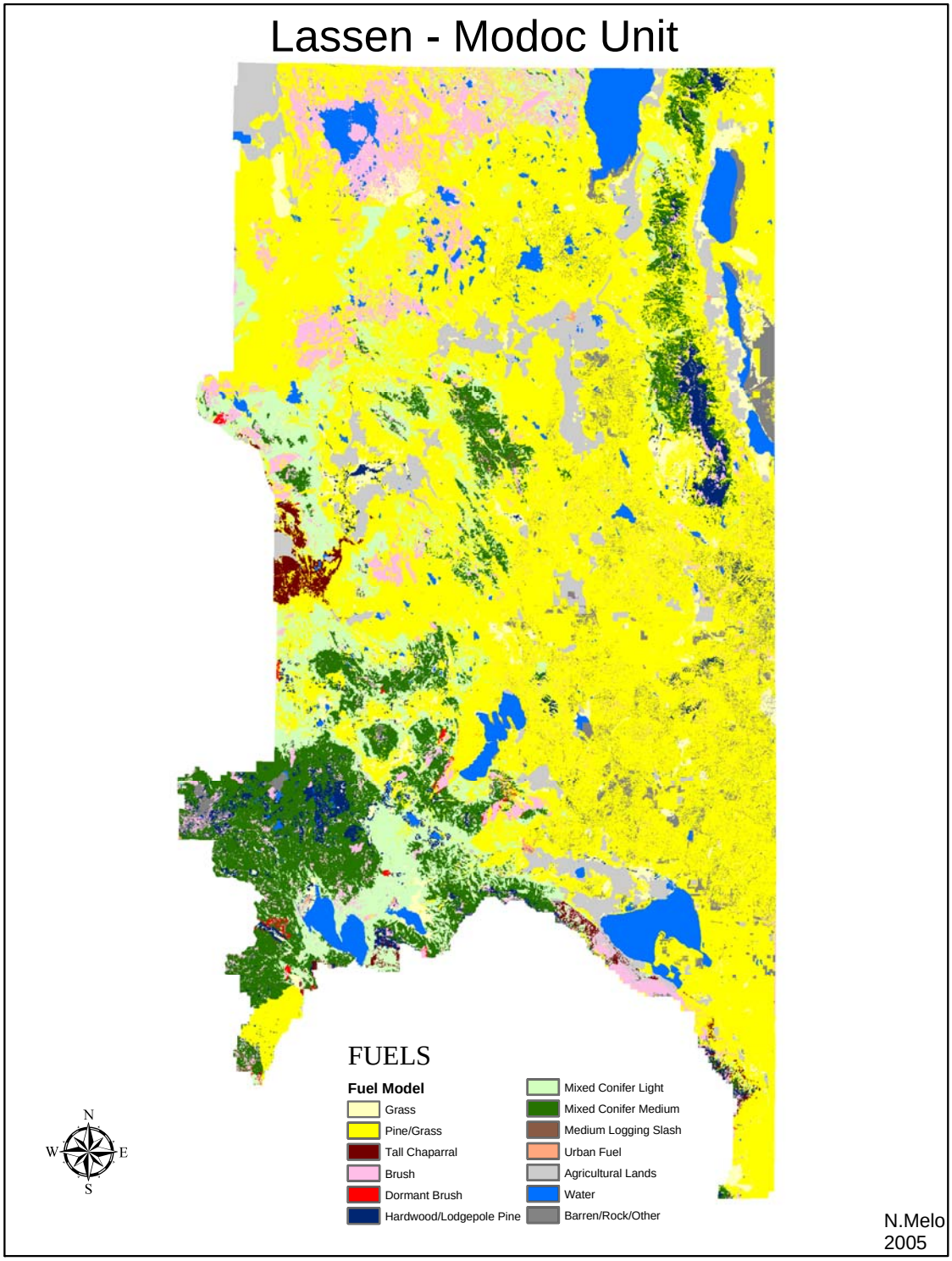
- Total fuel load, < 3” dead and live tons/acre = 3.5
- Dead fuel load, ¼” tons/acre = 2.9
- Live fuel load, foliage, tons/acre = 0
- Fuel bed depth, feet = 0.2

Fuel Model 10
Timber

Fires burn in the surface and ground fuels with greater fire intensity than the other timber litter models. Dead-down fuels include greater quantities of 3-inch or larger limb wood resulting from over maturity or on the forest floor. Crowning out, spotting, and torching lead to potential fire control difficulties. Any forest type may be considered if heavy down material is present; examples are insect- or disease-ridden stands, wind thrown stands, over mature situations with deadfall, and aged light thinning or partial-cut slash.

- Total fuel load, < 3” dead and live tons/acre = 12.0
- Dead fuel load, ¼”, tons/acre = 3.0
- Live fuel load, foliage, tons/acre = 2.0
- Fuel bed depth, feet = 1.0

Appendix E

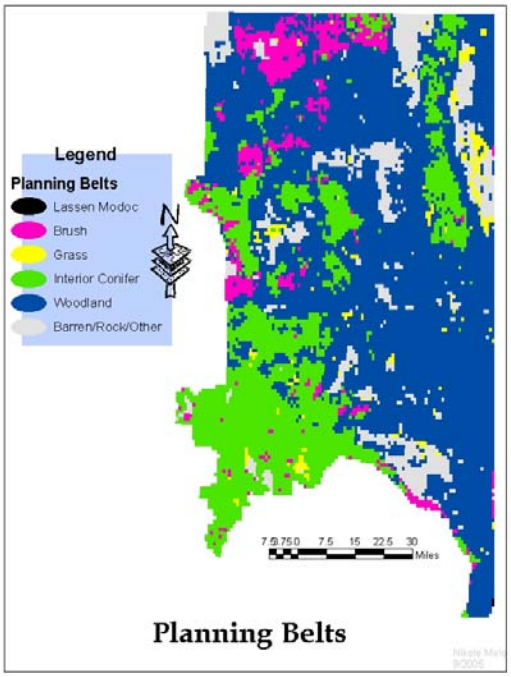

Lassen - Modoc Unit
FUELS
Fuel Model
Grass
Pine/Grass
Tall Chaparral
Brush
Dormant Brush
Hardwood/Lodgepole Pine
Mixed Conifer Light
Mixed Conifer Medium
Medium Logging Slash
Urban Fuel
Agricultural Lands
Water
Barren/Rock/Other
N
W
E
S
N.Melo
2005

FIRE MANAGEMENT PLAN 2008

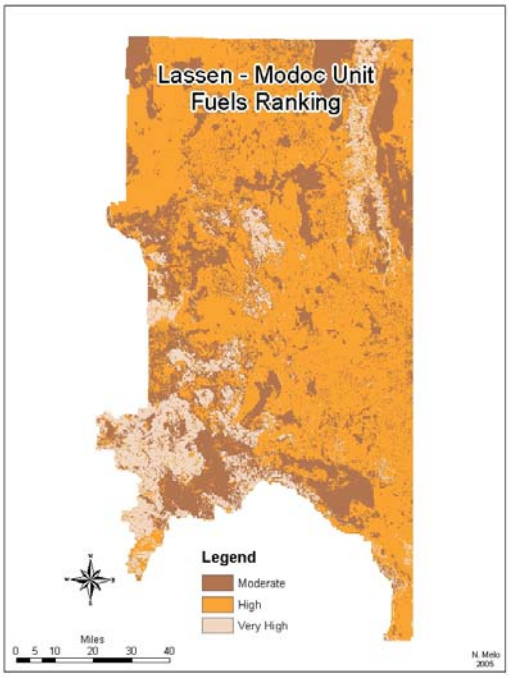
Lassen-Modoc Unit

Determining and Defining Hazardous Fuels

The first step in defining hazardous fuels is the development of vegetation coverage for Lassen Modoc Unit in GIS. Vegetation coverage's are described as planning belts which are areas consisting of similar vegetation types. These zones have similar fire behavior characteristics that impact fire suppression activities and are based on the Fire Behavior Prediction System (FBPS) fuel modeling. The Unit has four planning belt types: Grass, Brush, Conifer and Woodland.



The vegetation types within the planning belts are categorized into the FPBS fuel model coverage as shown in the National Wildfire Coordinating Group Fuel Model as described above. After vegetation coverage's were identified, the past fire history for the unit was overlain on the vegetation coverage. Through analysis, surface fuel characteristics that result from past fires were factored into the creation of a final map, which displays a more accurate account of vegetation coverage, and thus, FPBS fuel characteristics.



The final phases of determining fuel hazard ratings for the Lassen -Modoc Unit involves the combining of crown fuel characteristics and surface fuel characteristics. The method describes additional ladder and crown fuel indices to surface fuels on a given area. If the vegetation data provides sufficient structural detail, the method imputes these additional indices from the data. If the vegetation data lacks structural detail, the method imputes indices based on the fuel model. The majority of indices are based on the FPBS fuel models.

In areas where applicable, the ladder and crown fuel indices convey the relative abundance of the fuel types. The indices take values ranging from 0 to 2, with 0 indicating absent, 1 representing present but spatially limited, and 2 indicating widespread. These indices indicate the probability that torching and crown fires would occur if the stand were subjected to a wildfire under adverse environmental conditions.

The assessment method calculates fire behavior that can be expected for unique combinations of topography and fuels under given weather condition. BEHAVE (Andrews 1986) provides estimates of fire behavior under severe fire weather conditions for FPBS fuel models located on six slope classes. Each fuel model combined with each slope class receives a surface hazard rank.

The total hazard rating includes not only hazards posed by surface fire, but also hazards by involvement of canopy fuels. The hazard ranking method includes this additional hazard component by adjusting the surface hazard rank according to the value of the ladder and crown fuel indices. Specifically, the surface hazard rank increases a maximum of one class in all situations where the sum of the ladder and crown fuel indices is greater than or equal to two.

The potential fire behavior drives the hazard ranking. A rank is attributed to each Q81st in SRA within the unit. The ranking method portrays hazard ratings as moderate, high or very high. The final map displays the fuel hazard ranks within the Unit used as another factor for determining pre-fire management target areas, fire size potentials and information for stakeholders with interests in ecosystem management, fuels management, and pre-fire management.

Knowledge of fire behavior in a given fuel type is essential for designing a defense plan against wildfire. Fires in brush often burn with an intensity that prevents fire crews from safely applying water to the flame front. Timber fires can ignite new fires (called spot fires) miles ahead of the main blaze, making control efforts nearly useless. Only wide scale pre-fire management programs can prevent a potential wildfire catastrophe.

National Wildfire Coordinating Group Fuel Models
Lassen - Modoc Unit Description

Fuel Model #	Fuel bed depth (feet)	Tons per Acre (live)	Tons per Acre (dead)	Flame Length (feet)	Spread Rate (feet/hour)	Comments
1	1	0	.74	4	5195	Dry grass. Not a common fuel found in the unit as found in the foothills and valleys of the Sacramento Valley

2	1	.5	4	6	2331	Dry grass with 1/3 to 2/3 brush or tree canopy. Very common throughout the unit.
3	2.5	2.5	3.01	12	6926	Grass model, not found locally.
4	6	5.01	16.03	19	4995	Thick brush with heavy dead component.
5	2	2	3.5	4	1199	Young or green brush with fire in the litter only.
6	2.5	2.5	6	6	2131	Mature or dry brush with foliage that will burn when exposed to wind.
7	2.5	2.5	4.87	5	1332	Brush model, not found locally.
8	.2	.2	5	1	107	Timber or hardwood with fire burning in light litter underneath.
9	.2	.2	3.48	2.6	499	Timber with fire in slightly heavier litter then model 8
10	1	1	12.02	4.8	526	Timber with heavy dead material underneath.
11	1	1	11.52	3.5	400	Light logging slash from a partial thinning operation
12	2.3	2.3	34.57	8	866	Moderate logging slash
13	3	3	58.1	10.5	899	Heavy logging slash

The local distribution of the fuel models is illustrated in the above map. Model 2 (grass) is found throughout the unit at various elevations; brush is found interspersed among the grass and then migrates into the timbered areas. The average elevation in the unit is approximately 5000 with higher mountain peaks. The entire unit is located on the northeastern plateau of California and the rainfall varies throughout. The Westwood and Bieber area, where predominately heavy timber is found, receives larger amounts of precipitation as compared to the balance of the unit. On the eastern portion of the unit the climate is more arid and the fuels consist primarily of sage and grass, interspersed with pine and juniper.

D. Description of Severe Weather Analysis

Severe fire weather is defined using the Fire Weather Index (FWI) developed by the USDA Forest Service Riverside Fire Lab. The FWI combines air temperature, relative humidity, and wind speed into a one number score. The FWI gives wildland fire managers an index that indicates relative changes in fire behavior due to the weather (fuel and topography conditions are not included in the calculation). Severe fire weather occurs when the FWI, calculated from the hourly weather measurement, exceeds a predetermined threshold.

The threshold FWI is derived from average bad fire weather of (approximately) 95° F, 20% relative humidity, and a 7 mph eye-level wind speed. Frequency of Severe Fire Weather is defined as the percent of time during the budgeted fire season that the weather station records severe fire weather. Individual weather stations are ranked as low, medium, or high frequency of severe fire weather. This ranking can then be applied to the area on the ground represented by the weather station.

Severe Weather Analysis Parameters

FWI CUTOFF	START LOW RANK	START MED RANK	START HIGH RANK
29.725	0%	5%	20%

STATION	OWNER	LAT	LONG	ELEV	WXSCORE	RANK
Ladder Butte	USFS	40.80722	-121.29667	5644	3	L
Ravendale	BLM	40.75417	-120.33333	5491	6	M
Rush Creek	USFS	41.2844444	-120.8524999	4720	3	L
Summit (Hat Mtn.)	NPS	40.50167	-121.423	6850	1	L
Ash Valley	BLM	41.05194	-120.6861	5100	10	M
Bogard RS	USFS	40.59805	-121.08304	5686	1	L
Bull Flat	BLM	40.48083	-120.11388	4395	10	M
Canby	USFS	41.43417	-120.86778	4312	18	M
Chester	USFS	40.28972	-121.08721	4530	3	L
Devils Garden	CDF	41.521	-120.668	5000	9	M
Doyle	USFS	40.02222	-120.10555	4240	5	M
Juniper Creek	BLM	41.33222	-120.47249	4372	11	M
Buffalo Creek	BLM	40.58194	-119.79	4894	16	M
MDF05	USFS	41.4961111	-120.5502777	4370	0	L
MDF03	USFS	41.2844444	-120.8524999	4720	0	L
R504 Portable	USFS	40.46167	-121.35611	7000	1	L
LN3	USFS	40.28333	-121.2	0	0	L
Timber Mountain	USFS	41.63472	-121.30083	5140	10	M
Surprise Portable	BLM	41.17083	-120.05833	5200	5	L
Alturas Portable	BLM	40.9745	-120.72499	6000	0	L
MDF04	USFS	41.49583	-120.55027	4737	0	L
MDF06	USFS	41.49611	-120.55027	4370	0	L
Laufman	USFS	41.13667	-120.345	4858	0	L
Grasshopper	CDF	40.78	-120.77833	6050	1	L
Blue Door	BLM	41.05472	-120.33749	5615	1	L
Horse Lake	BLM	40.63055	-120.50277	5100	9	M
Gordon	USFS	40.7586111	-120.8961111	6200	0	L
LN4	USFS	40.25	-121.08333	0	0	L
Barrell Springs	BLM	41.91111	-119.93889	5835	10	M
Westwood	CDF	40.29889	-120.89167	5800	1	L

WxSCORE

[Severe Wx]/[Wx In Season]. The percent of time a weather station is experiencing severe weather. Non-fire season data is thrown out at this point. The assumption is that during winter the fuels aren't ready to burn regardless of the weather. There are exceptions to this, but trying to count every possible contingency would weaken the result we are trying to achieve.

WxRANK

The Wx SCORE intensity rating is lumped into three categories to create a severe fire weather frequency ranking.

E. Present Projects

BATTALION 1

Battalion 1 has an active LE 38 inspection program in the communities. The goal is to gain *PRC 4291* compliance. During the summer months, the engines from both Susanville and Grasshopper are involved in the program as well as working with the schools and community groups in fire prevention programs.

Burning permits are issued to the public beginning on May 1 of every year and are valid until the 30th of June when all burning is suspended in the unit. LE 5's are issued in conjunction with the local fire protection districts for agricultural burning.

Cal Fire in conjunction with the Lassen County Fire Safe Council and Janesville Fire Safe Council are currently working on several ongoing fuels reduction projects.

Susanville Area

2008 Susanville Fuel Reduction Project Update

Approximately 528 acres were treated in first year of the Lassen County Fire Safe Council's Susanville Fuel Reduction and Watershed Restoration Project. The project was cleared to proceed in July of 2007 and will eventually cover 6,800 acres. 2007 treatments consisted of thinning of small suppressed and dead and dying trees through biomass utilization and mastication of brush.

Timbco thinning trees in the Golden Lane section of the Project

The private side of the project is being implemented by the fire safe council with support from Cal Fire, BLM, US Forest Service, Lassen County, Lassen County Resource Advisory Committee, Pit Resource Conservation District, NRCS, Sierra Nevada Conservancy and the Susanville Indian Rancheria. Each landowner consultation includes *Risk Assessments in the Home Ignition Zone*.

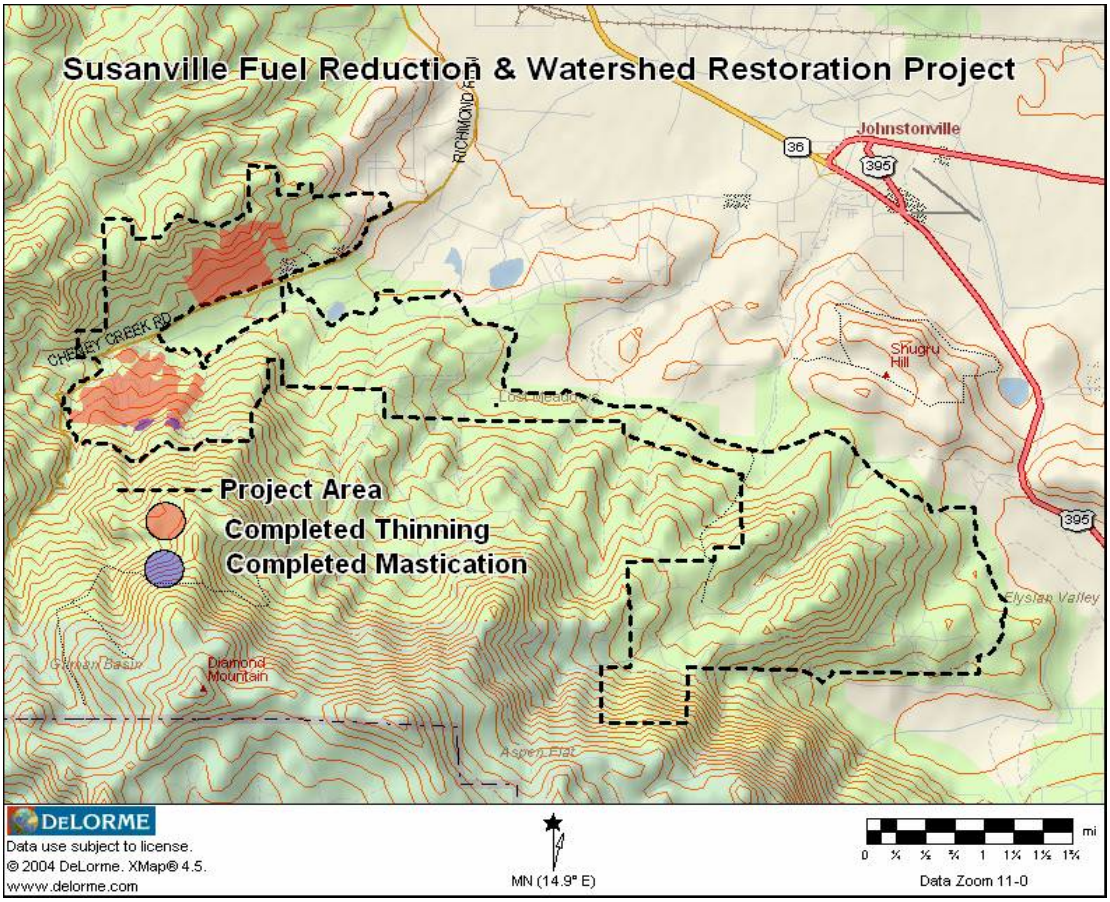
In May of 2007 Lassen County's Project Manager received certification to perform these inspections after attending a Firewise Communities course in Portland, Oregon. These assessments include pointing out areas of ignition risk with individual property owners such as debris accumulation near structures, unscreened vents, potentially flammable items on or under decks and anything else that might ignite if subjected to embers from a nearby wildfire. All treatment work includes helping landowners meet 4291 clearance requirements

US Forest Service is in the initial planning stage of a fuel treatment project along the Diamond Mountain rim adjoining the project to the south that will complement the project. The fire safe council expects to treat up to 1,000 acres in 2008.

Sheared material being processed in the Golden Lane section of the project

Typical fuel load in the project area

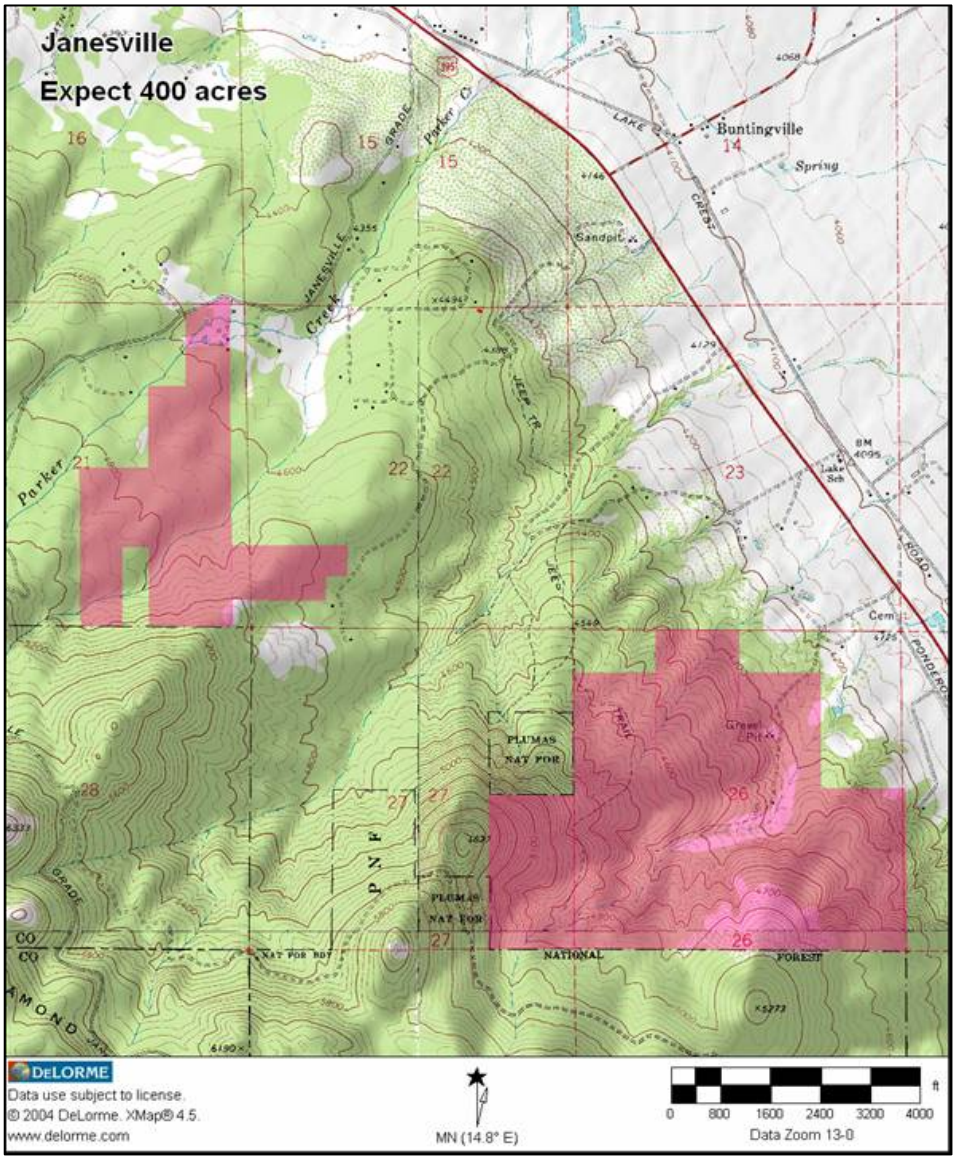
Susanville Project Map



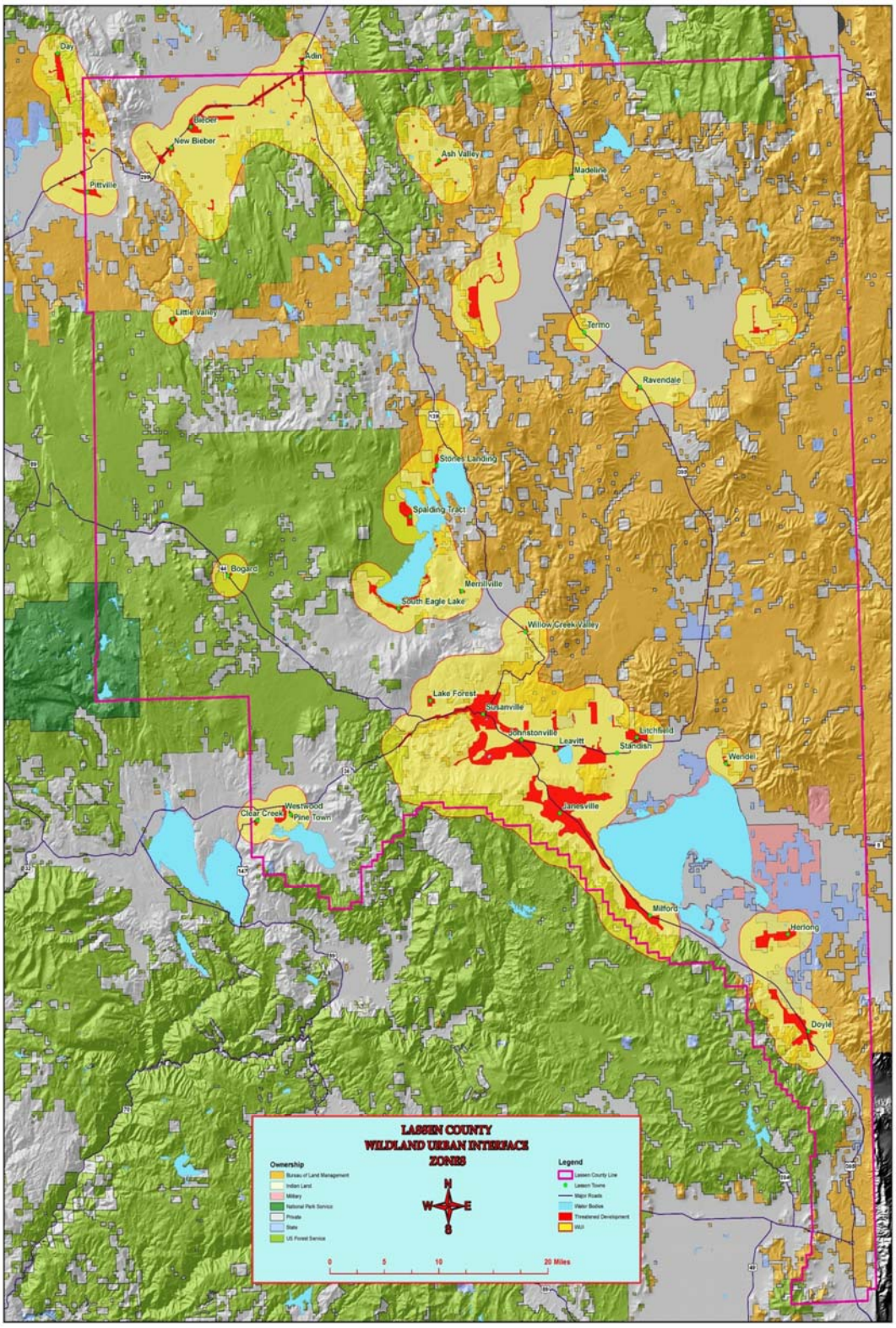
2008 Janesville Project Report

In early 2008 the Janesville Town Council entered into a cooperative agreement with the Lassen County Fire Safe Council, Inc (LCFSC) to implement and manage fuel reduction projects in the Janesville area. LCFSC awarded a 400+ acre landscape scale fuel reduction contract in April and clearance to proceed was issued in May. This biomass utilization contract was awarded for $275 per acre, a substantial reduction in costs from previous Janesville hand treatments. Treatments will include the thinning of overstocked eastside pine forest and the removal of dead and dying trees. Work is expected to begin in June, 2008 with completion scheduled before the end of the year. It is being funded with California Fire Safe Council/BLM funds, a Lassen County Resource Advisory Committee grant, and supported by Lassen County, Cal Fire and the US Forest Service.

Janesville Project Map



Lassen County WUI Zones



Susanville City Water Project There are various project locations around the Susanville area with Cady Springs and Piute Creek the priority. The goal is to remove brush that inhibits water flow at the many creeks and drainages surrounding the City of Susanville and improve the cities flood protection.

Susan Ranch Project The ongoing trail reconstruction around Hobo Camp will prevent further erosion and increase the publics safety. Fuels reduction will also benefit the local habitat and improve the aesthetics of the surrounding area.

Fish and Game Project The project involves constructing fuel brakes around buildings and pumps at the Fleming and Dakin Units as well as removing weeds from the parking areas and general maintenance which includes fence repair, painting and brush removal.

Fish Trap Project Loading, unloading and installing an Alaskan fish weir at Pine Creek near Eagle Lake. The weir will be placed downstream from the California Department of Fish and Games (DFG) trapping facility. The Pine Creek weir will allow (DFG) to control the number of trout that enter the trap each spring and effectively collect eggs for future rearing. This artificial spawning and rearing program is facilitated by the Eagle Lake Fishery.

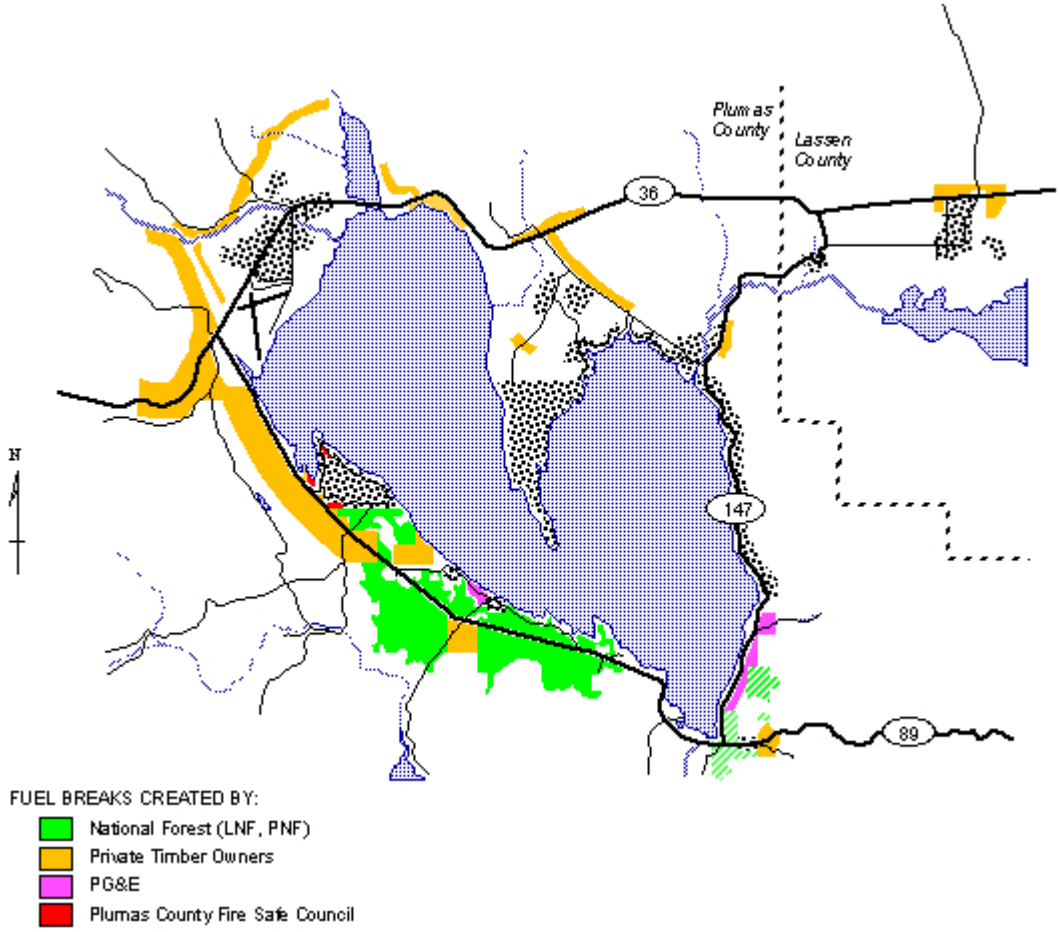
Battalion 2

Battalion 2 has an active LE-38 inspection program in the communities. The goal is to gain *PRC* 4291 compliance in all of the communities within the basin. Eagle Lake Station will continue to patrol and provide fire prevention programs during the summer at the campgrounds around the south end of Eagle Lake.

Westwood Area

Both public and private timberland projects have been favorably influenced in this process, leading to a significant expansion in the coverage of shaded fuel breaks around the Lake Almanor basin. Thanks to this collaborative and proactive approach, most of these added fuel breaks and hazardous fuels reduction (HFR) efforts were accomplished without the need for grant funding. Grant requests were successfully pursued for a few HFR efforts within community areas.

Almanor Basin Fuel Brakes

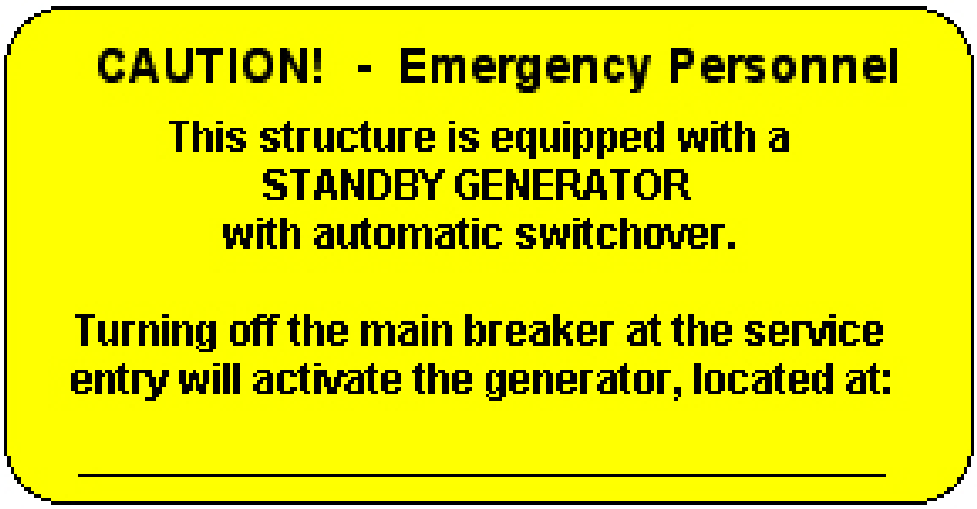


Documentation and public education efforts have included the publication of a number of specific items:

- Local wildland fire evacuation plan, 2001
- Almanor Basin Fire Safe Plan, 2002
- Fire Safe in the Almanor Forest brochure, 2003
- Inputs to:
  - Plumas County Hazardous Fuels Assessment and Strategy, 2004
  - Plumas County Community Wildfire Mitigation Plan (CWPP), 2005
  - Lake Almanor Basin Emergency Preparedness Plan, 2006

Modest amounts of grant funding were obtained and used for printing costs of the locally-produced documents. Public education efforts have included setup assistance to establish an informative website for one of the local fire protection districts http://www.citlink.net/~westalmanorfd, periodic news releases, and the preparation of homeowner materials tailored to the area regarding yard cleanup and tree removal. The Council also created a special safety warning sticker for homeowners to place on their

main electrical service entrance panel in those cases where the residence has a backup electrical generator with an automatic switchover feature. The purpose of the sticker is to alert firefighters to a possible electrocution hazard and the need to disable the generator in the event of a structure fire.



Ongoing projects under the Almanor Basin Fire Safe Council include the following:

- Completion of the alternate (emergency) access route into Warner Valley. This is a joint effort supported by Sierra Pacific Industries and Lassen National Forest.

- Completion of a shaded fuel break around Canyon Dam. This is a project under the auspices of Plumas National Forest.

The Council continues its support of HFR/fuel break creation and maintenance around the basin, as well as support of pre-fire planning and general public education efforts.

FIRE MANAGEMENT PLAN 2008
Lassen-Modoc Unit
Plumas County Projects

Awarded Grants 2002

PC FSC #	Project Name/ Funding Source	Amount	Grant Description	*Status*
02-09	**NSAQMD – Chipping in lieu of Burning** NS AQMD	**$15,000**	To put towards HFR and community defense projects where chipping will occur in lieu of open burning.	**Funds continue to be used for chipping of piles on projects in lieu of burning.**

Grants Awarded 2003

PC FSC #	Project Name/ Funding Source	Amount	Grant Description	*Status*
03-1	Delleker/Portola HFR HR 2389 Title III	**$15,000**	Community outreach and project development to treat 125 acres of Hazardous Fuels between Delleker & Portola, and to hire a Registered Professional Forester to design the project. (Shared w/05-5)	**Project is part of Eastern Plumas HFR RAC project**

Grants Awarded 2004

PC FSC #	Project Name/ Funding Source	Amount	Grant Description	*Status*
04-4	**Canyon Dam HFR Planning** **HR 2389 Title III**	**$40,000**	Provide for the planning and treatment of 550 acres of HFR on public lands administered by the Plumas NF (Shared w/ 04-12)	**Contract is awarded. Work to be delayed for salvage of Moonlight fire**
04-12	**Canyon Dam HFR** **HR 2389 Title II**	**$84,000**	Provide for the treatment of 550 acres of HFR on public lands administered by the Plumas NF (Shared w/ 04-4)	
04-6	**Stewardship Contract Development** **HR 2389 Title III**	**$15,000**	To provide training, outreach and development towards a Stewardship contract on public lands using HR 2389 Title II funds.	**No suitable project found yet**

Grants Awarded 2005

PC FSC #	Project Name/ Funding Source	Amount	Grant Description	*Status*
05-3	**Greenhorn, HFR Planning-RFP** **HR 2389 Title III**	**$10,000**	Hire A RPF for planning to treat up to 30 acres of Hazardous Fuels on CSD lands within the Greenhorn community.	**Contract proposals being evaluated.**
05-7	**Greenhorn, HFR Treatment** **HR 2389 Title II**	**$23,380**	Treat up to 30 acres of Hazardous Fuels on CSD lands within the Greenhorn community (Shared with 07-8)	

07-8	**Greenhorn, HFR Treatment HR 2389 Title II**	**$47,000**	Treat up to 25 acres of Hazardous Fuels on CSD lands within the Greenhorn community (Shared with 05-3 & 05-7)	
05-4	**Grizzly Creek HFR Planning HR 2389 Title III**	**$15,000**	Hire A RPF for planning and managing the treatment of 121 acres of HFR of private lands along Grizzly Creek Road.	**Working with 1 remaining landowner to treat another 6-7 acres. Additional funds being sought**
05-8	**Grizzly Creek HFR Treatment HR 2389 Title II**	**$78,955**	Hire A RPF for planning to treat up to 121 acres of HFR of private lands along Grizzly Creek Road.	
05-5	**Mohawk Vista HFR Project Development HR 2389 Title III**	**$15,000**	For education and organization of property owners and planning a community fuels reduction project.(Shared w/03-1, 06-2 & 06-5)	**Bid prospectus for contractors in development.**
Grants Awarded 2006				
PC FSC #	**Project Name/ Funding Source**	**Amount**	**Grant Description**	**Status**
06-2	**Eastern Plumas HFR CA FSC – USFS Community Protection**	**$86,150**	Treat up to 125 acres of Hazardous Fuels on private parcels in Mohawk Vista, C Road & Portola/Delleker communities. (Shared w/ 03-1, 05-5 & 06-5)	**Due to higher than expected bids on other projects, additional funds are being sought.**
06-5	**Eastern Plumas HFR HR 2389 Title II**	**$36,260**	Treat up to 50 acres of Hazardous Fuels on private lands in Mohawk Vista, C Road & Portola/Delleker communities. (Shared w/ 03-1, 05-5 & 06-2)	
06-3	**Massack HFR\ CDF Prop 40**	**$114,300**	Treat up to 125 acres of Hazardous Fuels on private lands in the Massack area.	**Operations resumed and completion expected by 5/30/08**
06-9	**Massack HFR Planning – RPF HR 2389 Title III**	**$15,000**	Hire A RPF for planning and managing the treatment of 125 acres of HFR of private lands in the Massack area.	
06-4	**Little Grass Valley HFR HR 2389 Title II**	**$64,176**	Treat up to 111 acres of Hazardous Fuels on private parcels in Little Grass Valley (Shared w/06-10)	**Contractor working to find a LTO for biomass.**
06-10	**Little Grass Valley HFR Planning HR 2389 Title II**	**$5,000**	Work with Little Grass Valley communities on wildfire mitigation & evacuation planning (Shared w/06-4)	

PC FSC #	**Project Name/ Funding Source**	**Amount**	**Grant Description**	**Status**
06-6	**La Porte Pines HR 2389 Title II**	**$43,050**	Treat up to 75 acres of Hazardous Fuels on public lands in La Porte Community	**Mastication expected to begin in Spring 2008**

Grants Awarded 2007				
07-1	**Indian Valley HFR CA FSC – USFS Community Protection**	**$191,560**	Treat up to 200 acres of Hazardous Fuels on private parcels in the Indian Valley Area. (Shared w/07-4)	**RPF contacting landowners & assessing treatments & product values**
07-4	**Indian Valley HFR Planning** **HR 2389 Title III**	**$15,300**	Hiring a RPF for the planning associated with treating up to 200 acres of Hazardous Fuels on private parcels in the Indian Valley Area. (Shared w/07-1)	
07-2	**La Porte Rd. HFR** **CDF Prop 40**	**$116,362**	Hire A RPF for planning and managing the treatment of 100 acres of Hazardous Fuels on private lands within the community.	**Treatments identified. RPF will put out prospectus next month**
07-3	**PC FSC Coordination** **HR 2389 Title III**	**$64,659**	Coordination of the Fire Safe Council and community outreach and education with some HFR project development in 2007.	**Coordination activities ongoing.**
07-5	**C Road Right-of-Way Planning HR 2389 Title III**	**$8,500**	For the planning associated with fuel reduction along C Road.	**RPF working with the CSD on property lines.**
07-6	**Taylorsville Campground HR 2389 Title II**	**$35,000**	Treat 35 acre of private land above the Taylorsville Campground	**Contractor selected and operations to start soon.**
07-7	**C Road HFR** **HR 2389 Title II**	**$44,000**	Treat up to 40 acres of Hazardous Fuels on private lands in the C Road community. Complements prior work with projects 04-1, 2, & 8.	**17 acre hand work completed Mastication to begin in June.**
07-9	Elderly/Disabled Defensible Space Assistance **HR 2389 Title II**	$**35,000**	Provide assistance to elderly or disabled citizens who lack the physical or economic capacity to perform their defensible space to meet PRC 4291	**Project coordinator selected. Outreach to begin. Awaiting a contract with PNF.**
07-10	Countywide Educational Workshops SNC- Prop 84	**$27,000**	Provide 6-8 Educational workshops and supporting publication material to residents, businesses & organizations in Plumas County. Uses $28,000 of PC FSC Coordination funds as match.	**Firesafe tabloid & workshops being developed.**
Grants Awarded 2008				
08-1	**Gold Mtn. HFR CA FSC – USFS Community Protection**	**$86,750**	Treat up to 120 acres of Hazardous Fuels on private parcels adjacent to the Gold Mtn. Community	**Awaiting a contract with PNF**

Grants Awarded 2008				
PC FSC #	**Project Name/ Funding Source**	**Amount**	**Grant Description**	**Status**
08-2	**PC FSC Coordination** **HR 2389 Title III**	**$100,000**	Coordination of the Fire Safe Council and community outreach and education with some HFR project development in 2008 & 2009.	**Awaiting Funds**
08-3	**PC FSC Coordination** **HR 2389 Title III**	**$40,000**	To provide project level planning and supervision for community-level HFR projects. Technical and professional staff will be hired by PCFSC to carry out those tasks in at least 8 communities.	**Awaiting Funds**

BATTALION 3

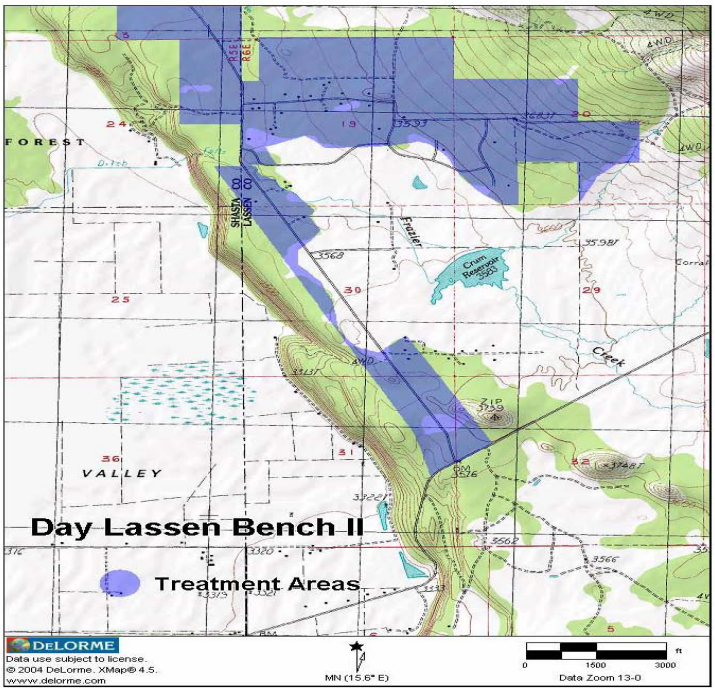
Battalion 3 has an active LE-38 and *PRC* 4291 inspection program. Cal Fire is working with the Lassen Fire Safe Council on several projects in the Day Bench and Adin Area.

Day Bench Area

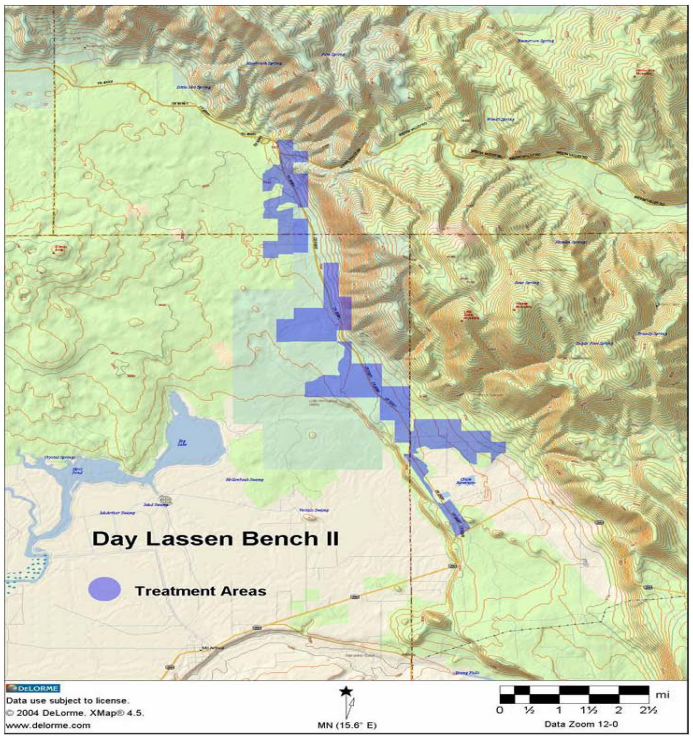
Day Lassen Bench Wildland Urban Interface Fuel Reduction and Watershed Restoration Project

The project began in 2003 when the partners developed a Fire Safe/Community Wildfire Protection Plan and NEPA/CEQA document covering 3,150 acres. Fuel reduction activities began in 2004 and 1,500 acres have been treated to date, 300+ more will be treated this year.

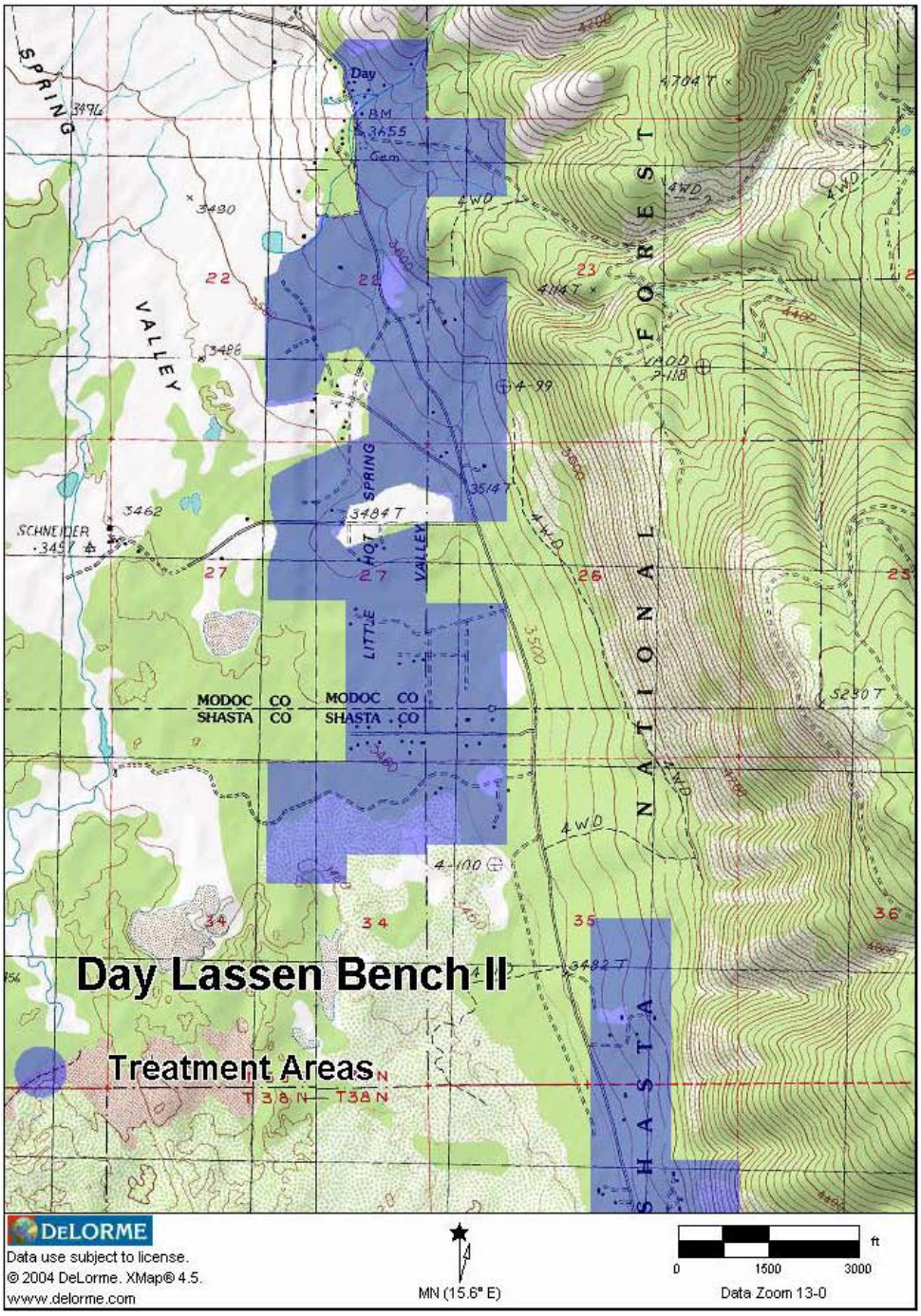
Treatments include thinning of mixed conifer forest using conventional logging equipment with biomass utilization of the removed material as fuel for clean renewable energy. Mastication treatments are also done in brush fuels. Currently, shearing and chipping is in progress at the project. The work will improve and then protect watershed function by reducing over stocking and hazardous fuel loads. Protect the community and wildlife habitat from catastrophic fire.



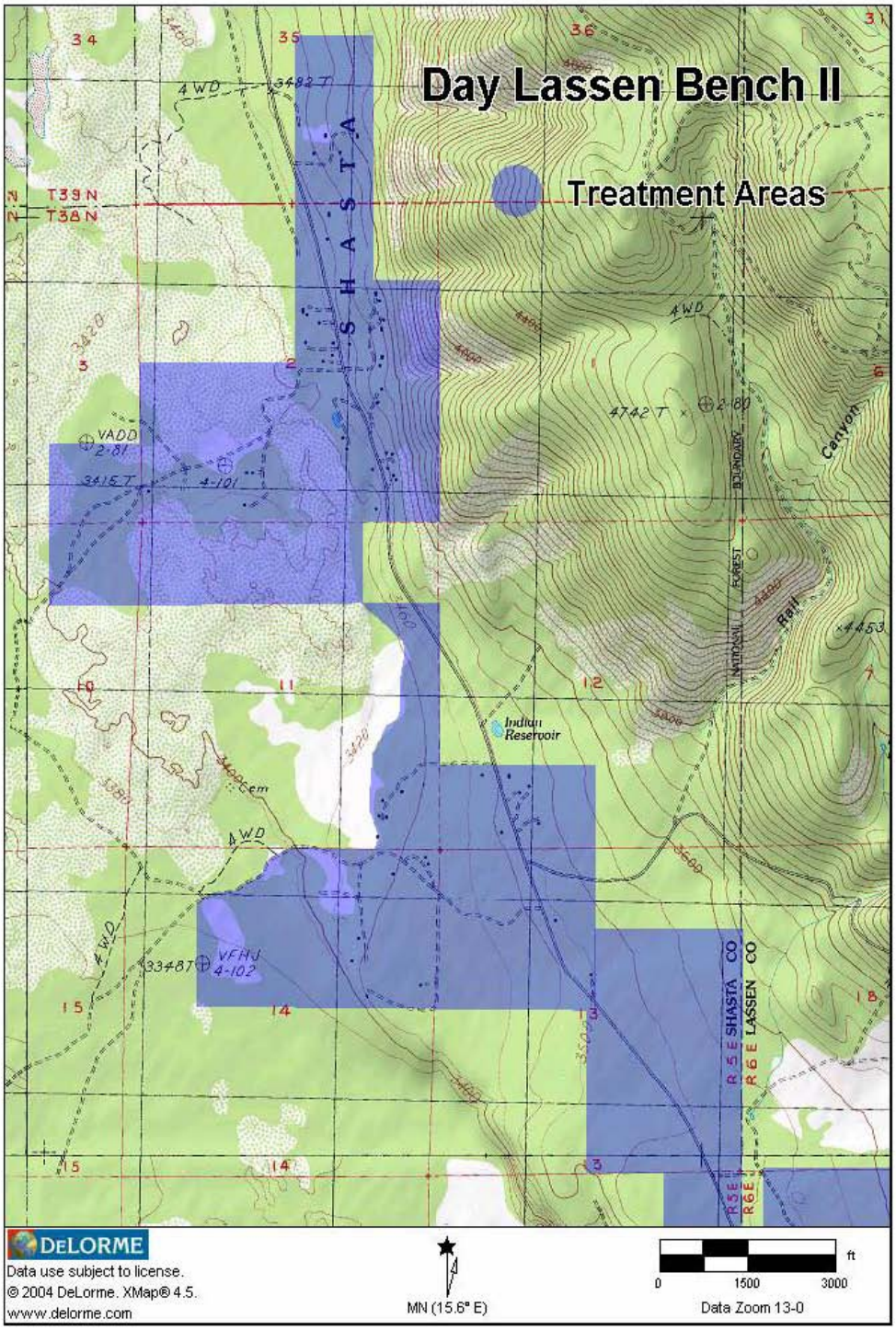
Lassen Day Bench II Project (Map 1)



Day Lassen Bench II Project (Map 2)



Day Lassen Bench II Project (Map 3)



Day Lassen Bench II Project (Map 4)

2008 Butte Creek Project Report

Approximately 550 acres were treated in the Lassen County Fire Safe Council/ Cooperative Sagebrush Steppe Restoration Initiative Butte Creek Fuel Reduction and Watershed Restoration Project. The Project was cleared to proceed in July of 2007. Treatments included the removal of invasive western juniper, dead and dying trees and the thinning of overstocked eastside pine forest. A biomass utilization process produced over 7,000 bone dry tons of chips that were used for fuel in the production of clean renewable energy. Cal Fire Intermountain Camp Conservation Crews preformed hand treatments along stream courses and in aspen groves.

Butte Creek Project

Cal Fire crews at work in the Butte Creek project

The project was implemented on private and BLM managed lands with support from Cal Fire, BLM, US Forest Service, Lassen County, Lassen County Resource Advisory Committee, Pit Resource Conservation District, NRCS and the Susanville Indian Rancheria. Each homeowner consultation included *Risk Assessments in the Home Ignition Zone*. In May of 2007 Lassen County's Project Manager received certification to perform these inspections after attending a Firewise Communities course in Portland, Oregon.

These assessments include pointing out areas of ignition risk with individual property owners such as debris accumulation near structures, unscreened vents, potentially flammable items on or under decks and anything else that might ignite if subjected to

embers from a nearby wildfire. All treatment work includes helping landowners meet 4291 clearance requirements.

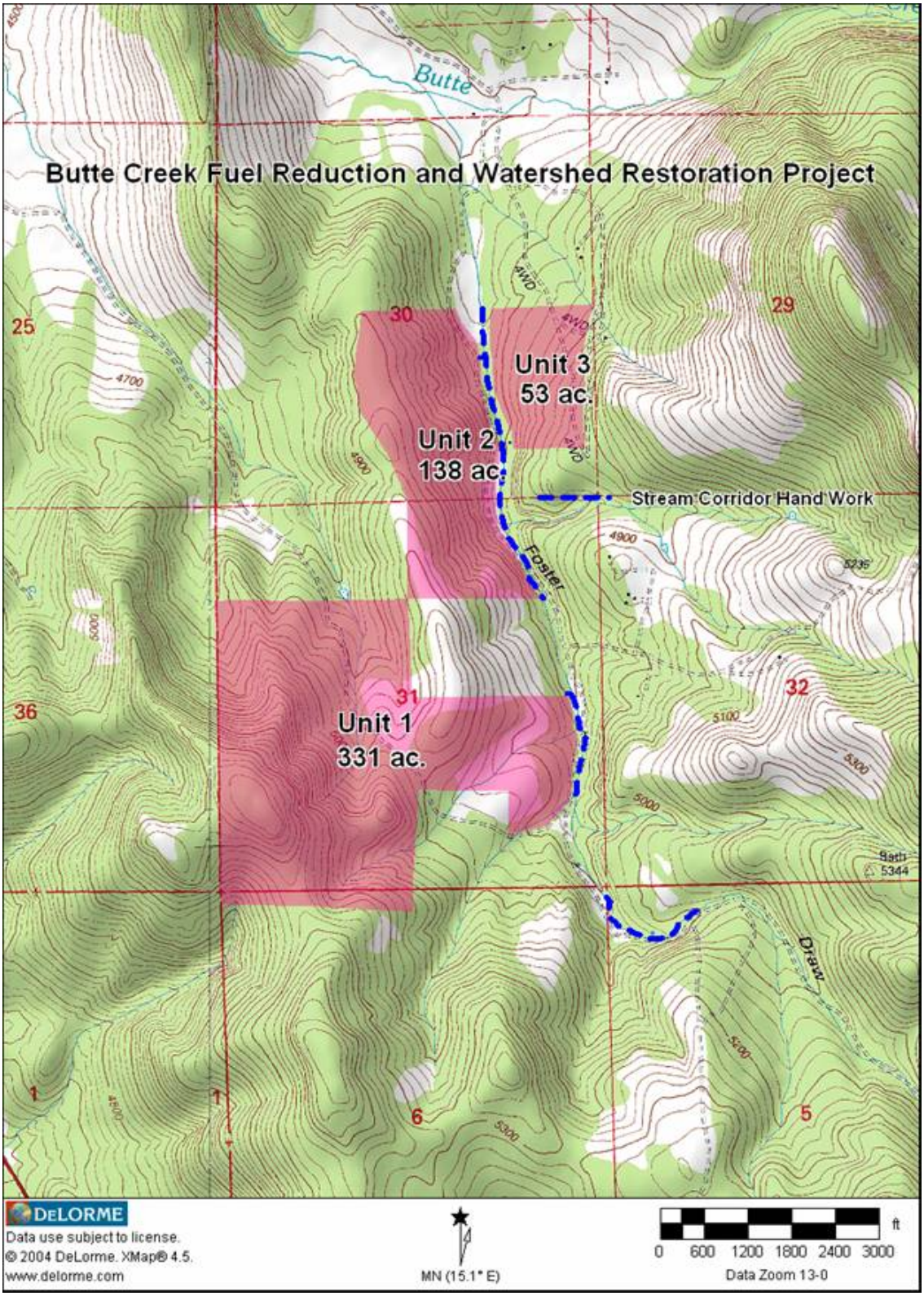
Timbco cutting invasive western juniper in the Butte Creek project

Processing removed fuel in the Butte Creek project

Butte Creek vista before treatment

Butte Creek vista after treatment

Butte Creek Map



Cal Fire Battalion 3 Projects

Butte Creek Estates Fuel Brake This project involves removing junipers around homes in an effort to reduce the fuel load available to a wildfire. Intermountain Camp began the project in 2007.

Day Road Fuel Brake This project consists of removing small trees and brush around the town of Day, which will provide the defensible space needed in the event that a wildfire occurs.

Highway 139 Shaded Fuel Brake An ongoing process as small trees and brush are removed and larger more mature growth is limbed to establish a viable fuel break

Highway 299 Adin Pass Shaded Fuel Brake This project involves removing brush, thinning smaller trees and liming larger growth. This project is ongoing as is several of Intermountain Camps projects are.

Tionesta Fuel Brake In cooperation with the United States Forest Service (USFS) Intermountain Crews have been removing forest fuels including juniper in the Wildland Urban Interface around the community of Tionesta.

BATTALION 4

Battalion 4 has an active LE-38 inspection program in the communities. The goal is to gain PRC 4291 compliance in all of the communities. Along with the LE-38 inspections, Battalion 4 staff are using GPS units to maintain better accuracy when attempting to access roads and driveways into residences.

As of 2007, the Modoc Fire Safe Council has completed the following projects: Lake City Fuel Break, Cal Pines Hills Fuel Breaks, Phase 1, II, & III (with Evacuation Plan), The Community Wildfire Protection Plan, and the Modoc Recreational Estates Fire Hazard Mitigation Plan. The current ongoing projects are the Landowner Assistance Program (assistance for the elderly/disabled residents to clear their 100-ft. defensible space) and the Residential Chipping Program. Both programs are geared towards helping the residents of Modoc County living in rural areas, to comply with the 100-foot defensible space state regulation. The California Fire Safe Council Clearinghouse recently approved the Summerland Fire Hazard Mitigation Plan project for funding.

Cal Fire Battalion 4 Projects

County Road 9 Fuel Brake This project has Devil's Garden crews removing small trees and brush, liming larger trees along the road to create a more defensible fuel brake.

Cal Pines Fuel Brake The project involves removing all dead vegetation and shrub species that have 50% or more dead material. Snags within the project will be removed if

they are less than 24 inches in diameter, Manzanita, Snowbrush and small trees les than 10 feet tall will also be removed.

Ft. Bidwell Fuel Brake The project consists of removing small trees and brush, liming larger trees around homes in the community which will provide a defensible space for Ft. Bidwell in the event of a wildfire.

Lake City Fuel Brake Small trees and brush will be removed and larger trees will be limed around homes similar to the Ft. Bidwell Project to reduce the amount of available fuel to a wildfire.

Tionesta Fuel Brake In cooperation with the United States Forest Service (USFS) and Intermountain Conservation Camp, Devil's Garden Crews have been working to remove forest fuels including Juniper in the Wildand Urban Interface around the community of Tionesta.