

A: FIRE PREVENTION

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-Plumas Unit is that personnel are able to compare the relationship between identified assets at risk and the historic burning patterns of wildfire that allows for more informed decision making processes when preparing fire planning documents and procedures.

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.

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

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.

<u>Planning</u>	<u>Belt Success Rate</u>	<u>Successful I.A.</u>	<u>I.A. Failure</u>
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

ENGINEERING & STRUCTURE IGNITABILITY

Title 24 (addresses fire apparatus access, water requirements, building materials, and construction methods as of 2007)

The purpose of this code is to establish the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety and general welfare from the hazards of fire, explosion or dangerous conditions in new and existing buildings, structures, and premises, and to provide safety and assistance to fire fighters and emergency responders during emergency operations.

Title 19, PRC 4290 (addresses fire apparatus access and water requirements)

These regulations have been prepared and adopted for the purpose of establishing minimum wildfire protection standards in conjunction with building, construction and development in State Responsibility Areas (SRA). These regulations shall become effective September 1, 1991. 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 PRC 4290. These measures shall provide for emergency access; signing and building numbering; and vegetation modification. The fire protection standards contained within PRC 4290 shall specify the minimums for such measures.

PRC 4291 (addresses defensible space around structures)

To ensure continued maintenance of properties in conformance with the defensible space requirements outlines in PRC 4290 and to assure continued availability, access, and utilization of the defensible space provided during a wildfire, provisions for annual maintenance shall be included in the development plans and/or shall be provided as a condition of the permit, parcel or map approval. PRC 4291 is the law requiring annual defensible space be provided around all structures 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.

This law was enacted to prevent fire that originates in structures or on premises to spread into forested areas. It was also created to minimize the chances of a forest fire entering into populated areas and destroying improved property and endangering human life. The history of damaging fires has shown the most devastating danger is the risk of fire originating in the wildland and transmitting itself into improved areas. Most statutory hazard reduction requirements and other hazard reduction measures are based upon this concept. However, the risk of wildfire originating on or about structures and their premises is great, and also causes historically damaging fires. The statutory hazard reduction requirements, and other hazard and risk measures, also mitigate the occurrence of structure and premise wildfire ignitions.

Protection Planning

(Fire Protection planning is reviewed at the subdivision and parcel map level and typically implemented at the development stages of a project.)

CAL FIRE is responsible for enforcing Public Resources Code 4290 (SRA only) and Public Resources Code 4291 within Lassen, Modoc and Plumas Counties. Lassen County has adopted CAL FIRE as the County Fire Warden. The Lassen County Fire Warden is responsible for enforcing Public Resources Code 4290 (SRA only), Public Resources 4291 and Lassen County Ordinance 502 in relation to improvement standards on all new building construction (commercial and residential), parcel splits, subdivisions and use permits within Lassen County.

Code enforcement

CAL FIRE enforces forest, state and county laws and regulations to include Public Resource Code, Health and Safety Code. CAL FIRE also enforces building standards adopted by the State Fire Marshall and published in the State Building Standards Code relating to fires or to fire prevention and protection.

Building inspections

The goal of the fire prevention program is to educate homeowners of measures to prevent the ignition and spread of unwanted human-caused fires. Emphasis should be placed on loss reduction and prevention of large and damaging fires and to provide firefighter safety. One of the necessary tools utilized to accomplish this goal is the structural fire prevention inspection. Inspections are a fire prevention engineering activity. Coordinated with other ignition management activities, the inspections are aimed at eliminating or reducing fire hazards and risks by changing the environment through removing or reducing the heat source, modifying or reducing the fuels, and modifying the act or omission, allowing the heat source to contact the ignitable fuels.

Pre - Plans

Battalion Chiefs have detailed information regarding pre-plans in their response areas.

INFORMATION AND EDUCATION

Education Program

The Unit's Education Program reaches people of all ages. The Unit's Fire Prevention Specialist teaches children from preschool through junior high school about 9-1-1, Stop, Drop and Roll, (EDITH) Exit Drills in the Home, the Consequences of Playing with Fire, etc. Education is delivered to the schools in Lassen, Modoc and Plumas counties through assemblies, class room training, field trips to CAL FIRE stations and more. In addition to school programs the Unit participates in a variety of other events where there is an opportunity to teach children and adults about fire safety, the requirements of PRC 4291, and the advantages of removing ignition sources from around their homes. Some of those events include:

The Fire Prevention Bureau of the Lassen-Modoc-Plumas Unit has a Juvenile Firesetter Program used to identify and educate youth ages 2-14 about the consequences of playing with fire. The program is two-pronged: it involves intervention with juveniles caught playing with fire and education for juveniles at risk of fire play behavior.

The Unit works with Fire Safe Councils and other local, state and federal agencies to educate the public about the importance of preparing for wildfires, encouraging homeowners to work together to protect their communities. CAL FIRE works with agencies to educate the public about the benefits of community fuel breaks and the advantages of reducing the fuels around their homes.

Information Program

The Unit provides information to the public through the Fire Prevention Specialist who acts as the Unit's Public Information Officer (PIO). The PIO prepares news releases for the newspapers and radio regarding burning restrictions, burn permit requirements, tips about burning safely, information on creating defensible space, etc. The Unit provides information to the public through its website that contains current burn information and news releases.

During emergency incidents the PIO provides the public with information about the incident; location, acreage, road closures, evacuations, etc. This is accomplished through news releases and radio announcements and via public meetings, information centers and call centers.

It is through education and information that the Unit reduces ignitions. This is accomplished by educating children when they first enter school and continuing that education through adulthood.

B: VEGETATION MANAGEMENT

Attainment of the fuel reduction goals of the Lassen–Modoc–Plumas Unit Fire Plan will require on-the-ground effort. The use of Cal Fire and CDCR crews and equipment will continue to be necessary in many areas where stakeholders do not have the finances or resources to do an effective job individually or as a group. The Vegetation Management program (VMP) is currently a vehicle which Cal Fire may use resources on privately owned lands. Recently the local Fire Safe Councils have utilized grant funding to promote fuel reduction in high fire danger areas adjacent to communities using a combination of paid Licensed Timber Operator contractors on larger areas and use of CDCR crews for smaller areas near sensitive locations that do not lend well to mechanical equipment. The Unit continues to participate in a joint effort to target at-risk communities and high fire danger areas in the wildland urban interface (WUI) areas in cooperation with the US Forest Service, BLM, Industrial timberland owners and the local Fire Safe Councils.

In place since 1981, the VMP program has been an effective fuels reduction / rangeland improvement tool. Because of increasing competition for smoke allotments, Cal Fire's use of fire to reduce fuel load is in jeopardy and because of this, chipping will likely become the primary disposal method in the future. VMP is a cost-share program; the State's share of a project's cost may range from zero to ninety percent. This is based on a public benefits formula --the greater the benefit to the public, the greater the share of the cost of the project Cal Fire may assume. Fuels reduction projects in critical areas within the Unit as identified in this plan have a high public to private benefits ratio therefore the unit's efforts should be concentrated in these areas. For example, a project in the Janesville area that reduced fuels around the community would have a high public/private benefit ratio and lower landowner participation is then justified. Conversely, potential projects that are essentially range improvement burns that are not near population concentrations will require a higher degree of landowner effort and proportional costs.

This is not to say that rangeland burning is of minor importance. Through this century, range improvement burns have been vital in managing wildland fuels on a landscape basis. However, increasing population in the rural areas has brought constraints such as smoke management and liability concerns. Such constraints have made the LE-7, range improvement project less attractive and has put VMP projects in higher demand with managers from the timber industry and ranchers.

The unit has experienced a sharp decline in VMP projects due to a series of factors including a very narrow burn window for large acreage projects and a lack of available resources during the appropriate window. Staffing levels have been reduced where only the resources required to staff a shift are on at a given time and must be immediately available for emergency.

The Units Willow VMP project expired in April 2011 and was located northeast of Susanville in Willow Creek Valley. This was a dozer pile and burn project that the Unit started but could not complete due to difficulty in scheduling dozer time in the project where roads are only passable during fire season after roads are dry. Burning of piles that were completed could not be carried out until snow was on site and which then resulted in hike-in burning of the piles. A portion of the Willow project was set aside where it was determined that the States involvement would result in use of herbicides on the site. Herbicide use at the time of initial project preparation was not fully covered under the Chaparral Management Program EIR. The Unit has had to reconsider other proposed projects where herbicide use could be an associated result of our actions.

Unit emphasis continues to be placed on community fire protection projects. Focus is also being directed at potentially under burning of eastside pine stands that have been biomass thinned over the last 10 years.

Battalion 1

Willow VMP (Expired 2011)

This approximate 50-acre project was largely a reforestation project on SPI property. The method of treatment largely involved utilizing dozer(s) to pile and/or windrow brush fields present in the project area and then burn the piles. The area completed will be planted with a mixture of conifer tree species in an attempt to get the land back into productive timberland. As described above, the entire project was not completed. Future VMP projects may take place in the immediate area in an effort to get the land back into productive timberland.

Battalion 2

Hog Flat Fuel Break

This approximate 490-acre project is a roadside shaded fuel brake located along both sides of Highway 44 between Gomez Road and the old Goat Fire. Cal Trans and SPI are the project participants. The method of treatment has largely involved the use of Cal Fire inmate crews to hand cut and pile burn the treated material. Work on the project is nearly complete with pile burning as the only remaining activity.

Battalion 3 and Battalion 4

Both Intermountain and Devils Garden Crews have continued to work on CAL-TRANS right of way roadside thinning projects under the direction of CAL-TRANS where visibility is being improved along the roadway and fuel reduction for fire safety is being achieved.

The Unit is also participating in the Federally grant funded Hazardous Fuels Reduction program. Projects have been approved near the communities of Janesville, Hamilton Branch, Bieber at Intermountain Camp and Fort Bidwell. The projects involve use of crews to maintain and improve existing fuel breaks that have grown back in with brush and small saplings and reduce the dead and down fuel, loading that is present. Pruning to lift the live fuel canopy off the forest floor is also being carried out. Where piles cannot be burned, a chipper will be utilized to treat slash generated in the thinning and treatment areas.

Industrial timberland managers are also actively working on fuel reduction through biomass thinning adjacent to communities in a number of locations in the Unit. This is in an effort to both protect the residential areas from any fire originating in the wildland and also to protect the valuable timber resources from any fire started in areas near a community, burning into the timber. The Units Resource Management Staff and Fire Prevention Bureau coordinate regularly to discuss areas of high fire danger and where possible, facilitate a means to obtain fuel reduction in locations of greater threat.