Unit Strategic Fire Plan
Sonoma-Lake-Napa 2011

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Sonoma-Lake-Napa Unit
Fire Management Plan
2011

SIGNATURES

Unit Strategic Fire Plan developed for: Sonoma-Lake-Napa-Unit

This Plan:

- Was collaboratively developed. Interested parties, Federal, State, City, and County agencies within the Unit have been consulted and are listed in the plan.
- Identifies and prioritizes pre fire and post fire management strategies and tactics meant to reduce the loss of values at risk within the Unit.
- Is intended for use as a planning and assessment tool only. It is the responsibility of those implementing the projects to ensure that all environmental compliance and permitting processes are met as necessary.

5/20/11

Unit Chief **Date**

Tim Streblow

5/20/11

Pre-Fire Engineer **Date**

Jon Lovie

EXECUTIVE SUMMARY

The LNU Fire Management Plan's purpose it to identify the high value, high-risk areas within the six counties of Sonoma, Lake, Napa, Solano, Yolo, and Colusa to provide the planning basis for reducing the damaging effects of wildfire. This is accomplished through a comprehensive approach designed to minimize the costs and losses due to wildfire by a variety of means, including response and evacuation planning, cooperative fuel reduction projects, fire prevention, and education.

The Plan utilizes stakeholders' input and the best available Geographic Information System (GIS) data along with other data, to analyze fire hazards and assets at risk. These various analyses are then combined into a fire plan assessment. One purpose of this analysis is to identify the high value and high risks where the potential exists for costly and damaging wildfires. These areas can then be prioritized for the development of mitigating treatments designed to reduce future costs and losses. The five basic components of this fire plan assessments are:

- Unit Overview
- Collaboration
- Values at Risk
- Pre Fire Management Strategies
- Pre Fire Management Tactics

The overall goal of these assessments is to reduce the total costs and losses from wildland fire by protecting assets at risk through focused pre-fire management prescriptions and increasing initial attack fire suppression successes. To accomplish this goal, the framework laid out in the 1996 California Fire Plan guides is utilized. This framework forms the basis of an ongoing fire planning process to monitor and assess the Unit's wildland fire environment. It consists of five strategic components:

1. **Wildland Protection Zones**. A key product of this fire plan is the development of enhanced wildlife safety and "Firewise" communities that reduce citizen and firefighter risks from future large wildfires.

2. **Initial Attack Success**. The fire plan attempts to assess the initial attack fire suppression successes and the Department's ability to provide an equal level of protection to lands of similar vegetation type. This measurement is the percentage of fires that are successfully controlled before unacceptable costs are incurred. Knowledge of the level of service will help define the risk to wildfire damage faced by Public and private assets in the wildlands.

3. **Assets Protected.** The fire plan establishes a methodology for defining assets protected and their degree of risk from wildfire. The assets addressed in the plan are citizen and firefighter safety, watersheds and water, timber, wildlife and habitat (including rare and endangered species), unique areas (scenic, cultural, and historic), recreation, range, structures, and air quality. Stakeholders for each of the assets at risk are identified. The assessment will enable the Unit and other fire service managers to set priorities for pre-fire management project work.

4. **Pre-fire Management**. The plan facilitates development of a wide range of management prescriptions, utilizing every program and tool available to the Department, for protecting assets at risk. These tools include every conceivable combination of fuels reduction, ignition management, fire-safe engineering activities, code development and enforcement, public education, and forest health enhancements to protect Public and private assets.

5. **Fiscal Framework**. The State Board of Forestry and CAL FIRE are developing a fiscal framework for assessing and monitoring annual and long-term changes in California's wildland fire protection systems. State, local, and Federal wildland fire protection agencies, along with the private sector, have evolved into an interdependent system of pre-fire management and suppression forces. As a result, any changes related to budgeted levels of service of any of the entities directly affects the others and the overall services delivered to the Public. Monitoring system changes through this fiscal framework will allow the Board and CAL FIRE to address public policy issues that maximize the efficiency of local, state, and federal firefighting agencies.

The ongoing implementation of the Unit's Fire Management Plan is expected to enhance the wildland fire protection system in the following ways:

- Identify for local, state, and federal officials and for the Public those areas of concentrated assets and high risk.
- Allow CAL FIRE to create a more efficient fire protection system focused on meaningful solutions for identified problem areas.
- Give citizens an opportunity to identify public and private assets to design and carry out projects to protect those assets.
- Identify, before fires start, where cost effective pre-fire management investments can be made to reduce taxpayer costs and citizen losses from wildfire.
- Encourage an integrated intergovernmental approach to reducing costs and losses.
- Enable policy makers and the public to focus on what can be done to reduce future costs and losses from wildfires.
- Integrate elements of the Fire Management Plan into the land use and safety elements of the general plans of each of the Unit's six counties.

SECTION I: UNIT OVERVIEW

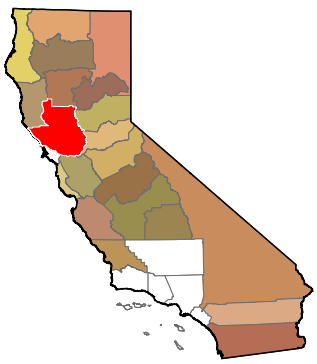
A: UNIT DESCRIPTION

The Sonoma-Lake-Napa Unit (LNU) is one of twenty one (21) California Department of Forestry and Fire Protection (CAL FIRE) administrative units. The Unit was created in 1996 with a merger of the then Sonoma Ranger Unit, and the Lake-Napa Unit. It is comprised of the six counties of Sonoma, Lake, Napa, Yolo, Colusa, and Solano. LNU has primary responsibility for more than 2.3 million acres of CAL FIRE Direct Protection Area (DPA) lands, more than any other unit. It has the third largest population living within CAL FIRE DPA, and ranks the third in average number of annual fires.

The Unit is divided into four divisions and ten field battalions. The boundaries of Sonoma County define the West Division with four battalions. The South Division is defined by Napa County and has three battalions. The North Division encompasses Lake County and has two battalions. The East Division consists of Yolo, Solano, and Colusa Counties and has two battalions.

The Unit has The Mendocino National Forest as a boundary to our North, The Pacific Ocean and San Francisco Bay to our West and South and the Sacramento Valley to our East.

Sonoma-Lake Napa Unit's Headquarters, including the Emergency Command Center (ECC) and the South Division office are located just north of St. Helena in Napa County. Division specific offices are located in smaller facilities in Santa Rosa in Sonoma County, Konocti Camp in Lake County, and Delta Camp in Solano County.

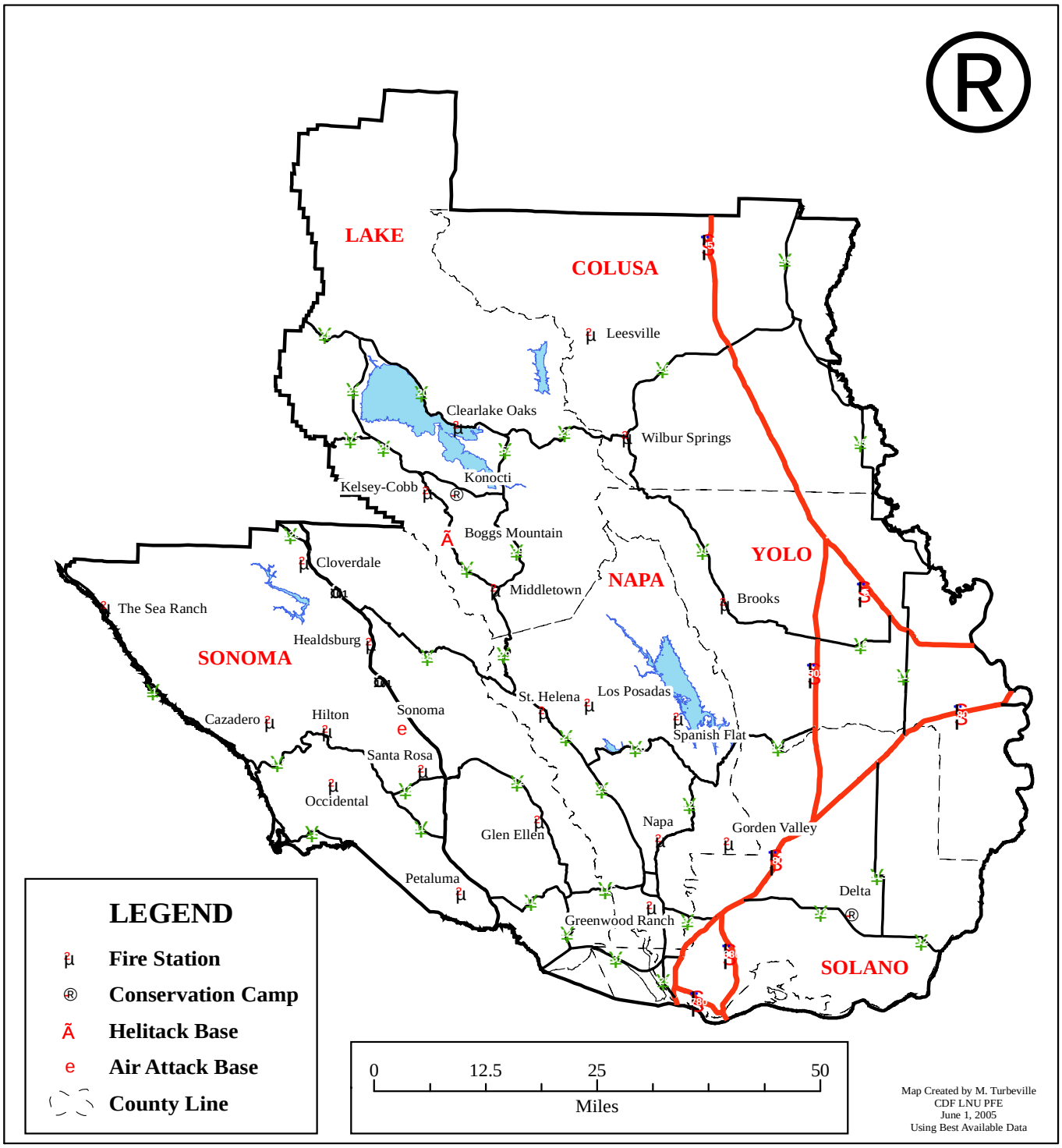


CDF Units

LNU Counties

SRA and DPA Figures per LNU County

County	SRA Acres	SRA Persons	SRA Houses	DPA Acres	DPA Persons	DPA Houses
Colusa	270,899	708	392	297,360	610	356
Lake	390,084	20,409	11,276	481,598	20,286	11,205
Napa	370,084	17,498	6,741	433,510	17,500	6,742
Solano	93,820	10,751	3,884	96,643	10,751	3,884
Sonoma	793,793	59,030	28,162	817,929	59,041	28,165
Yolo	183,127	1,564	661	209,406	1,564	661
TOTAL:	**2,101,807**	**109,960**	**51,116**	**2,336,446**	**109,752**	**51,013**



LNU Facility Map

The predominant fuel types in the Sonoma-Lake-Napa Unit are grass/oak woodland to decadent chaparral, to mixed conifer forests.

Elevation with the Sonoma-Lake-Napa Unit ranges from sea level to 5000 to 7000 feet on the Mendocino National Forest. The topography consists of long valleys and ridges running North/South. Slopes generally increase as you go from ridgeline to drainage bottom. Steep slopes and drainages can significantly hinder firefighting efforts. Vineyards, crops, roads and other manmade features provide a limited network of barriers that assist firefighting efforts.

A majority of the Units Fire History has occurred along the Highway 16 corridor through Rumsey Canyon. Because of poor access, steep slopes and strong North winds, these fires have burned up to 30,000 acres. Most of the Lake County has been covered by large fires in the last several decades. The largest known fire was the human caused Fork Fire that started in Middle Creek on the border of the Mendocino National Forest just North of Upperlake. The fire burned more than 83,000 acres of brush and timber in 1996. Previous to the Fork Fire was the Mendenhall Fire in 1986 which also started on the Mendocino National Forest by lightning and burned nearly 67,000 acres. Past fire History in Sonoma County has occurred on the Eastern side of the Santa Rosa Plain. These consist of major fires approximately every 10-12 years mostly occurring in the Geysers area consisting of 10,000-12,000 acres. In 1964 a major fire started on Mt. St Helena in Napa County and burned to Santa Rosa. In the Napa Valley fires occurred on and were generally held to, the western aspect between the communities of Angwin and Deer Park as well as Rutherford to Napa along the Silverado Trail.

The Sonoma-Lake-Napa Unit consists of high, medium, and low priority landscapes per the California's Forests and Rangelands: 2010 Assessment.

The overall goal of this plan is to reduce the total costs and losses from a wildland fire through focused pre-fire management prescriptions and increase initial attack fire success.

B: UNIT PREPAREDNESS AND FIREFIGHTING CAPABILITIES

CAL FIRE Facilities

During peak fire season the Sonoma-Lake Napa Unit staffs 21 schedule B stations that house 31 wildland (ICS type III) engines and six bulldozers, one Helitack base (Copter 104), one air attack base with an air attack (Air Attack 140) and two air tankers, two Conservation Camps with California Department of Corrections and Rehabilitation (CDCR) inmates comprised of 11 handcrews.

The Unit has four Divisions North, South, East and West.

The North Division (Lake County) is comprised of Middletown Station (Engines 1451and 1452, Dozer 1448), Kelsey Cobb Station (Engines 1468 and 1478), Clearlake Oaks Station (Engines 1453 and 1473, Dozer 1440), Boggs Mountain Helitack (Copter 104) and Konocti Conservation Camp (5 crews). In addition to the state facilities CAL FIRE has Schedule “A” contract with South Lake County Fire District that includes dispatching and paramedic services.

The South Division (Napa County) is comprised of St. Helena Station (Engines 26, 1479 and 1482, Dozer 1442),Las Posadas Station (Engine 1450), Gordon Valley Station (Engine 1454), Spanish Flat Station (Engine 1459 and 1467, Dozer 1446), Napa Station (Engines 25 and 1472), Greenwood Ranch Station (Engines 27 and 1470) and Yountville Station Engine and Truck 12). There is a Schedule “A” contract at Napa, Greenwood Ranch, Yountville and St. Helena Stations and “Amador” contracts at Napa and Spanish Flat Stations. Napa County Fire Department is also administratively run by Cal Fire and oversees nine volunteer departments.

The East Division (Colusa, Yolo and Solano Counties) is comprised of Leeseville Station (Engine 1458), Wilbur Springs Station (Engine 1456), Brooks Station (Engine 1455) and Delta Conservation Camp (6 crews).

The West Division (Sonoma County) is comprised of Sonoma Air Attack Base (Air attack 140, Air tankers 85 and 85), Santa Rosa Station (Engine 1477), Occidental Station (Engines 1457 and 1462), The Sea Ranch Station Engines 4471 and 1464), Cazadero Station (Engine 1465), Hilton Station (Engines 1463 and 1471), Glen Ellen Station (Engines 1460, 1469 and Dozer 1441), Petaluma Station (Engine 1476), Healdsburg Station (Engine 1461, 1481 and Dozer1440) and Cloverdale Station (Engines 1466 and 1483). The Sea Ranch contracts with CAL FIRE for Schedule “A” services, both Petaluma and Hilton Stations have an “Amador” contract through Sonoma County. Cal Fire dispatches for the City of Cloverdale.

Local Fire Department Agreements

North Division

BLM-CAL FIRE Operating Plan
Lake County MTZ
South Lake Fire Contract
USFS Mutual Aid Mendocino N.F.
USFS Operating Plan Mendocino N.F.

South Division

American Canyon Auto Aid
Calistoga Auto Aid
Napa City Auto Aid
Napa County Contract
Yountville Contract
Napa County Airport Response
Napa Interagency Response Team
St. Helena City Auto Aid
Suisun Auto Aid
Napa Interagency Hazardous Incident Team Agreement

West Division

Cloverdale Auto Aid/MTZ
Forestville Auto Aid
Geyserville Auto Aid
Glen Ellen Auto Aid
Grayton Auto Aid
Healdsburg MTZ
Kenwood Auto Aid
Marin MTZ/Contract
Petaluma Auto Aid/MTZ
Rincon Valley Auto Aid
Russian River Auto Aid
Santa Rosa MTZ
Schelle Vista Auto Aid
The Sea Ranch Contract
Camp Meeker Auto Aid
Sonoma valley Auto Aid
Wilmar Auto Aid

East Division

None

Dispatching Agreements

Napa County Fire Department
St. Helena City Fire Department
Calistoga City Fire Department
Cloverdale Fire District
The Sea Ranch Fire Department
South Lake County Fire District

CAL EMA Napa County Fire Operational Area
CAL EMA Region II Alternate Dispatch

SECTION II: COLLABORATION

A: COMMUNITY / AGENCIES / FIRE SAFE COUNCILS

Representatives involved in the development of the Unit Strategic Fire Plan are included in the following table. Their organization and title are indicated below:

Plan Development Team:

Organization	Representative (title)
Fire Safe Sonoma	Caerleon Safford
Lake County Fire Safe Council	Linda Juntunen
Circle Oaks Fire Safety Committee	Stephen Gort
Mount Veeder Fire safe Council	Greg Holquist
Berryessa Estates Fire Safe Council	John Hallman
Tucker Acres Fire Safe Council	Stan Brody
Madrone Knolls Fire safe Committee	Emery Dameron
Fountaingrove Open Space Maintenance Association	Dennis Searles
Fitch Mountain Neighborhood Association	Laura Tietz
The Sea Ranch Fire Safe Council	Louise DeWilder

Fire as a process, involves the proper combination of three elements: heat, oxygen, and fuel. A wildfire doesn't conform to jurisdictional boundaries. It burns wherever the three elements are present. Therefore, a wildfire, regardless of size, can impact a wide variety of stakeholders. A stakeholder can be any person, agency, or organization with a particular interest in fire safety and protection of assets from wildland fire. In LNU this includes, but isn't limited to, the fire protection professionals from more than 100 paid and volunteer fire departments, nearly one hundred active Volunteers-in-Prevention (VIP), planning staffs from the six counties, air quality staff from six separate air quality districts, and dozens of citizens groups, both formal and ad-hoc, that have engaged the issue of fire protection in their respective communities. In LNU, we recognize that such engagement takes many approaches**.** Our stakeholders have taught us that there is no such thing as a single "standard approach" to reducing costs and losses due to wildfire.

In some instances, concerned citizens have formed exclusively around the issue of fire, in which case they are known as "firesafe councils." In LNU, such councils have been formed at various levels of community and governance. For example, FireSafe Sonoma encompasses the entire County of Sonoma, while the South Lake FireSafe Council encompasses a portion of Lake County that has a common tradition resulting from a geographically influenced fire history and a fire protection district that evolved in response. At an even more local level, the Mt. Veeder FireSafe Council in Napa County is oriented toward a specific community with its' own unique fire safety concerns.

In other instances, long-established community groups can be considered functionally equivalent to firesafe councils. Examples include the Hidden Valley Lake Homeowners Association in Lake County, the Berryessa Estate Homeowners Association and the Circle Oaks Homeowners Association in Napa County, and the Fountaingrove Open Space Maintenance Association and the Fitch Mountain Neighborhood Association in Sonoma County, all of which have worked for years with local CAL FIRE representatives to implement community defense wildfire protection projects. Neighborhood and homeowner groups like these have been in existence for many years and have a long history of addressing common problems of local land use and development, watershed issues, and other local community environmental concerns.

Typical The Sea Ranch Structure and Landscaping

On the northern Sonoma Coast, The Sea Ranch has its' own fire management plan dating back to the 1980s aimed at increasing community wildfire awareness, and the implementation of a combination of fuel breaks and fuel reduction to protect assets, mainly structures, at risk. Dealing with the challenges posed by wildfire is often consistent with these longstanding local approaches.

Other local stakeholders include public and private institutions, such as Pacific Union College, St. Helena Hospital and Health Center, and the California Veterans Home, all in Napa County; the Audubon Society in Yolo County; the Cal Pine Energy Corporation and the Northern California Power Authority, both geothermal energy producers in the Geysers area of Sonoma and Lake Counties; Pacific Gas & Electric, and numerous Resource Conservation Districts throughout the six county area. Unit staff has long worked with every one of these institutions to implement pre-fire management projects of various types.

Various local, state, and federal government agencies also have major stakes in fire safety and protection of assets from wildland fire. At the federal level, LNU has worked closely with the USDI Bureau of Land Management's (BLM) Ukiah Field Office, USDA Forest Service's (USFS) Mendocino National Forest, and the U.S. Army Corps of Engineers on numerous pre-fire management projects over the years. State agencies include the Department of Fish and Game, State Lands Commission, and the Department of Parks and Recreation. The Unit currently has either active or recently completed Vegetation Management Program (VMP) projects on lands administered by each of these agencies.

U.S. Army Corps Lake Sonoma Prescribed Burn in November 2002

The Unit works closely with more than 100 volunteer and paid fire departments. In Napa County, the Unit fulfills a dual function as the Napa County Fire Department. In June of 2003, the Unit partnered with the county fire and planning departments of Napa and Sonoma Counties in co-sponsorship of a regional Fire Wise Community Workshop that engaged many of the stakeholders mentioned above in the Unit's fire management planning process. This process continues today as the Napa FIREWISE Program, which has the full endorsement of the Napa County Board of Supervisors. This countywide program continues to receive federal wildland urban interface (WUI) grant funding. Over and over again, the key issue that arises in all these forums is the growing WUI problem and the related problem of decreasing availability and affordability of homeowner's insurance.

A second key issue in the Unit is the unique class of assets at risk in the Geysers geothermal field. Here, capital improvements that are valued in excess of four billion dollars are vulnerable to some of the heaviest wildland fuel loadings in the Unit. Not only are these facilities at risk to wildfire, they also pose the risk of ignition to themselves. This is due to numerous high-voltage transmission lines associated with the power plants that generate and deliver electricity to over one million Californians daily.

Unit 18 in The Geysers

SECTION III: VALUES AT RISK

A: ASSETS AT RISK

The primary purpose of wildland fire protection is to safeguard the wide range of assets than can be threatened by wildfire. Assets at risk refer to real and societal values that have the potential to be burned or damaged by wildfire. In LNU, these assets include life and safety, structures, water and watershed values, agriculture, rangeland, recreation, air quality, soil resources, wildlife, unique scenic areas, cultural and historic resources. Among the Unit's assets at risk are some of the world's most valuable agricultural lands, which are often interspersed with high-value real estate, both residential and commercial. Sixteen assets have been identified by the State Fire Plan and ranked as to their risk from wildfire.

LNU Agricultural Land Use

The resident population within the Unit is more than 1.2 million. Suburban populations are booming in the southern end of the Unit, particularly in Solano County, along the Interstate 80 corridor that links San Francisco and Sacramento. As available Local Responsibility Area (LRA) lands are used for residential, industrial, and agricultural purposes, there is increasing pressure for development in SRA lands. Accelerated growth is occurring in the population centers of Santa Rosa, Petaluma, Windsor, Healdsburg, Cloverdale, Vacaville, Fairfield, Vallejo, and Lake County. All of these areas are characterized by a growing wildland urban interface (WUI) fire problem.

In addition more than an estimated five million tourists travel through the Unit each year, taking part in a wide variety of recreational activities from wine tasting to enjoying the waterways. The fire ignition history in the Unit is consistent with these human use factors and the state highway and county road corridors.

The Geysers geothermal field, which is located in the Clear Lake Volcanic Area straddling Sonoma and Lake Counties, is a unique asset at risk, and one that plays a large role in the Unit's wildfire protection planning. The complex is comprised of dozens of high value structures, including 22 power generating plants scattered over 30,000 acres of remote, steep, and broken topography of the Mayacamas Mountains. This geothermal field is the largest and most productive in the world. It has an estimated electrical generating capacity of over 2,000 megawatts and supplies power, day in and day out, to over one million California residents. More than four billion dollars in capital improvements is at risk to wildfire in the midst of some of the Unit's most high hazard wildland fuels. The numerous power-generating activities are not only at risk to wildfire, but also have periodically been sources of ignition.

of pre-fire management. Because fire protection resources are limited, it is prudent to allocate them based, at least in part, on the value of the assets at risk. The total Assets at Risk map on the following page (Figure 1& 2) represent an attempt to involve stakeholders in the evaluation of the Unit's wildfire protection system. All assets at risk are equally weighted and included in the modeling. The Q81st are then color-coded corresponding to the percentile in which they belong; i.e. the upper 5% is red.

Areas with a high cumulative asset values can be further evaluated for wildfire hazard. The resulting high risk, high hazard map can be used to prioritize management activities. The initial risk ranking is a somewhat subjective process, though it benefits from the professional judgment and knowledge of the Unit's fire professional staff. In this initial assessment, structures were given the highest weight, timber, infrastructure, water storage, and water supply were given a moderate weight, and all other assets were weighted at relatively low risk from wildfire. The resulting map is currently undergoing wide stakeholder review, and is subject to change over time. Refer to Figures 3 and 5.

Remote Historical Structures

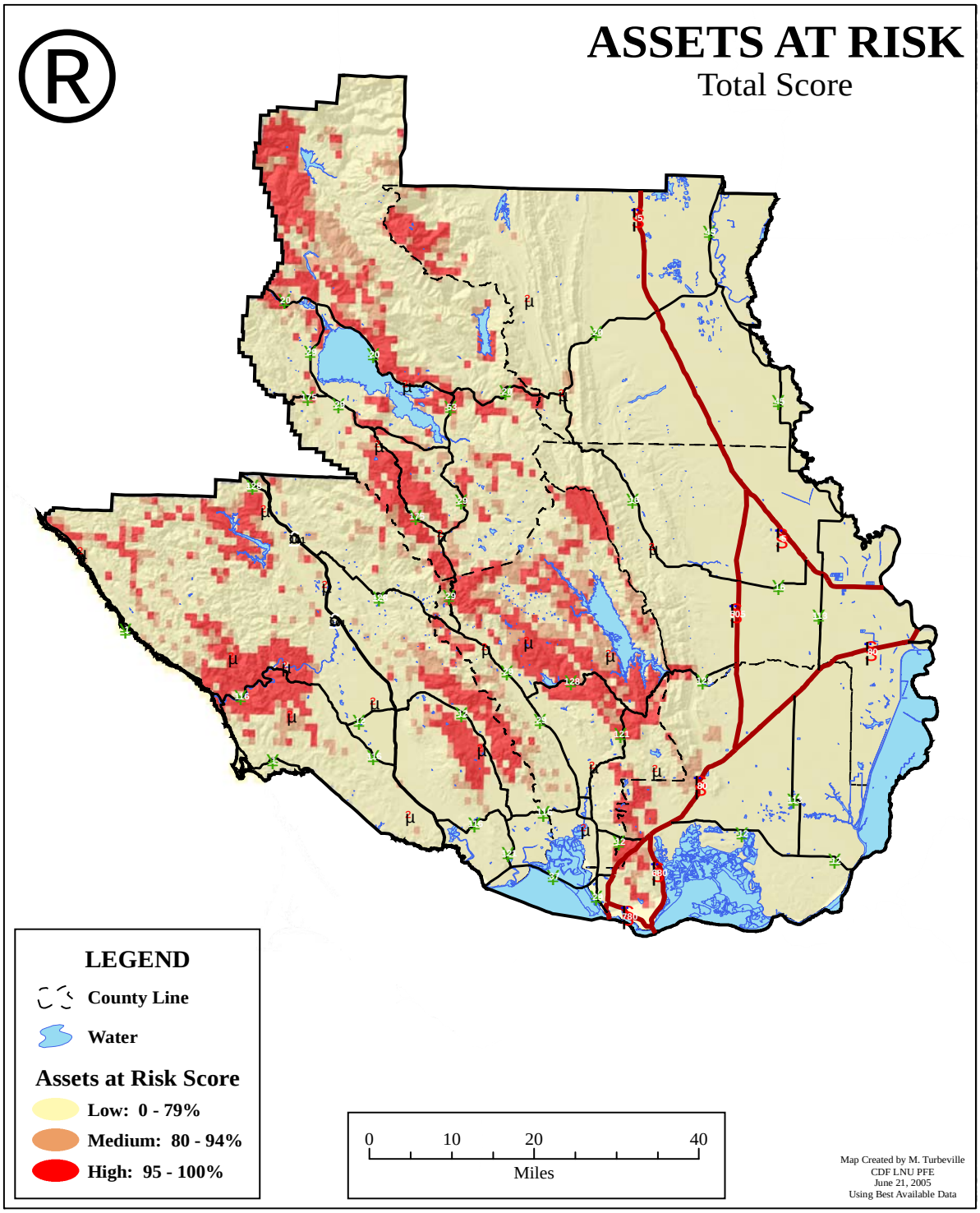


Figure 1: Assets at Risk Map (Total Score)

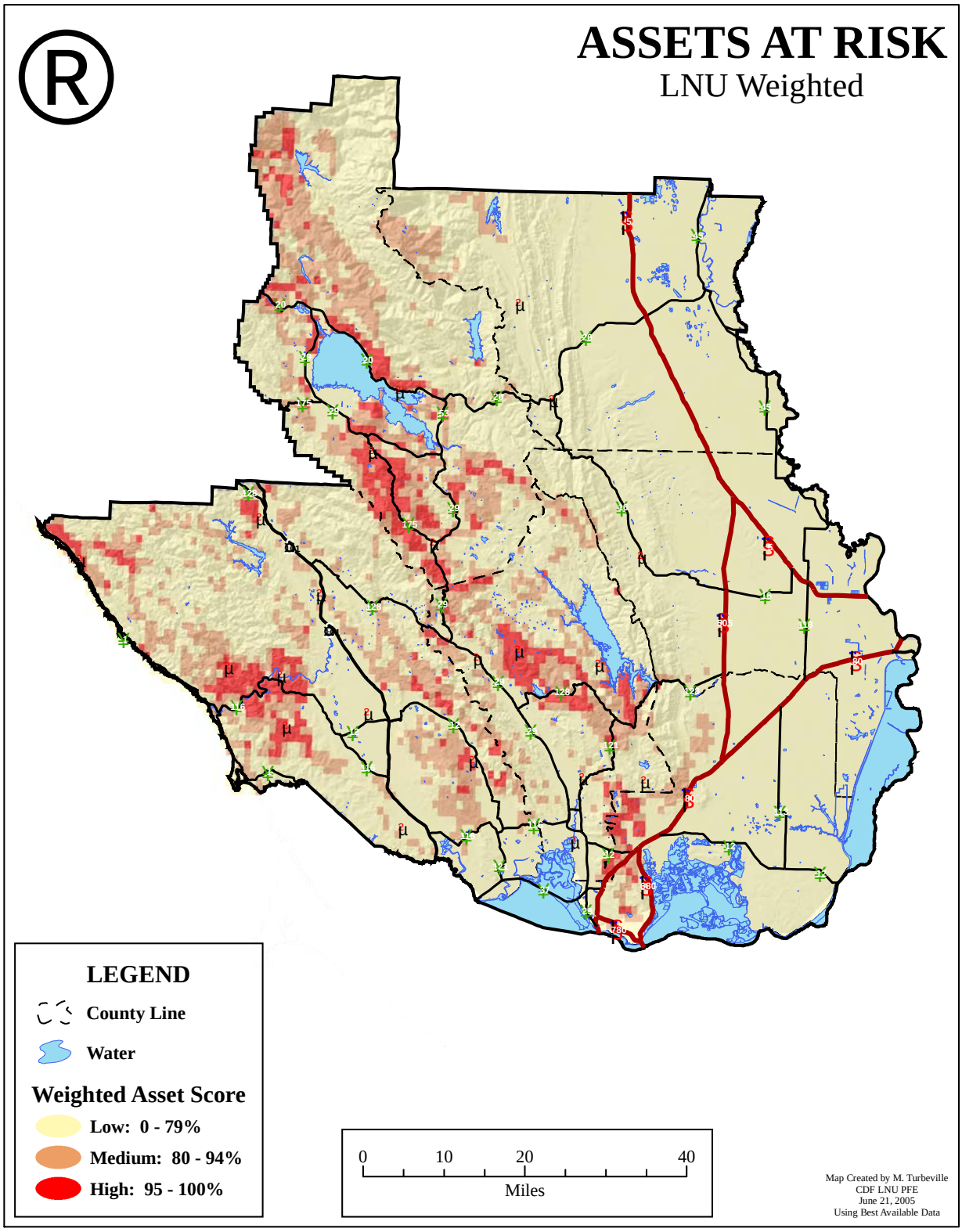


Figure 2: LNU Weighted Assets at Risk Map

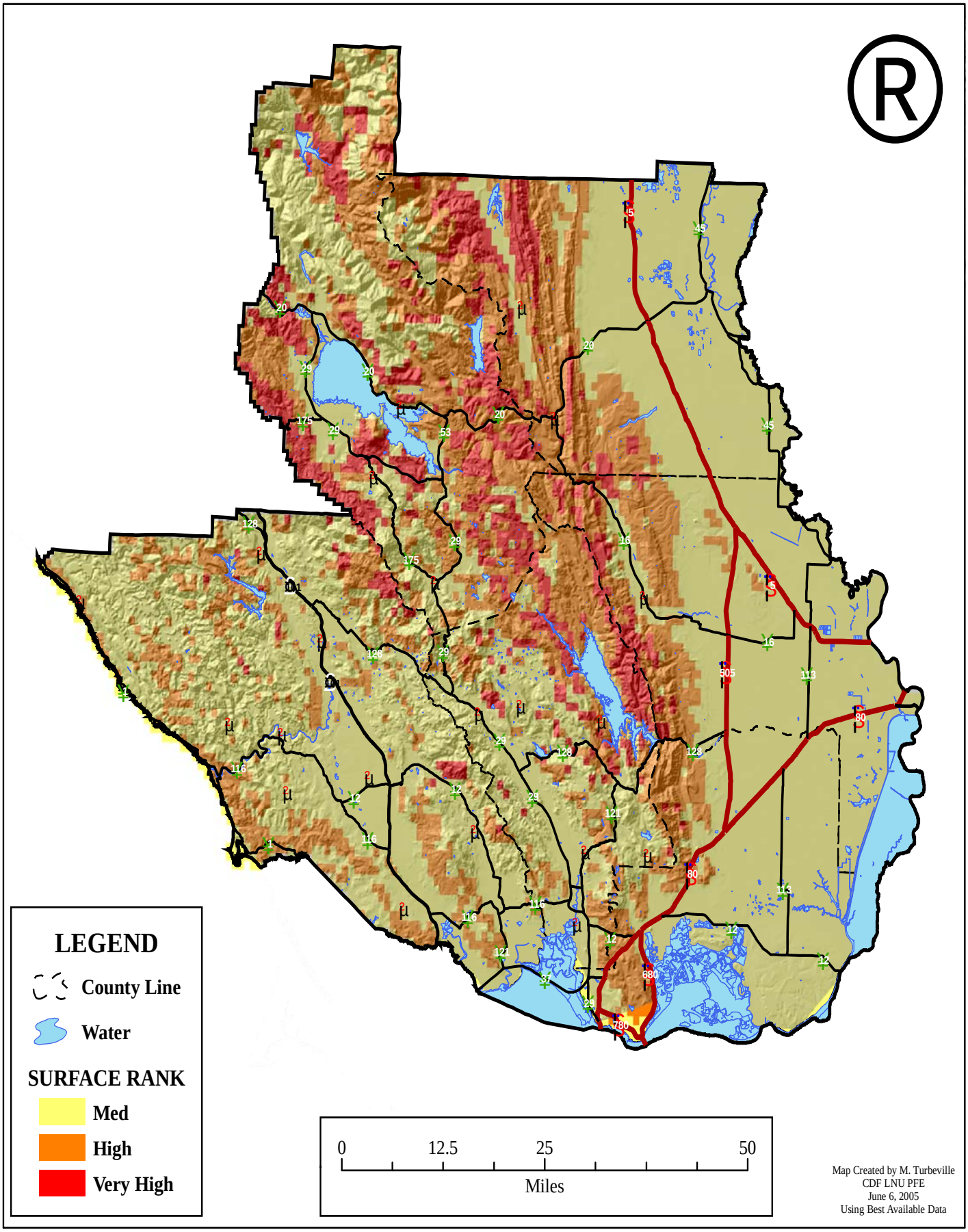


Figure 3: LNU Surface Fuel Ranking

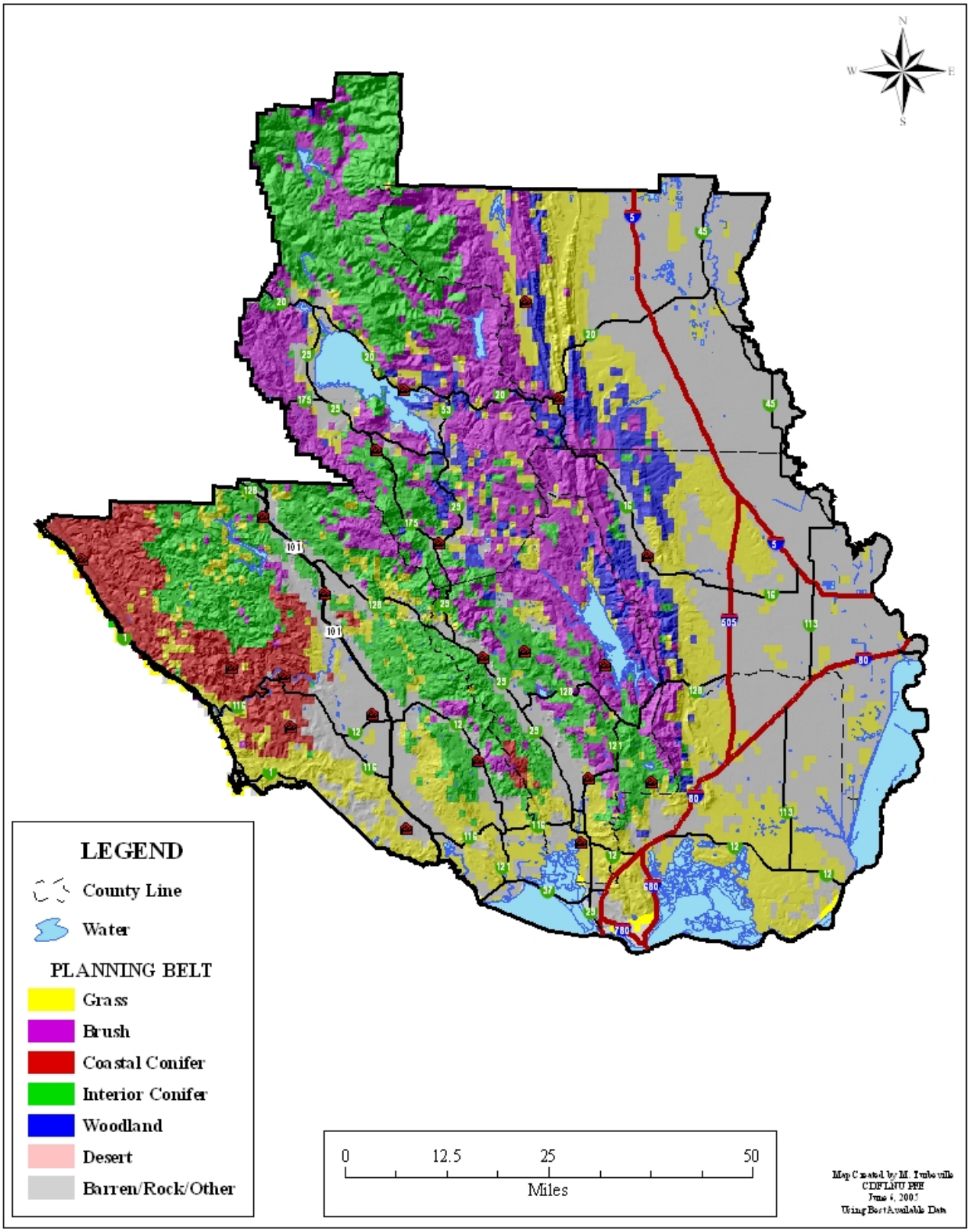


Figure 4: LNU Planning Belts

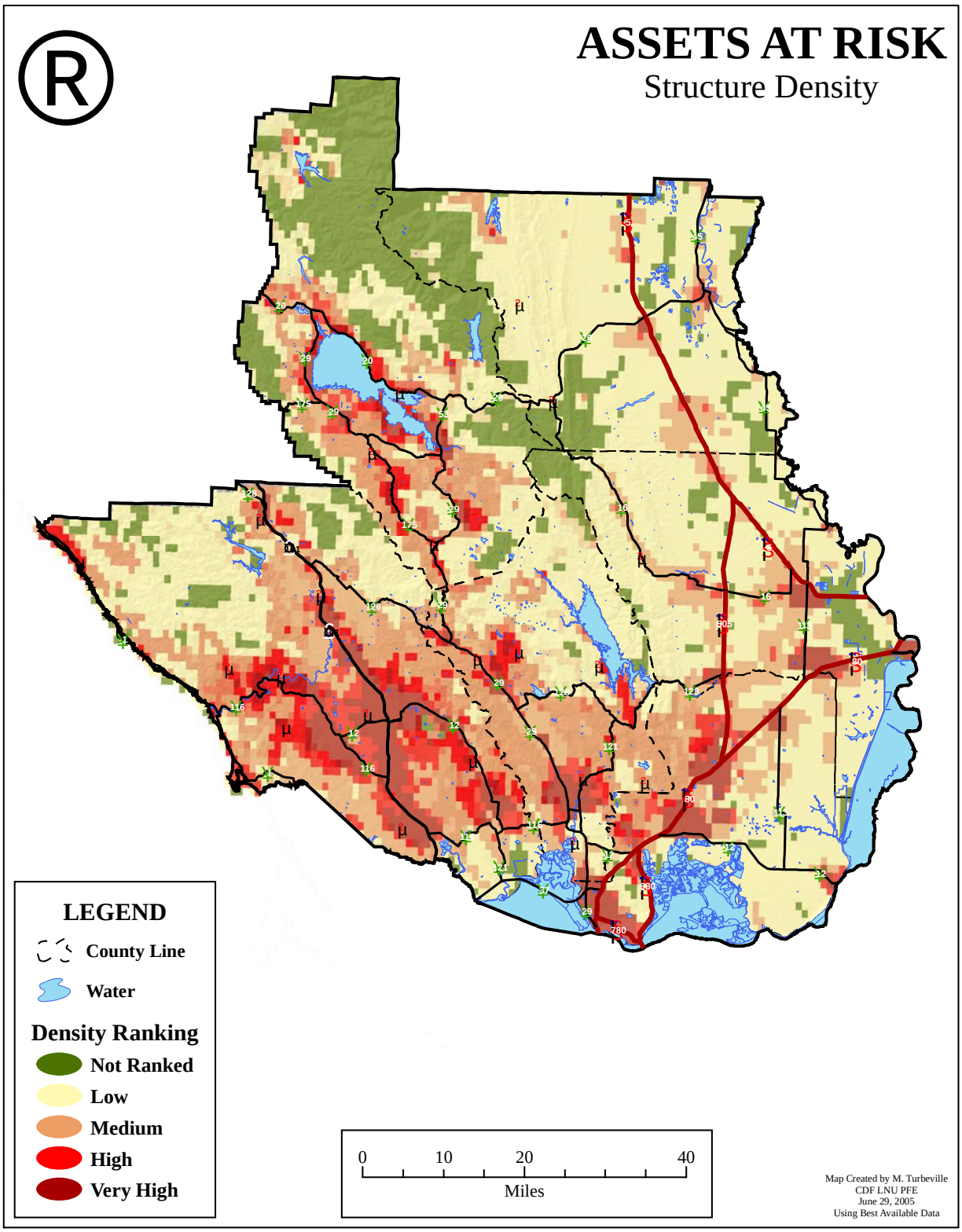


Figure 5 :LNU Structure Density Ranking

B: COMMUNITIES AT RISK

Sonoma County:

Agua Caliente	Annapolis	Asti	Bennett Valley
Bloomfield	Bodega	Bodega Bay	Boyes Hot Spring
Camp Meeker	Cazadero	Cloverdale	Cotati
Duncan Mills	El Verano	Eldridge	Forestville
Geyserville	Glen Ellen	Graton	Guerneville
Healdsburg	Jenner	Kenwood	Larkfield-Wikiup
Monte Rio	Oakmont	Occidental	Petaluma
Rohnert Park	Roseland	Santa Rosa	Sonoma
South Santa Rosa	Stewart Point Rancheria	Temelec	The Sea Ranch
Timber Cove	Two Rock Coast Guard	Valley Ford	Windsor

Lake County:

Anderson Springs	Blue Lakes	Clearlake	Clearlake Oaks
Cobb	Glenhaven	Hidden Valley Lake	Kelseyville
Lakeport	Loch Lomond	Lower Lake	Lucerne
Middletown	Nice	The Geysers	Upper Lake
Witter Springs			

Napa County:

American Canyon	Angwin	Berryessa Highlands	Calistoga
Capell Valley	Circle Oaks	Deer Park	Gordon Valley
Napa	Napa Soda Springs	Pope Valley	Saint Helena
Spanish Flat	Yountville		

Colusa County:

Arbucke	Colusa	Lodoga	Sites
Stoneyford	Williams		

Yolo County:

Capay	Esparto	Guinda	Rumsey
West Sacramento	Winters		

Solano County:

Benicia	Fairfield	Green Valley Estates	Vacaville
Vallejo			

SECTION IV: PRE FIRE MANAGEMENT STRATEGIES

A: FIRE PREVENTION

Goals

The primary goal of the Unit's Prevention Bureau is to limit the number of negligently caused fires. Through training and experience we will increase company officer investigations to reduce the amount of undetermined fires reported in the Unit. The Fire Prevention Bureau will work closely with adjoining agencies to limit linkage blindness for serial arsonist activity.

Objectives

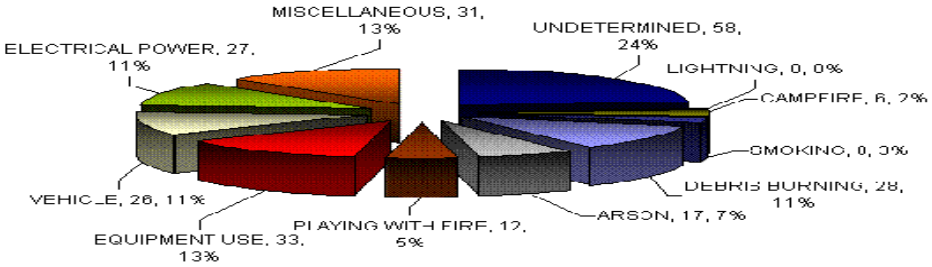
Build on and introduce new public information avenues focusing on LNU cause specific information to prevent ignitions i.e. equipment and debris burning resulted in 61 fires in 2010.

Bi-lateral law enforcement and civil cost recovery levied on electrical utilities to encourage proper conductor maintenance thereby reducing ignitions to 27 in 2010.

By continuing to work towards all company officers being trained to the NWCG FI-210 standard, fewer wildland fires should be undetermined for a final cause allowing for even more accurate ignition problem identification for LNU.

Maintain memberships on Fire Investigation Task Forces within LNU to network with other agency investigators and to share intelligence on possible serial arson activity.

To reduce the number of ignitions.



The top five fire causes where:
1. Undetermined, 58 fires, 24%
2. Equipment, 33 fires, 13%
3. Miscellaneous, 31 fires, 13%
4. Debris Burning, 28 fires, 11%
5. Electrical Power, 27 fires, 11%

The primary cause category for fires within the Sonoma-Lake-Napa Unit in 2010 was: Undetermined. This is based on a 96% LE-66 completion rate.

- ENGINEERING & STRUCTURE IGNITABILITY

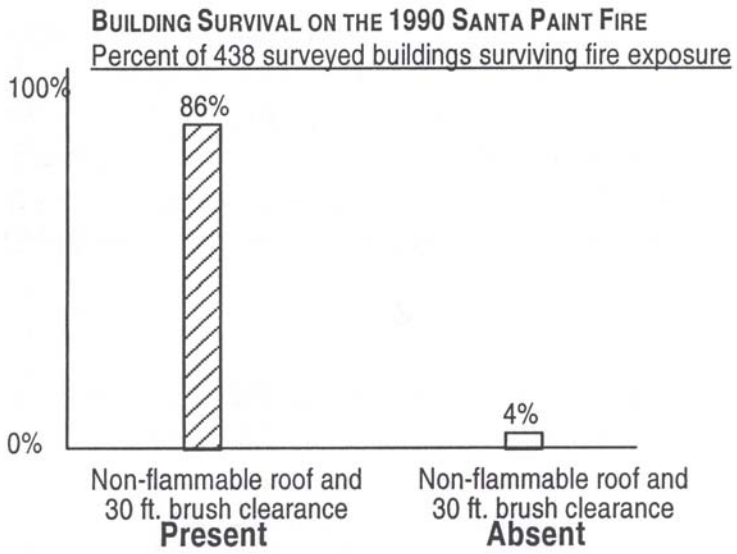
One incomplete aspect of the previously discussed vegetative wildfire fuels analysis is the consideration of structures located within the wildland areas. To a wildfire, a structure is *just* another fuel. And as mentioned before, the only element of the three environmental elements that influence the behavior of wildfire that we, as humans, can change is fuel. If a structure is in the planning stages, design and construction material recommendations can be made to make the structure less prone to ignition by wildfire. However, if the structure is already built, the easiest factor to change may be to implement various fuel modifications around the structures in order to protect them from encroaching wildfires. Public Resources Code (PRC) 4291 addresses fuel modification and the concept of "defensible space." Defensible space can both be thought of for protecting a structure and also providing firefighters with a safe environment to position their fire apparatus and perform the necessary function to prevent the structure from igniting. Unfortunately, the proper building construction and defensible space cannot guarantee that the structure will survive all wildfire possibilities.

Structures Destroyed by Wildfire During 2004 Fire Season

The following excerpt is from a paper prepared by CDF Battalion Chief Ethan Foote, who is assigned to CAL FIRE's Northern Region office in Santa Rosa. Besides writing this paper, he was the principal researcher on the study of the Paint fire that is mentioned in this excerpt.

"One of the major objectives of wildfire control in general, and pre-fire management hazard reduction in particular, is to reduce the loss of life and property. The historical pattern of building loss during interface fires indicates that vegetation fuel management must go hand-in-glove with ignition resistant building construction to maximize the effectiveness of fire loss mitigation measures.

Building loss and survival on the 1961 Bel Air fire, which destroyed 505 houses, was well documented. The report "Decision Analysis of Fire Protection Strategy for the Santa Monica Mountains" found that 71% of the buildings with 26-50 feet of brush clearance survived the fire. However, the survival rate of buildings exposed to the fire increased to 95% for houses that had both brush clearance and ignition resistant building construction (in this case non-wood roof covering). A similar pattern was seen on the 1990 Santa Barbara Paint fire, shown graphically below.



On the Paint Fire, which destroyed 479 houses and major buildings, the survival rate (above) was 86% for houses with both non-flammable roofing and 30 feet of brush clearance. Only 4% of the 438 houses surveyed in the Paint Fire survived where non-flammable roofing and 30 feet of brush clearance were absent. The modeling of structure loss and survival on the Paint Fire revealed that brush clearance alone only "explained" or accounted for 11% of the variation seen in the structure survival patterns. When brush clearance was combined with roof type in the model, and the effect of defensive actions was accounted for, the model explained 59% of the variability in structure loss.

This is strong evidence that vegetation management *alone* will not be able to fully explain, nor mitigate, building loss on wildfires. Hence the need for the comprehensive approach in this plan, using a combination of vegetation management and addressing recommendation for ignition resistant building construction. There is also strong evidence that this comprehensive approach will work to significantly reduce interface losses. The "Los Angeles Time" (1 April 2004) reporting on the Southern California conflagrations of October 2003 clearly revealed the need for, and effectiveness of, combining vegetation management and ignition resistant building construction for reducing building loss in wildfires:

> "Amid the ashes of the mostly costly wildfires in California's history lies evidence of a crucial lesson: Fire-resistant construction and vigilant removal of flammable vegetation significantly improved the odds of a home's survival, according to a Times analysis of fire records from more than 2,300 destroyed structures.
>
> The impression left by an out-of-control fire racing through communities can be one of random destruction, with one house, or a whole block, burned to the ground and the next one spared for no apparent reason.
>
> In fact, according to the Times analysis – which covered homes destroyed by the deadliest of the blazes, San Diego County's Cedar Fire – houses built since 1990 were far less likely to burn than those constructed in any previous decade. Houses built during the 1990s were damaged or destroyed at less than half the rate of houses built earlier."

The communities and homeowners covered by this plan have, for the past 40 years, had recommendations that can be (and have been) taken to reduce the ignitability of structures. An outcome of the 1961 Bel Air fire was the publication of the "Fire Safety Guides for California Watersheds" by the County Supervisors Association of California in

1965. These recommendations have been updated through the years. The current version of these "Fire Safe Guides" is "Structural Fire Prevention Field Guide for Mitigation of Wildfires" and can be found at Http://osfm.fire.ca.gov/structural.html.

These recommendations for ignition resistant building construction include:

- Roofing
- Eaves & Balconies
- Exterior Walls
- Rafters
- Windows
- Doors
- Attic Ventilation Openings
- Underfloor Areas
- Decking

In response to the persistent loss of life and property in wildfires the most important of the recommendations is now a requirement. All new buildings, and significant re-roofing of existing buildings, in the communities covered by this plan are required to have ignition resistant roofing (California Building Code § 1503). The State of California is also in the process of promulgating changes to the state building code expanding the interface roof requirements and including new requirements addressing exterior wall construction, vents, and ancillary structures."

At the time of the writing of this Plan, CAL FIRE is engaged in creating updated and more accurate maps to depict fire hazard ranking areas. The previous map that is still being used was produced nearly 20 years ago and was based upon personal observation rather than using a modeling program such as what GIS can provide using inputs including fuel models and slope classes. Sonoma and Calaveras were chosen as the two initial test counties for a mapping project that will eventually be completed statewide. Future building codes will reference these maps with the intent that structures will be modified based upon what hazard zone it will be built in. For example, a proposed structure in a medium hazard zone wouldn't need as much construction mitigation as the same structure in very high hazard zone.

Figure 18 was produced to depict the concentrations of structures in the Unit. County parcel data was used, and rankings are done using the Q81st defined areas. The colors represent different housing density classes as described in the table below. The term unit is utilized instead of structures because "large" structures such as multi-family dwelling or condominium are considered to have more units per parcel than using "houses."

Density Class	Housing Density
Very High	Over 1 unit per 5 acres
High	1 unit per 20 acres to 1 unit per 5 acres
Medium	1 unit per 160 acres to 1 unit per 20 acres
Low	Less than 1 unit per 160 acres
Not Ranked	Not Populated (e.g. wilderness areas)

Description of Housing Density Classes

Besides what was mentioned in Foote's excerpt, there are other considerations outside of what PRC 4291 encompasses. Some of these considerations are included in local "firesafe" ordinances at the county level such as access, water supply, and addressing. Access refers to the road surface, width, grade, and pullouts to allow passing. Water supply describes on-site water storage and delivery systems. Addressing specifies signing standards in order to locate a structure. These additional considerations are inspected when the structure is built, and it is the structure owner/occupant's responsibility to maintain the road, water supply, and address. Too often this maintenance isn't performed.

And still yet are other hinderers to firefighting such as locked gates, inadequately constructed bridges, roads blocked by vehicles, heavy accumulation of vegetation along road, and bad addresses provided by 9-1-1 operators

Wildland Urban Concerns

Example of good address signing

Example of poor road signing

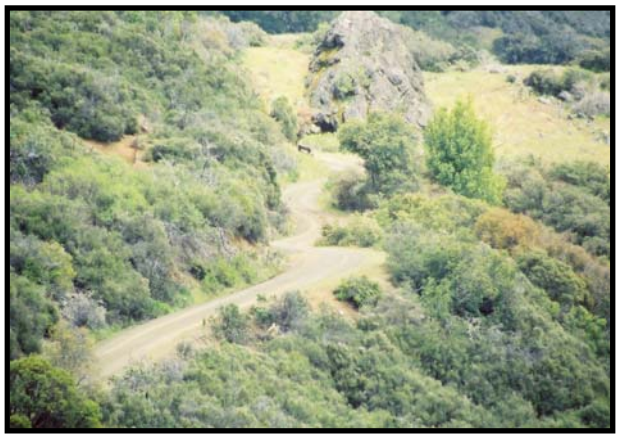
CAL FIRE fire engine

Example of fire protection water storage

Wildland Urban Concerns

Example of poor, overgrown road access

Example of locked gate access



Examples of poor overgrown access

.

CAL FIRE uses an internal form referred to as “LE-100” (Law Enforcement form #100) to complete PRC 4291 defensible space inspections. Common terminology for CAL FIRE personnel is “LE-100 inspections” or “defensible space” inspections.

Additional information regarding defensible space, PRC 4291, and local ordinances is available at CAL FIRE fire stations, and CAL FIRE’s website (www.fire.ca.gov).

- INFORMATION AND EDUCATION

The Sonoma-Lake-Napa Unit remained engaged in public information and education activities in 2010. In 2010, the Unit was asked to report their monthly prevention activities. Doing so gave us a clear picture of activity in the field with regards to public information and education. The Sonoma-Lake-Napa Unit dedicated an impressive amount of personnel hours towards information and education. These efforts were reported to region monthly and reflected well on the Unit. The Unit participated in over 2,691 hours of public education activities, making an estimated 57,169 public contacts. This effort represented 10% of the total Region effort in information and education hours, a fact we can all be proud of.

Every contact with a member of the public is an opportunity to educate. The importance of fire safety, whether the message is defensible space, exit drills in the home (E.D.I.T.H), changing smoke detector batteries, or dialing 9-1-1; these messages must be delivered to the public whenever possible. It is critical that each public contact contain an element of education.

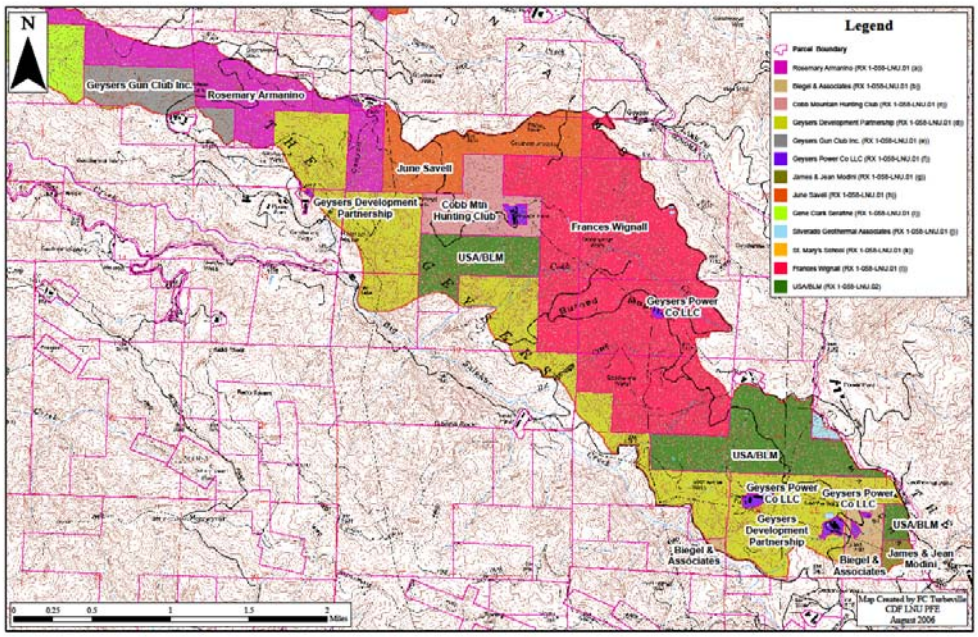
Department wide, the new website, readyforwildfire.org has progressed the department's defensible space message. Each and every Unit employee should be aware of this website and its benefits for educating the public on defensible space and general fire resistive building construction.

The Sonoma-Lake-Napa Unit is situated a major media market. This reality makes delivering our messages difficult. By placing signs in high traffic areas, and increasing our personal interaction, we are able to combat our limited interaction with the media. The fire service makes contact with people on the worst day of their lives, what we teach them about fire safety can reduce the impact of that worst day, or help avoid it entirely.

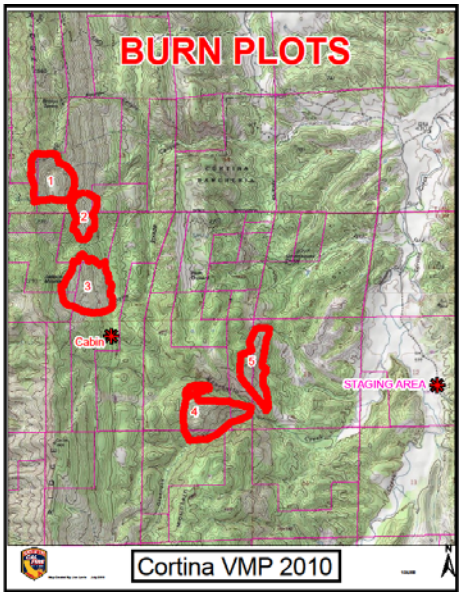
B: VEGETATION MANAGEMENT

The Vegetation Management Program (VMP) is a cost-sharing program that focuses on the use of prescribed fire, and mechanical means, for addressing wildland fire fuel hazards and other resource management issues on State Responsibility Area (SRA) lands. The use of prescribed fire mimics natural processes, restores fire to its historic role in wildland ecosystems, and provides significant fire hazard reduction benefits that enhance public and firefighter safety.

Currently LNU is working on two VMP projects, the Geysers in Northern Sonoma County and the Cortina Ridge in Colusa County.



Geysers VMP



Cortina VMP

FUELS REDUCTION

LNU is actively conducting several fuels reduction projects throughout the Unit. These consist of shaded fuel breaks in areas identified in the communities at risk section of this plan (these areas are also identified appendix A "High Priority Pre Fire Projects").

SUPPRESSION REPAIR

After a damaging wildland fire the Unit will take every measure to assure the act of wildland fire suppression repair is completed. The objective of wildland fire suppression repair is to provide for prompt action following wildfire and associated fire suppression activities to minimize, to the extent practical:

1. Loss of soil and on-site productivity.
2. Discourage the spread of noxious weeds.
3. Deterioration of water quality and adverse change in runoff characteristics.
4. Threats to life and property, both on-site and off-site.

FOREST AND RANGE HEALTH

Unique to LNU, there are two State Forests managed by the Department on behalf of the public. Boggs Mountain Demonstration State Forest (BMDSF) is a 3,493-acre mixed conifer forest located in Lake County and Las Posadas Demonstration State Forest (LPDSF) is a 796-acre mixed conifer forest located in Napa County, which also incorporates the most eastern stand of redwood in California.

State Forests are working landscapes that are mandated to conduct research, demonstration, and education on sustainable forestry practices using active forest management, including periodic timber harvests. Management of the State Forests is required to protect values relating to recreation, watershed, wildlife, range and forage, fisheries, and aesthetic enjoyment. The concept of forest sustainability includes the protection of forest ecosystems, both terrestrial and aquatic. Important issues include stewardship of managed forestlands to maintain biodiversity and ecosystem functions thereby providing healthy forest and rangelands. Timber harvesting also significantly reduces the amount of fuel continuity on the State Forests through the removal of snags, providing shaded fuel breaks, burning slash debris, and restoring road systems to enable better egress and ingress for fire equipment and personnel.

BMDSF is managed as a working forest that facilitates research and demonstrates diverse timber management practices to private timberland owners and the public at large. BMDSF provides for healthy sustainable ecosystems as well as a financially viable timber management program. The Forest is managed over the long term for a dynamic mosaic of diverse habitats and high volume inventory.

LPDSF also provides for demonstration and research activities; however it is unique in the State Forest Program because merchantable timber harvesting is not allowed under the deed restriction and the Forest is not open to the public at large. Because of its diversity of terrain and ecosystem characteristics, the Forest provides for interesting research projects.

Fuel reduction projects are on going on both BMDSF and LPDSF. Such projects include vegetation management, broadcast burning, pre-commercial thinning, and the removal of dead, dying, and diseased trees. Both Forests have been impacted by forest pests such as western pine beetles, flat-headed woodborers, and annosus root disease. Treatment methods to reduce the brood material are practiced on both State Forests, such as lopping and scattering slash or burning slash to reduce the population of pine beetles.

The objectives of such forest management include enhanced protection from wildfire impacts on the forestland resource and the developed interface lands of the rural residential communities adjacent to and near both State Forests. These objectives are accomplished through the reduction of flashy fuels, fuel accumulations, and fuel ladders that foster crown fires. The prescribed burning that occurs on the State Forests reduce ground fuels, reduce overgrown brush, and thin the understory to reduce vertical and horizontal continuity of fuels while protecting overstory conifers and hardwoods. The benefits of these

low intensity fires include reducing the accumulation of hazardous fuels, enhancing wildlife habitat, control forest disease, provide new growth, and reducing the potential for catastrophic wildfires.

Outside of the State Forest Program, LNU is active in enforcing the Forest Practice Rules on private timberland where Timber Harvesting Plans (THPs) have been submitted. Most of the THP submitters are small non-industrial timberland managers and timber harvesting is common in Sonoma, Lake, and Napa Counties. While evaluating THPs in the field, the Forest Practice Inspector enforces the Public Resources Code and Forest Practice Rules, which provide protection for forest and rangelands. Such rules include provisions for the operation of fire causing equipment, use of hydrocarbon powered engines near forest, grass, or brush lands, and for the operation of chainsaws in the forest environment. The Forest Practice Rules provide specific protection to lakes and watercourses, wildlife, and plants through restrictions on silviculture methods, harvesting practices and erosion control, site preparation, hazard reduction, and fire protection.

Benefits from harvesting timber on private land are similar to those when harvesting timber on the State Forests, including the reduction of fuels, removing dead, dying or diseased trees, improving road networks, providing new growth by opening the stand to more sunlight, and controlling forest pests. A common forest disease found in Sonoma and Lake Counties is Sudden Oak Death. Many THPs are located within the Board of Forestry and Fire Protection Zone of Infestation. As a result, each THP must identify feasible measures to mitigate adverse impacts from the timber operation. The Forest Practice Inspector also enforces these measures. Treatments typically include inspection of equipment on the timber operation site, unprocessed saw logs do not leave the Zone of Infestation, and non-merchantable material remains on-site. Such measures also help reduce the potential for catastrophic wildfires.

The enforcement of the Forest Practice Rules and Public Resources Code on private timberlands and the active forest management on the two State Forests within LNU provide healthy forest ecosystems and rangelands found throughout the Unit. Maintaining the sustainability of the natural resources is the goal of the CAL FIRE Resource Management Program. The Department achieves this goal by demonstrating sound management practices on the State Forests, enforcing the California Forest Practice Act on all non-federal timberlands, providing research and educational outreach to the public on forest pests such as Sudden Oak Death, and coordinating efforts for fuel reduction to reduce the risk of fire and improve the quality of California ecosystems.

SECTION V: PRE FIRE MANAGEMENT TACTICS

A: DIVISION / BATTALION / PROGRAM PLANS

Prevention Battalion

The Fire Prevention Bureau is involved in the broad spectrum of fire prevention activities in and outside of the unit. The Fire Prevention Bureau in conjunction with Volunteers in Prevention (VIP's) and other unit staff, participate in more than 4,000 hours of public education activities, contacting more than 13,000 people annually. In 2010, Volunteers in Prevention and other unit personnel accomplish 1,200 defensible space inspections, with approximately 62 violations reported during the year. The Fire Prevention Bureau has taken an active role in the support of local Fire Safe Councils, partnering with them to standardize our defensible space and fire safety messages. The Fire Prevention Bureau was active in civil cost recovery at the unit level, recovering $146,386.31. The Fire Prevention Bureau opened cases with approximately 51 fires, resulting in positive outcomes for civil cost recovery and law enforcement.

In 2010 the unit was significantly slower with wildland fire activity, for a total of 246 fires.
A total of 3,331 defensible space inspections were completed in 2010 making up approximately 8% of the regions annual total of 43,301 inspections.

The Unit made a marked improvement in completion of preliminary fire investigations, ending the year with a 96% completion rate as opposed to 78% the previous year. Of the 107 officers completing reports in 2010, on average 2.88 reports were completed per officer. The quality of preliminary fire investigations increased as well during this period. The number of undetermined fire causes were reduced during 2010 to 24% from 28% the previous year. Undetermined still remains the Unit's primary cause of fires.

The Sonoma-Lake-Napa Unit participated in approximately 2,691 hours of prevention education activities making up 10% of the region's annual 26,458 hours.

Training Bureau

The LNU Training Bureau administers the training programs for all personnel in the CAL FIRE Sonoma-Lake Napa Unit. The Unit Training Bureau coordinates both Unit training and Region training, administers JAC training, maintains training and DMV records, facilitates State Fire Marshal certifications and works cooperatively with numerous training agencies, colleges and neighboring departments.

Camp Programs

Both Delta and Konocti Conservation Camps are actively involved in several fuels reduction projects within the Unit.
Delta Camp is working on three fuels reduction projects in the South Division as part of the Cooperative Fire Assistance Grant and Napa Communities Firewise Foundation (Berryessa Estates, Circle Oaks, Dry Creek-Lakoya). In the East Division(Solano County) crews will be working on shaded fuel breaks in the area known as Twin Sisters. Delta Camp also works on fuels reduction projects in neighboring communities and the Santa Clara Unit (East Bay Regional Parks, with multiple locations of shaded fuel breaks).
Konocti Camp is also assisting with the Cooperative Fire Assistance Grant working on two projects (Berryessa Estates and Las Posadas) and a shaded fuel break in Lake County on Soda Bay Road. Konocti Camp has recently finished a shaded fuel break on Bottle Rock Road in Lake County.

Fuels, Weather, Topography and Fire History per Division

North Division

Lake County

Fuels

There are a wide range of fuels in the North Division. Fuels range from Tule wetland and grass/oak woodland to decadent chaparral, to mixed conifer forests. The higher elevations are generally timbered while lower elevations tend to be chaparral or grassy oak woodland. Due to aggressive fire suppression tactics and lack of wildland fuels reduction, both the vertical arrangement and horizontal continuity of fuels will promote rapid fire growth. Where vineyards have been established in place of chaparral brush fields they act as effective fuel breaks. Where vineyards have gone fallow, left untended, the fire will still spread through the vineyard. Critical concerns are when the chaparral dead-to-live ratio exceeds 50%, and live fuel moisture drops to near 60% in late summer and early Fall.

Weather

The weather is generally warm and dry during the day with good relative humidity recovery at night. Mid slope elevations may see poor humidity recovery due to inversions. Critical weather patterns are generally those that have higher temperatures and dryer conditions with poor nighttime humidity recovery such as North and East winds. When these conditions combine with the topography, expect extreme rates of spread, especially along exposed ridges and through constricted areas. Peak summer day temperatures generally range from 90-110 F, with relative humidity ranging between 10 – 25%. Temperatures and humidity moderate and winds tend to Increase immediately adjacent to Clearlake. Gradient winds are generally out of the west or northwest at 5-10 mph,

Topography

Elevation with the North Division ranges from 1500 feet near lake level to peaks reaching 5000 to 7000 feet on the Mendocino National Forest. The topography consists of broad rounded trending ridges running North/South bifurcating around Clearlake. Slopes generally increase as you go from ridgeline to drainage bottom. Steep slopes, drainages and timber fuels can significantly hinder firefighting efforts. Vineyards, roads and other manmade features provide a limited network of barriers that assist firefighting efforts. Road access off of well developed county roads can be sketchy at times with rough, narrow, often steep and rocky roads.

Fire History

Lake County has a significant fire history. Most of the county has been covered by large fire fires in the last several decades. The largest known fire was the human caused Fork Fire that started in Middle Creek on the border of the Mendocino National Forest just North of Upperlake. The fire burned more than 83,000 acres of brush and timber in 1996. Previous to the Fork Fire was the Mendenhall Fire in 1986 which also started on the Mendocino National Forest by lightning and burned nearly 67,000 acres. These large fires and many others burned under relatively normal northwest flow conditions. Fires in the geysers area have most recently burned under more extreme north and northeast wind conditions threatening power grid infrastructure. The eastern portion of the county is also greatly influenced by north and north east winds as the winds align with the topography on Walker ridge.

There is a Remote Automated Weather Station (Konocti RAWS) located at Konocti Conservation Camp. The station gives a good indication of current weather conditions. It can be accessed at http://raws.wrh.noaa.gov/roman/.

South Division

Napa County

Fuels

There are a wide range of fuels in the South Division. Fuels range from grass/oak woodland to 15 – 50 year old chaparral, to redwood forests, to stands of decadent brush and timber over 50 years old. Due to fire suppression and lack of aggressive wildland fuels management, both the vertical arrangement and horizontal continuity of fuels will promote rapid fire growth. These same conditions will also hinder conventional fire suppression tactics. Vertical arrangement is conducive to passive (single tree torching), and active crown fires. Where vineyards have been established, if a "no-till" management approach (mandated on certain slopes) has been implemented, the fire will still spread through the vineyard. Critical concerns are when the chaparral dead-to-live ratio exceeds 50%, and live fuel moisture approaches 60% in late Summer and early Fall.

Weather

The weather is generally warm and dry during the day with good relative humidity recovery at night helped by the coastal onshore flow. Fog often returns to the area each night from the south, and dissipates by 1100 hours the following morning. If a critical weather pattern exists such as a Foehn North Wind, or a cold front passage, the daily diurnal weather variation will be subdued. If these critical weather patterns align with the topography, expect extreme rates of spread, especially along exposed ridges and through constricted areas. Peak summer day temperatures are generally 80 – 90o F, with relative humidity ranging between 20 – 35%. Gradient winds are generally out of the S/SW 5-10 mph, strengthening in the afternoon with a 10-15 mph wind in the late afternoon diminishing by dark. Upper elevations experience East winds in the early afternoon (1400 hours) between 5 – 10 mph. Also, be aware of normal Northwest winds (downslope/downvalley) after dark as the flow reverses. There is a Remote Activated Weather Station (RAWS) for this area on the top of Atlas Peak Road approximately 1 mile west of Turtle Rock near Lake Berryessa. This site provides accurate conditions for the entire South Division.

Topography

Elevation with the South Division ranges from 0 – 80% slope with a two dominate North/South orientated ridges. Vineyards and other manmade features provide a network of barriers that will need to be connected to create an effective fireline. There are two main valleys within the South Division that can provide the opportunity for wind to be funneled even under local wind conditions; this situation will be compounded during critical weather conditions.

Fire History

Past fire history on the Western side of the Napa Valley (Dry Creek-Lakoya) is limited with major fires 40 – 70 years ago burning well into Sonoma County within 1-3 days. Eastern slopes have not burned since the 1920s and fuels on the Western aspects are generally lighter drier.
Past fire History on the Eastern side of the Napa Valley is limited with major fires 25-50 years ago burning along the Silverado Trail into Atlas Peak (Silverado Country Club) and from Monticello Road to Wild Horse Valley Road within 1-2 days.
In 1964 a major fire started on Mt. St Helena and burned to Santa Rosa. In the 1960's and again in 2008, fires occurred on and were generally held to, the western aspect between the communities of Angwin and Deer Park.

East Division
Colusa and Yolo Counties

Fuels
There are a wide range of fuels in the East Division. Fuels range from agricultural farmland (wheat, safflower, cut stubble), annual grasses, oak woodland, 15 – 50 year old chaparral, large stands of decadent brush and timber in the higher elevations of the battalion. Due to aggressive fire suppression tactics and lack of aggressive wildland fuels management, both the vertical arrangement and horizontal continuity of fuels, have and will promote rapid fire growth. These same conditions will also hinder conventional fire suppression tactics. Critical concerns are when the chaparral dead-to-live ratio exceeds 50%, and live fuel moisture approaches 60% in late Summer and early Fall. 10 hour fuel moistures average from 4-7, dropping to 3 quite often.

Weather
The weather is generally warm and dry during the day with a slight relative humidity recovery at night. If a critical weather pattern exists such as a Foehn North Wind, or a cold front passage, the daily diurnal weather variation will be subdued. If these critical weather patterns align with the topography, expect extreme rates of spread, especially along exposed ridges and through constricted areas. Peak summer day temperatures are generally 95°-105°F, cooling to 50°-60°F at night, with relative humidity ranging between 20% – 35% or less. Gradient winds are generally out of the N/NW 5-10 mph, strengthening in the afternoon with a 10-15 mph wind in the late afternoon diminishing by dark. Strong evening (2100-0200) winds do occur occasionally in the Capay Valley. Also, be aware of normal winds (down slope/down valley) after dark as the flow reverses.
There is a Remote Automated Weather Station (Brooks RAWS) located at Brooks Fire Station. The station gives a good indication of current weather conditions. It can be accessed at http://raws.wrh.noaa.gov/roman/.

Topography
Elevation within the East Division ranges from 250’ to 3000’ with slopes ranging from 0 – 80%. There are two dominate North/South orientated ridges; Blue Ridge, running from the Yolo/Solano county line north to Rumsey Canyon and Walker Ridge, running from Hwy 20 to central Colusa county. These main ridges keep the coastal influence weather from being a factor. There are also two smaller ridges that can play a significant role to fire spread; Capay Hills and Cortina Ridge. Farmlands, ranches, rural and major roads along with other manmade features provide a network of barriers that will need to be connected to create an effective fire line. Capay Valley and Bear Valley are wide valleys that provide the opportunity for wind to be funneled even under local wind conditions; this situation will be compounded during critical weather conditions.

Fire History
There have been many large and destructive fires in the past in the East Division. Many of the fires have occurred along the Highway 16 corridor through Rumsey Canyon. In recent years these fires have stopped due to local arson arrests. Because of poor access, steep slopes and strong North winds, these fires have burned up to 30,000 acres. Other large fires have occurred along Walker Ridge. Past fires have also occurred along the Highway 20 and Highway 128 corridors.

Solano County

Fuels

There are a wide range of fuels in the Solano County area of LNU ranging from agricultural farmland, annual grasses, oak woodlands intermixed with chemise and coastal chaparral's in the western areas of the Vaca mountains to marshland tulles in the East along the Sacramento river delta. Large areas of Solano county fall within the MTZ and offer the potential for structure protection issues if a fire were to start in these areas. Due to aggressive fire suppression efforts and lack of local wildland fuels management, both vertical and horizontal continuity of fuels will and have promoted rapid fire growth. Numerous Riparian zones are located throughout the county as well.

Weather

The weather is generally warm and dry with a great portion of the valley being marine influenced keeping areas to the south west seasonally cooler. With average day time temps ranging from 85 – 105 degrees in the summer, night time lows average to between 50-60 degrees with the marine influence comes a lot of fog which can and does influence temperature dramatically. Daily winds known locally as the Delta breeze range from 5-15 mph from the west act as a cooling effect through out the south west increasing fuel moisture and recoveries. The area is also subject to high foehn winds known as the North wind which range in speed from 25- 75 MPH with these winds expect high rates of spread and control problems.

Topography

Elevations within Solano County range from 21' ASL – 2818' ASL (Mt. Vaca) slopes range from 0% - 80%+.There is one prominent North/South ridge located within the Vaca mountains known as Blue Ridge running from Yolo/Solano counties. There are two topographic features of note within the county, Mt. Vaca and the Montezuma hills. There are numerous ridges located within these areas which influence the landscape dramatically and can and will contribute to fire spread. Narrow canyons and valleys with heavy fuel loading with numerous narrow man made roads offer several control issues, but do offer points to consider as control lines.

Fire History

Solano County does have a history of large wildland fires two of note are the 1965 Kaiser Fire when a fire started in the drought dried seasonal grasses and spread rapidly from Soscol Ridge off Hwy 29 to American Canyon. Reaching a final acreage of 25, 888 the other was the Mix Canyon Fire which reached an approximate 35,000 acres. The fire period of note was in 1965 which was referred to as black Thursday in which the county was under siege from the east to the west with several fires burning at the same time the largest becoming the above noted Kaiser Fire.

West Division

Sonoma County

Fuels

There are a wide range of fuels in the West Division. Approximately the southern 1/3 of the county is grass or oak/woodland, and areas adjacent to the Napa/Sonoma and Lake/Sonoma county lines are knobcone and chaparral. The coastal strip from Bodega north, inland to Graton and Forestville is conifer forests. Fuels range from coastal grasses along the coast to grass/oak woodland to 15 – 50 year old chaparral, to redwood/douglas fir forests, to stands of decadent brush and timber over 50 years old. Sonoma County does have stands of sudden oak death. Due to fire suppression and lack of aggressive wildland fuels management, both the vertical arrangement and horizontal continuity of fuels will promote rapid fire growth. These same conditions will also hinder conventional fire suppression tactics. Vertical arrangement is conducive to passive (single tree torching), and active crown fires. Where vineyards have been established, if a “no-till” management approach has been implemented, the fire will still spread through the vineyard. Critical concerns are when the chaparral dead-to-live ratio exceeds 50%, and live fuel moisture approaches 60% in late Summer and early Fall.

Weather

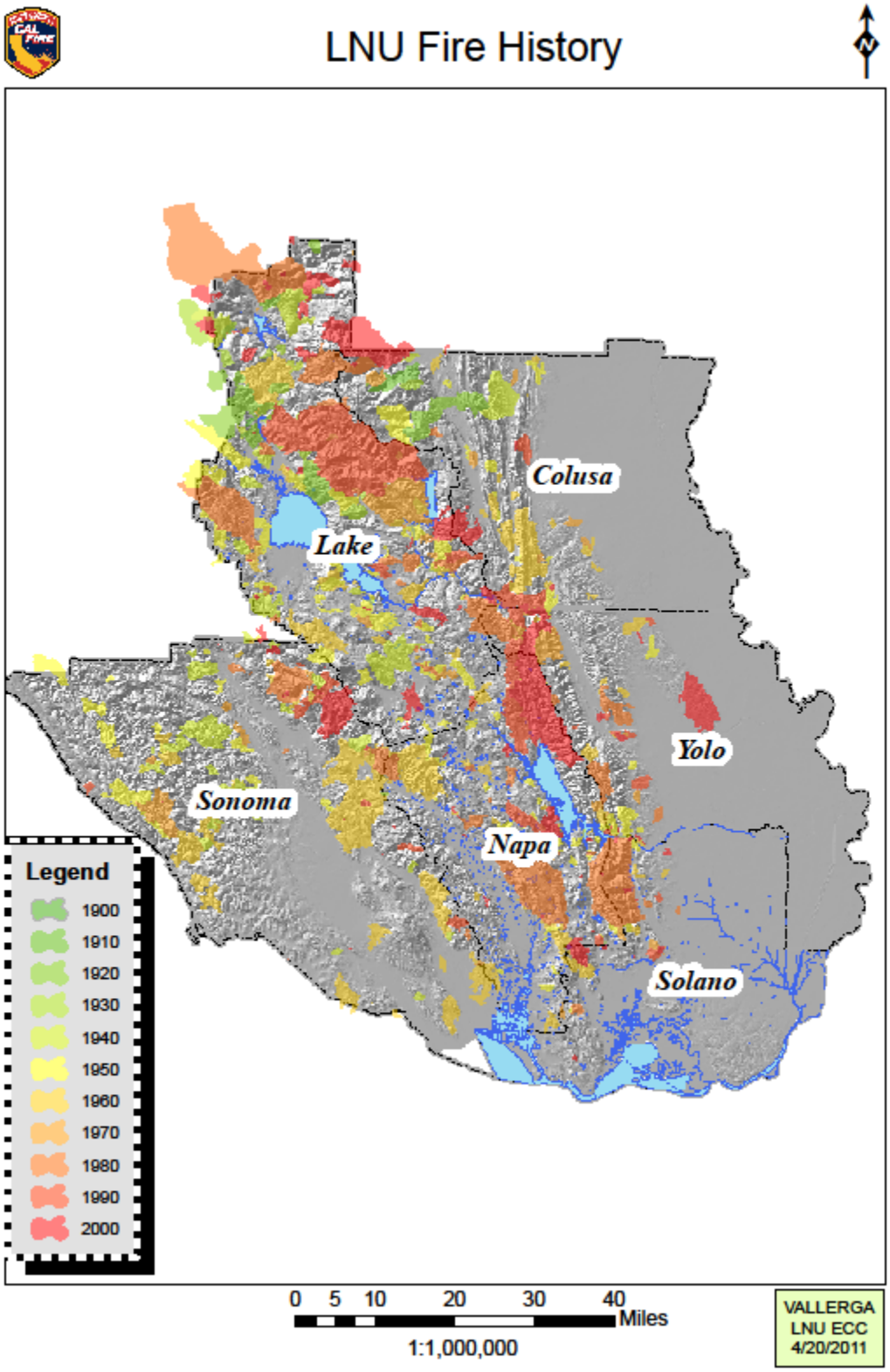
The weather is generally warm and dry during the day with good relative humidity recovery at night helped by the coastal onshore flow. Fog often returns to the area each night from the south, and dissipates by 1100 hours the following morning. The fog layer depth is between 1,000 and 1,500 feet, so elevations above this do not experience fog. If a critical weather pattern exists such as a North Wind, or a cold front passage, the daily diurnal weather variation will be subdued. If these critical weather patterns align with the topography, expect extreme rates of spread, especially along exposed ridges and through constricted areas. Peak summer day temperatures are generally 80 – 100o F, with relative humidity ranging between 20 – 35%. Gradient winds are generally out of the S/SW 5-10 mph, strengthening in the afternoon with a 10-15 mph wind in the late afternoon diminishing by dark. Upper elevations experience East winds in the early afternoon (1400 hours) between 5 – 10 mph. Also, be aware of normal Northwest winds (downslope/downvalley) after dark as the flow reverses. There is a Remote Activated Weather Station (RAWS) located in the NE corner of the Division in the “Geysers” area and in the Santa Rosa plain. These sites provide accurate conditions for the interior of the West Division. There is also a private lookout (Pole Mtn) located midway along the coast between Mendocino and Marin counties. Their weather observations help fill in the coastal strip area for fire weather for the West Division.

Topography

Elevation within the West Division ranges from sea level – 4,500 feet. Slopes range from 0-80% throughout the Division. Vineyards and other manmade features provide a network of barriers that will need to be connected to create an effective fireline. In the western and northwestern portions of the county there are not a lot of barriers. There is one main valley within the West Division that can provide the opportunity for wind to be funneled even under local wind conditions; this situation will be compounded during critical weather conditions.

Fire History

Past fire history on the Western side of the Santa Rosa Plain is limited with major fires 30 – 70 years ago in connection to the logging industry and more personnel being in the woods. Past fire History on the Eastern side of the Santa Rosa Plain consists of major fires approximately every 10-12 years mostly occurring in the Geysers area consisting of 10,000-12,000 acres. There have been major fires in the Sonoma area also, although to a lesser degree.In 1964 a major fire started on Mt. St Helena and burned in to the Santa Rosa area. Most of the significant fires have burned under critical fire weather conditions (North winds), but the possibility exists for a fuels and topography influenced fire to occur in the late summer and fall periods. The West Division does experience a few lightning caused fires every 3 - 5 years.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Battalion 1410 Santa Rosa (Sonoma County)

Battalion 1410 spans from the Pacific Ocean to the top of Mt. Saint Helena running with the width of Sonoma County, and an elevation difference of over 4,300 feet. The battalion is characterized by a LRA valley floor, the Santa Rosa plain, with SRA on both sides. There are many paid local government fire departments and the largest city in the Unit, Santa Rosa, is located within the battalion. There are three CAL FIRE fire engines, one at Santa Rosa station and two at Occidental.

Every incident becomes mulit-agency and often with structures being threatened. The perimeter of the 1964 Hanley fire when placed over the footprint of Santa Rosa City and the adjacent area encompasses over 1,000 structures.

Past Projects

In June of 2003, the West Sonoma Firesafe Council obtained a $28,000 BLM Community Based Wildfire Prevention Program Grant. This Grant helped to solidify the formation of the Council and to address fuel reduction in the rural area of western Sonoma County surrounding the community of Occidental. The Council used the grant to provide a “free” chipper with operator to residents who cleared vegetation around their residence, a demonstration shaded fuelbreak along Coleman Valley Road, and a community presentation by a fire ecologist. Chipping was done along Joy Road. (The Council area is defined by watersheds and Highway 116, and thus a portion of the Council is in Battalion 1411.) Battalion 1410 had worked with the Foothill Homeowners’ Association to help them understand the risk of fire and the importance of defensible space. He also advised them on areas for fuels reduction and evacuation advice.

The Fountaingrove Homeowners’ Associations I and II held meetings with Battalion 1410 to address their concerns with wildfire. CDF responds to fires in the Fountaingrove area under a mutual threat zone (MTZ) agreement. The area is located adjacent to SRA, and has a high potential for significant dollar loss.
The City of Santa Rosa fire department published a fuel reduction plan for the wildland immediately adjacent to the city limits including Annadel State Park. The consultant focused on classifying the fuels and then recommending specific treatment methods. The treatments were then prioritized. It is to be seen if the City can follow through on any fuel reduction as proposed in the plan. There is the potential for the City to work with CDF to accomplish some of the fuel reduction.

Current Projects

Battalion 1410 personnel will work with the local government fire agencies on defensible space projects in conjunction with LE-100 inspection in the SRA. Currently working with Santa Rosa City FD and Rincon Valley FPD on structure protection preplans for the Riebli Rd, Fountain Grove area.

Future Projects and Priority Rankings

Future projects will focus on areas identified as high risk/high hazard, support the West Sonoma Fire Safe Council and the City of Santa Rosa. Next Priority for LE-100 program is in the Joy Rd and Gates Rd area.

Battalion 1411 Russian River (Sonoma County)

Battalion 1411, the Russian River Battalion, encompasses the northern Sonoma County coast from Mendocino County to just south of the Russian River, and inland to the Guerneville community. The entire Battalion, approximately 245,000 acres is all CAL FIRE Direct Protection Area, with all being State Responsibility Area except for several small areas of Bureau of Land Management ownership. The dominant fuel model is Mixed Conifer (Light), but fuels range from Coastal prairies to old growth Redwood, and chaparral to small pine plantations.

Battalion 1411 is comprised of three State funded fire stations. These stations house four State fire engines, and a Schedule "A" funded two-person, engine company serving The Sea Ranch area. Battalion 1411 headquarters is at the Hilton fire station located east of Rio Nido along River Road. Hilton fire station also houses two state funded fire engines and a utility vehicle. Cazadero fire station is south of the Cazadero community along Cazadero Highway, staffed with one state funded fire engine. The Sea Ranch community has two fire stations. The "North" fire station is along Highway 1 between Whale Bone Reach and Bosun's Reach, and is not regularly staffed. The "Main" station is State owned, located along Annapolis Road near Verdant View. The Main station is the headquarters for the locally funded engine company, and also is the quarters for one State funded fire engine.

CAL FIRE closed the Black Mountain Conversation Camp, which was located along Fort Ross Road near Brain Ridge Road, in 1992. This camp provided the area with fire crews, on a daily basis, staffed with California Department of Correction and Rehabilitation (CDCR) inmates whom are supervised by CAL FIRE employees. These crews, when not engaged in fire fighting efforts, worked on fuel reduction efforts, government owned properties and buildings, and projects such as clearing roadway right-of-ways. Since the closure of Black Mountain, the nearest camps serving Battalion 1411 are in Mendocino County east of Fort Bragg (Parlin Fork), Solano County near Travis Air Force Base (Delta), and Lake County near Lakeport (Konocti), all several hour drive times. These crews are not a viable option for fuels reduction and other projects in Battalion 1411 due to the extended travel times. Crews also have an increased response time to emergencies unless they are working in other parts of Sonoma County, as is usual during most days of the year.

There have been no large and damaging wildland fires since the Creighton Ridge fire in August of 1978. Most fires are contained and controlled within the first few hours of detection. Because of the amount and type of fuels that wildland fires in Battalion 1411 consume, resources are often required to remain on scene of wildland fires through the night and during the followings days to ensure the fire does not escape established control lines. Prior to the Creighton Ridge fire, significant fires occurred in the 1950s and 1960s, including fires along Highway 116 in the Russian River area. Other notable fire which required an extended commitment of resources were:

- 1993 Gerstle Fire, Salt Point State Park, 460 acres
- 1996 Yardham Fire, The Sea Ranch, 300 acres

Weather along the Coast during the summer months is generally characterized by fog and moderate temperatures. Sunny days are more common during the Spring and Fall season. Fog does usually extend above 1,000 – 1,500 feet, and does not intrude inland past the first ridge. This allows the interior portions of the Battalion to remain warm and dry throughout the day. Some of the canyons are narrow and filled with large trees and can remain cool and moist through the Summer and Fall seasons.

Critical fire weather patterns characterized by hot, dry, and windy conditions are not very common along the Coast, on average, three to four days a year. These conditions will result in rapid fire growth, including crown fires, and spotting. All property owners, residents, and fire fighters need to be prepared for this "rare" event that can result in a large and damaging wildlfire. The most damage will occur within the first several hours of the fire as the fire outpaces the deployment of fire suppression resources. Spotting could establish fires in multiple drainages and ignite structures before the fire front reaches them.

The interior portions of the Battalion have conditions that support the development of a large and damaging wildfire such as steep slopes, and accumulation of fuels. This area is sparsely populated with residents understanding the risks of a wildlfire. This has resulted in few ignitions and kept the area from experiencing a large and damaging wildfire.

Battalion 1411 has areas of Sudden Oak Death (SOD). Aerial surveys have been conducted by the United State Forest Service, and it appears the rate of infestation has slowed. SOD has killed trees, opened closed canopy forests, and increased the amount of surface fuels. It is unknown exactly how SOD will affected fire behavior, but weakened trees have fallen and blocked roads.

The scenario exists for a wildfire to be burning undetected for a period of time, with difficult access, as a critical fire weather pattern is developing. Another possibility is the passing of a lightning storm resulting in fires that cannot all simultaneously be contained.

Most of the Battalion can be considered remote, as areas away from Highways 1 and 116, and county roads, can be difficult to access because of fire roads that have not been maintained, bridges that cannot support fire apparatus, steep topography, and lack of road signs and posted addresses. Fire suppression resources, other than those that are locally based, are not all familiar with the road network, local landmarks, and fire environment because there are not frequent large and damaging wildfires. This road network will hinder emergency response as well as evacuation of the Public. In some areas, shelter in place, or assembling in temporary refuge areas may be a preferred method instead of evacuations.

The Battalion boundaries are defined by the boundaries of several local government fire agencies.

- The Sea Ranch Volunteer Fire Company
- Annapolis Volunteer Fire Company
- Fort Ross Volunteer Fire Company.
- Timber Cove Fire Protection District
- Cazadero Community Service District
- Monte Rio Fire Protection District
- Russian River Fire Protection District

These agencies and CAL FIRE maintain a cooperative working relationship and assist each other on a daily basis. A majority of incidents, regardless of type, in the Battalion result in multi-agency responses including non fire service response. These agencies include:

- California Department of Parks and Recreation
- California Highway Patrol
- Sonoma County Department of Fire and Emergency Services
- Sonoma County Sheriffs Department
- Sonoma County Regional Parks

CAL FIRE is also able to accomplish projects in consultation and coordination with community members and homeowners type associations such as The Timber Cove Homeowners Association (TCHOA), The Sea Ranch Association (TSRA), and FIRESAFE councils at the County and community based level.

There are many State and Regional Parks, and open space preserves in the Battalion. These present issues because there is a lack of fuels management and development of emergency response infrastructure (roads, fire breaks, etc.).

Pole Mountain Lookout is a privately funded lookout post between Muniz Ranch Road and the Cazadero community. The lookout is operated by the Pole Mountain Fire Lookout Incorporation, staffed daily during the summer, and supervised by a CAL FIRE battalion chief. Pole Mountain is able to provide critical early detection of wildland fires in areas lacking cell phone coverage, and are not heavily populated.

Past Projects

Since 1983, the Unit has had a series of VMP projects in The Sea Ranch Area. CAL FIRE staff worked with the TSRA in development of their Fire Management Plan in 1990. Since that plan was adopted, the wildland-urban interface fire problem has evolved with the construction of more homes, an increase in

understory fuels, the invasion of grasslands by shrub species, and a decline in the health of non-native pine trees. TSRA hired a consultant and using their own Association funds have begun to implement fuel reduction projects. Emphasis is placed on the lands adjacent and grasslands west of Highway 1.

In the Timber Cove area, a fuel reduction project funded by BLM through the Community Based Wildfire Prevention Grants Program created a shaded fuelbreak along Ruoff Road between Highway 1 and Timber Cove Road. Ruoff Road transects an area of timbered wildland that has been developed. The road provides access to many homes, and was not passable to two-way traffic in many locations because of the narrow paving and encroaching vegetation. The fuelbreak will provide for evacuation, access for firefighting resources, and a possible "line" to halt a fire. The grant was sponsored through Fire Safe Sonoma, with staff support provided by CAL FIRE and the Sonoma County Department of Fire Emergency Services.

The Fort Ross Volunteer Fire Company has been active in the reduction of fuel loading through coordinated chipping and formation of shaded fuelbreaks, through the same funding mechanism and administration as the Timber Cove area. A California Conservation Corps (CCC) crew was used in place of a private contractor to compete the work. The CCC crew worked with the residents to clear and chip several shaded fuelbreaks.

CAL FIRE personnel continue to advise, and work with The Sea Ranch Association for fuels reduction and defensible space inspections.

Present Projects

CAL FIRE has hosted Community based meetings in The Sea Ranch, Timber Cove, Cazadero, and Armstrong Redwoods area the past summers.

Battalion 1411 personnel post fire preventions signs in high profile locations, conduct defensible space inspections in target areas, maintain a presence at large community events, and participate in many other forms of public education.

Future Projects and Ranking

Battalion 1411 personnel will continue to host community meetings and rotate locations to have exposure to the most amounts of people. The purposes of these meetings are to increase the awareness level of preparing for wildland fire, defensible space, and actions to take during a wildland fire. Other approaches to accomplishing the same goal are being formulated. These include submitting letters and articles to homeowners groups, media, and other publications.

Development of pre-fire response plans and maps for developed submissions and wildland areas with high density structures such as Brushy Ridge Loop in Annapolis, and the Timber Cove area.

Battalion 1411 personnel will also support grants undertaken by Fire Safe Sonoma, and other community groups.

During 2010, Battalion 1411 personnel began working with the California Department of Parks and Recreation to conduct prescribed control burns in the State Parks. The burns were successful. Plans are being formulated to carry out additional control burns in 2011, and expand the burning program. The intent of these burns are to manage fuels in the State Parks, including fuel reduction to reduce fire behavior, and decrease the spread of invasive species. These control burns also offer a training opportunity for CAL FIRE and cooperating agencies, helping us work better together during true emergencies.

Battalion 1412 Glen Ellen/Petaluma (Sonoma County)

Battalion 1412 encompasses southern Sonoma County; the Sonoma Valley and the Petaluma area, separated by Sonoma Mountain. Within the battalion are several full-time local government fire departments as well as volunteer based fire departments. There are two CAL FIRE fire stations, one just west of Petaluma staffed with one fire engine, and the other along Highway 12 south of Kenwood that houses two fire engines and a bulldozer.

Past Projects

Past projects have been funded through BLM's Community Based Wildfire Prevention Grants Program using a variety of methods to get the actual work completed. Near Glen Ellen, a grant was sponsored through Fire Safe Sonoma, to establish a safety corridor and a secondary ingress and egress route in a high hazard area adjacent to Annadel State Park. Another project, also sponsored by Fire Safe Sonoma used Sonoma County work crews to clear roadways that had been overgrown by vegetation. And along five miles Trinity Road in the Mayacamas Mountains east of Glen Ellen, a shaded fuelbreak was created using CAL FIRE Fire Crews, residents, and county work crews. The Trinity Road fuelbreak was funded by the Forest Stewardship, a previous program similar to BLM's Community Based Wildfire Prevention Grant Program. Additionally for the past years 2008-2010, focused LE 100 inspections have been done in the area east of the town of Glen Ellen, in the Cavedale/Trinity road area. Approximately 300 inspections a year have been accomplished in this area.

Present Projects

Present projects consist of small community events. CAL FIRE apparatus and personnel also participate in other community events such as parades in the town of Kenwood, Valley of the Moon and Sonoma.

Each year, CAL FIRE commits fire prevention and suppression resources to large events at Infineon Raceway located near Sears Point along Highway 37. The Raceway holds several races during the summer months that attract over 100,000 spectators.

Future Projects and Priority Rankings

The plan is to do a focused LE-100 program in the area to the Northeast of the city of Sonoma. Up to 200 LE-100 will be mailed out to the residents allowing them to do upgrades to their defensible space and then return the self-regulated mailer back. At that time, CAL FIRE personnel will go out and to spot inspections on those returned mailers, and inspect all that were not initially returned**.**

Battalion 1413 Healdsburg/Cloverdale (Sonoma County)

Northeastern Sonoma County, including the unique Geysers geothermal area, and the United State Army Corps' Lake Sonoma Project, are within Battalion 1413. Most of the battalion is very rural, with only two incorporated cities, Cloverdale and Healdsburg. The burn permit process generates over one hundred public contacts each year, giving Battalion 1413 personnel the opportunity to both educate and inform agricultural industry related personnel and residents about wildfires. The battalion stations are Healdsburg with two engines and a bulldozer, and Cloverdale staffed with two engines.

Past Projects

The battalion has been very busy with pre-fire management programs in the past ranging from vegetation management program (VMP) control burns in the Geysers Geothermal area in Northeaster Sonoma County to homeowners working with CAL FIRE and the local fire department to reduce fuels in the Fitch Mountain Area in Healdsburg, the Vineyard Subdivision in Geyserville and the Palomino Lakes subdivision in Cloverdale.

In 2000, the City of Healdsburg Fire Department contacted CAL FIRE for advice on its' growing wildland/urban interface fire hazard, particularly on the City's north and east flanks. This area compromises the steepest and highest elevations in the city, on Fitch Mountain, and area adjacent to it, which is SRA. Working with FireSafe Sonoma, Healdsburg Fire Department, and the Sonoma County Department of Emergency Services, a plan was developed for a multi-phase fire environment modification. Funding was secured through a Western Wildland Urban Interface Grant administered by the USDA Forest Service. During the summer of 2001 and 2002, this project was implemented with LE-100 defensible space inspections, a community chipper program, and the re-establishment of an alternative fire access road. California Conservation Corps (CCC) crews were also used. This area will be targeted again in 2011.

Also in 2002, 2005, 2007 and 2008 approximately 200 acres a year was burned on the CalPine VMP during with winter months.

In the Palomino Lakes subdivision, CAL FIRE and the Cloverdale Fire Protection District coordinated with the Palomino Homeowners' Association to reduce fuel loading. The Palomino Lakes subdivision has experienced damaging fires in the past. Private contractors were used to clear vegetation along roads, and chip over seventy-five cubic yards of vegetation. Along with the work, a community meeting was held.

At the Lake Sonoma Project, a VMP burn was completed in November of 2002 after more than fifteen years of planning. CAL FIRE maintains an agreement with the Army Corps for wildland fire protection. Each year under this agreement, a meeting is held to discuss the contract. Part of CAL FIRE's responsibility is to train the Army Corps' staff in wildland firefighting, discuss fire prevention issues, and pre-plan emergency response. Much of the lake's campgrounds are remote and access is only via a boat and/or fire roads. CAL FIRE fire crews are used to construct precautionary handlines around the campsites prior to fire season, and bulldozers and graders are used to maintain the fire roads on a rotating basis. A fire prevention display is kept at the visitors' center as well as a fire prevention sign and fire danger rating sign along the roadway leading to the lake's main access. Each year CAL FIRE coordinates and participates in burning off the 80 acre dam face with many local departments participating, making it a valuable training tool for all.

The Battalion Chief works closely with local government cooperators, annually holding a multi-agency drill that replicates a wildland-urban interface wildfire response. This event while providing training for CAL FIRE and local government personnel increases wildfire awareness and prevention in the community in which the drill is held. The image of a fire engine backed in a driveway, with fire fighters in full personnel protective equipment and fire hoses deployed generates discussion amongst homeowners and CAL

FIRE. Additional benefits include area orientation and pre-planning for fire fighters, the opportunity for homeowners to approach fire fighters, and for personnel from different fire departments the opportunity to interact.

Battalion 1413 personnel also complete over 200 LE-100 defensible space inspections each year. The Battalion Chief targets an area for each station to complete inspections, using direct mailers asking for volunteer compliance or self-inspection. CAL FIRE personnel then complete follow-up work to ensure compliance. This LE-100 approach in conjunction with the aforementioned multi-agency drill bodes well for promoting the concept of defensible space in the designated area.

Present Projects

Battalion 1413 is working with CalPine to continue the VMP burning projects on the lands they control. Brush species will be targeted with the burning most likely to occur in the fall, early winter and located close to the infrastructure (structures and powerlines) in the Geothermal area.

Battalion 1413 personnel actively participate in community events, such as the Healdsburg Future Farms of America (FFA) parade held on Memorial Weekend of each year and the Cloverdale Citrus parade held in February.

Future Projects and Priority Rankings

Upcoming focus will be on the Fitch Mtn. area in Healdsburg and the Pine Mountain area in Cloverdale. The current Battalion Chief has met with homeowner groups in both areas numerous times and have prepared them for what to expect for the LE-100 program and future inspections and how to prepare their homes if a fire is in their area. Multi-agency drills will be held in the Fitch Mtn. area as well as the Pine Mtn. area in the coming years.

Battalion 1414 St. Helena (Napa County)

Battalion 1414 covers northern Napa County from the small community of Rutherford to the top of Mt. St. Helena and east to Angwin. Highway 29 is the major traffic corridor through the battalion. Las Posadas State Forest is within the confines of the battalion, and there is a fire station on the forest property with one fire engine. Other CAL FIRE fire resources in the battalion are two CAL FIRE fire engines, a bulldozer, and a CAL FIRE Schedule “A” funded 2 person engine company at St. Helena.

Many contacts with the public are generated through the burn permit process. Most of the Napa Valley floor, and some of the hillsides, are planted with grapevines. This industry has a heavy reliance on burning to dispose of agricultural trimmings.

Battalions 1414, 1415 and 1416, assist Napa County Fire Department volunteer fire companies. Assigned to Battalion 1414 are Deer Park, Angwin, and Rutherford. St. Helena and Calistoga cities also have their own organized fire departments and respond with CAL FIRE daily to incidents. All three battalions, are included in the Napa FIREWISE program, a cooperative effort between CAL FIRE, Napa City, Napa County, Resource Conservation District, and local FireSafe Councils.

Past Projects

A majority of past projects have been in the wildland-urban interface areas on the west aspect of the Napa County. There are two communities, Deer Park and Angwin, and many other clusters of homes in the wildland environment.

The Pacific Union College VMP (Rx North-049-LNU) was located in the wildland urban interface area just to the north and east of the town of Angwin. The project's objective was to reduce the flashy fuel accumulation near structures and other assets at risk while protecting timber and wildlife resources. The primary method to accomplish this objective was through manual and mechanical treatment using CAL FIRE Fire Crews from Konocti Conservation Camp. Fuels were removed manually and either chipped, piled and burned, or broadcast burned. Over one hundred acres were treated, including the Howell Mountain Road corridor.

St. Helena Hospital VMP (Rx North-051-LNU) was adjacent to the grounds of St. Helena Hospital, a steep hillside complex in the community of Deer Park. The objective of this project was to reduce the heavy brush fuel load that could contribute to a fast moving, high intensity wildfire that would endanger a major health care complex and the surrounding residential communities. Work was performed by CAL FIRE Fire Crews from Konocti Conservation Camp to prune trees, cut brush, and remove dead woody ground material. Removed fuels are chipped and spread onsite, or burned in small piles during the winter months. Eighty acres were treated.

In the early 1990's a VMP project was completed in the Crestmont area of Deer Park. The Deer Fire of 2008 burnt in the footprint of this project and assisted with fire suppression efforts.

The small neighborhood of Madrone Knolls which is located just off of and above Silverado Trail, has worked with CAL FIRE to establish a shaded fuelbreak using personnel from the Civilian Conservation Corps. The intent is to use periodic grazing with goats to maintain the shaded fuelbreak. Silverado Trail parallels Highway 29 on the east side of Napa Valley, and as such attracts motorists attempting to avoid traffic congestion on Highway 29. These motorists represent possible wildfire ignitions that would burn uphill into the Madrone Knolls area.

Present Projects

The most prominent present project is the development of the "Angwin/Deer Park Pre-Attack Fire Plan." This includes the development of proposed Contingency Areas for the containment of wildfires. Also included in this plan are strategy and tactics, staging areas, command and tactical frequencies, and other information critical to containing and suppressing a wildland fire in the Angwin and Deer Park Communities.

Angwin and Deer Park are participating in the Napa County FIREWISE chipping program.

Future Projects and Priority Rankings

Future project priorities include the continuation or extension of the use of goats for fuel reduction, Napa FIREWISE chipping program, and the use of CAL FIRE Fire Crews to maintain and extend the interface clearance.

Battalion 1414 is placing emphasis on the reduction of fuels in Los Posadas State Forest due to its' current condition and proximity to structures.

Battalion 1415 Lake Berryessa (Napa County)

The eastern edge of Napa County including Lake Berryessa makes up the LNU South Division portion of Battalion 1415. Lake Berryessa is a recreational destination and generates many medical related calls for service and the potential for large wildfires. Surrounding the lake, and along the roadways leading to the lake, are rural subdivisions, such as Circle Oaks, Berryessa Highlands and the Berryessa Estates, which increase the assets at risk.

There are two CAL FIRE stations in Battalion 1415, Spanish Flat with two fire engines and a bulldozer near Lake Berryessa and a single engine station on Gordon Valley Road near the Napa/Solano county line.

Battalion 1415 administers the volunteer fire companies of Pope Valley, Capell Valley, and Gordon Valley. CAL FIRE Spanish Flat Station is the only paid fire department in this area of Napa County.

Past Projects

Past projects have been around two of the developed subdivisions. In the 338-lot Circle Oaks subdivision, a multi-year fuel modification project is being funded, in part, by the BLM through the Community-Based Wildfire Prevention Grants Program. Circle Oaks represents the largest concentration of people and houses in Napa County. In 2002 they completed a Fire Safe and Fuel Management Plan.

The Circle Oaks subdivision is located along Highway 121 between the City of Napa and Lake Berryessa. The fuel modification aims at making it possible to contain vegetation fires that start within the subdivision to the subdivision, and to protect the subdivision from any encroaching wildfire. Shaded fuel-breaks were created along Napa County roadway easements. Over 2,500 tons of fuels have been removed from the perimeter greenbelt defensible space zone, and almost 300 tons of additional vegetation from vacant lots. An estimated 800 cubic yards of vegetation was removed from around structures following a LE-100 defensible space inspection program, and right-of-way clearance was accomplished along seven miles of road.

Berryessa Estates is a remote subdivision in the northeastern portion of Napa County consisting of 160 lots. Due to many factors including remote location causing long response times, one-way access, high-density flammable fuels with intermixed structures, this subdivision has been designated as an area of concern regarding wildfire. CAL FIRE personnel along with Pope Valley volunteers, and the Napa County Road Department worked with the Berryessa Estates Homeowners Association (BEHOA) to have members of the Association clear fuels around their homes to then be chipped. A total of fifty piles were chipped. The BEHOA has expressed interest in created a fire safe council.

Present Projects

Berryessa Estates, Circle Oaks, and now Berryessa Highlands are the high density high wild fire risk communities that continue to need the most hazard reduction attention in the battalion. All three areas are heavily supported by the Napa Communities Firewise Foundation (NCFF) and the LNU Pre-Fire Engineering division through pre-planning, the free chipping service, and grant awards.

The community of Berryessa Estates Fire Safe Council has spent the last five years working very hard to improve the wildland fire survivability of their community. With strong support from NCFF, BLM, and CAL FIRE, they are nearing completion of a 2 mile by 100 foot wide fuel break around the entire community that is the largest fuel break of its kind in Napa County. The fuel break was accomplished by the combined use of a mechanical brush masticator, CAL FIRE inmate fire crews, and supported by the NCFF chipping program. Project funding is a combination of direct BLM funds, along with NCFF and the California Fire Safe Council sponsored federal grant money. The community of Berryessa Estates through NCFF was also able to secure a federal grant as well. With the help of Circle Oaks, they also began using an automated calling tree service (Call-Em-All) to help with fire safety communication, Fire Safe Council announcements, and emergency notification.

Circle Oaks has continued to be the most progressive community with the longest history of intense wildland fire hazard mitigation efforts in Napa County. Through the leadership of their homes association and fire safe committee, along with NCFF and CAL FIRE, they have become the first and only nationally recognized Firewise USA Community in the County. They have on-going success with federal grant funding awards, along with expanding and maintaining fuel reduction projects, and have since completed and official CWPP. Their latest project is a continuous shaded fuel break surrounding the entire subdivision. Circle Oaks continues to do their own defensible space inspections with the help of CAL FIRE/ Napa Co Fire as needed, and they do a great job of wildland fire safety and education with the residents. The automated calling tree service continues to be a good tool in communicating their fire safety related messages.

Berryessa Highlands located at the South end of the Lake Berryessa, has become the latest community in the battalion to concentrate on improving wildland fire safety. In a cooperative effort with the NCFF, CAL FIRE, US Bureau of Reclamation, Napa County Public Works, and a core group of residents, the Berryessa Highlands Fire Safe Council was formed in 2011. This group prioritized the fire safe projects in the area, is working on creating a CWPP, and will pursue future grant funding. The first fuel projects completed included an infrastructure (community water treatment plant) fuel break, community entrance road side fuel break, and strategic interior one hundred foot fuel breaks below homes on steep slopes. CAL FIRE inmate hand crews were used on these projects with the support of the NCFF chipper and grant funding. The 100 foot fuel break started 100 feet below the homes with the residents being responsible for their required defensible space. Due to the steep slope and chimneys it was determined that an additional one hundred feet was needed. Permission was received from the large parcel owner and notification was made to the nearby subdivision parcel owners that inmate would be doing the work with a second crew supervisor present. The priority for these interior fuel projects is to clear the brush first on the south and west slopes then provide shaded fuel breaks under the oaks on the north and east slopes.

Future Projects and Priority Rankings

Priority for projects will continue to be placed on those sponsored or supported by the Napa Communities Firewise Foundation (NCFF), and in communities that show an interest in taking the lead to improve their fire safety. With federal grant funding being less available through the NCFF it must become a priority for each of the communities in the battalion to assist with fundraising in order to continue the support of programs like the free residential chipping.

Controlled burns and fuel break projects are being planned between CAL FIRE, The Bureau of Reclamation (BOR), and The Department of Fish and Game around Lake Berryessa. Recently the BOR has transitioned the recreational areas around the lake to a more traditional recreational and less permanent resident model. The Pensus Group has won the concessioner's bid to manage the recreational facilities. There is on-going planning and negotiations with the BOR and Pensus to address the changing wildland fire and emergency operations requirements for the future of the lake as well.

Battalion 1416 Napa/Yountville (Napa County)

Battalion 1416 is a “combination” battalion in that it consists of both CAL FIRE staffed Schedule “A” county owned structural fire engines and a truck, and CAL FIRE wildland orientated fire engines. Even though they are funded through different sources, the day-to-day operations are seamless. Three facilities are in the battalion. Yountville station, near the Yountville Veterans Home, houses a Schedule “A” structural fire engine and ladder truck. Napa station is housed with a Schedule “A” structural fire engine and a CAL FIRE fire engine, and Greenwood Ranch, near the Napa County airport, staffed with a Schedule “A” structural fire engine and a CAL FIRE fire engine.

Dry Creek-Lokoya, Carneros and Soda Canyon volunteer fire companies are assigned to Battalion 1416. Career fire departments within the Battalion are Napa City, American Canyon Fire Protection District, and Napa State Hospital.

The Mt. Veeder Fire Safe Council is located in the battalion. It incorporates the same space as the Dry Creek-Lokoya volunteer fire company, or the mountainous terrain west of Yountville near the Napa-Sonoma county line. The volunteer fire company provides office space and supports the Council. The Council has received two grants, one for startup supplies such as office supplies and equipment, letterhead, mapping services, and to conduct community forums. The second was for a chipper program, which is described under past projects.

Past Projects

In the past, following LE-100 defensible space inspections, a community chipper program was completed using funds from a BLM grant. The inspections along with public education, strived at getting voluntary compliance with defensible space laws. Fifty-two piles were produced by local residents and chipped by a team consisting of CAL FIRE, Napa County Fire Department, Mt. Veeder Fire Safe Council, Napa County Road Department, and Civilian Conservation Corps personnel.

Present Projects

All present projects are being administered through the Napa FIREWISE program and the Mt. Veeder Fire Safe Council.

Future Projects and Priority Rankings

As with the present projects, future projects and their associated ranking are being administered through the Napa FIREWISE program and the Mt. Veeder Fire Safe Council.

Battalion 1417 Middletown (Lake County)

Battalion 17 covers most of the southern portion of Lake County. A large portion of the battalion is also the South Lake Fire Protection District which is a schedule "A" contract with Cal Fire. The District also has the South Lake County Fire Safe Council. Highway 29 is the major traffic corridor through the Battalion with heavy commuter traffic to Sonoma and Napa counties.

The CAL FIRE facility in this battalion is Middletown Station, equipped with two engines and a dozer. The cooperative fire protection contract with the South Lake Fire Protection District to staff three Schedule "A" stations and one Volunteer station. Two paramedic units one near Cobb and the other in the Hidden Valley Lake subdivision are staff utilizing CAL FIRE paramedics. The district operates two additional fire stations using a combination of career and volunteers to staff.

This South Lake County Fire Safe Council is active. It covers an area of approximately 258 square miles. They have received funds through BLM several times over the past few years for various projects. The Council coordinates a chipping program, community meetings, public service announcements, fire prevention and safety related signs throughout the area.

Hidden Valley Lake is an approximately 3,000-parcel subdivision, along Highway 29 and is a gated community that has incorporated Public Resources Code 4290 and 4291 defensible space laws into their homeowners' code of conduct and regulations. They also maintain a fuel break around the subdivision, as well as completing fuel reduction for the "common" areas of undeveloped land.

Past Projects

Following is a list of completed past projects performed by the South Lake Fire Safe Council:

Evacuation Plan
Community meetings
Public Service Announcements on radio, cable, and in newspaper focusing on Fire Safety

Present Projects

- Continue with the Chipping Program
- New Cal Fire Prevention sign placed on the major traffic routes
- Numerous grants being submitted
- Control burns at Boggs Mountain State Forest
- Radio Upgrades (Narrow banding)
- New Fire Station to be built at Cobb Station (62)
- LE 100 program being implemented
- Large Animal Evacuation Program being established
- Vegetation Management continued with UC Davis and Fish and Game
- Working with the Care and Shelter Group of Lake County
- Meeting with landowners to established fire access routes and Helibase locations in the event of wildfires and other emergencies
- Community meetings/Education
- Continue with Fuel Breaks
  - Shenandoah Fuel Break
  - Bottlerock Fuel Break

Future Projects and Priority Rankings

- Continue with all current Projects and see them to completion
- Updating Disaster Plan in the Battalion
- Continued fuel reduction in Middletown Battalion

Battalion 1418 Kelseyville/Clearlake Oaks (Lake County)

Battalion 1418 is located in Northern Lake County and borders the Mendocino National Forest. Because of the immediate proximity to the National Forest, Battalion 1418 works frequently with them, and their resources are incorporated into CAL FIRE initial attack dispatches. Battalion 1418 fire stations are Kelsey-Cobb, located along Highway 175, and Clear Lake Oaks, which is on Highway 20. Kelsey-Cobb is staffed with two fire engines, and Clear Lake Oaks is staffed with two engines and a bulldozer. The Konocti Lookout is also within the battalion, and is staffed during periods of critical fire weather.

Past Projects

Battalion 1418 projects focus mainly on prescribed burning and fuel breaks. Recent past projects include Cow Mountain and Judge Davis Canyon.

The Cow Mountain (Rx North-047-LNU) project burned brush to lessen the fuel loading, protect assets at risk, improve wildlife habitat, and increase water yield. The project was located in mountainous terrain near the Lake/Mendocino County Line. Fifty acres were burned in November of 2002.

The Judge Davis Canyon (Rx North-052-LNU) project was located in Lake County ten miles east of Clearlake in the Rocky Creek-Cache Creek Wilderness Study Area, which is managed by the BLM. Vegetation is primarily chemise and mixed chaparral and has historically been the site of periodic wildfires. Project objectives were to reduce fuel loading, improve wildlife habitat, and increase water yield.

Recent Projects

A fuel break incorporating the re-establishment of fire truck trails was accomplished during a training exercise for Dozer Boss students. The break is west of Thurston Lake, and runs north/south between Highway 29 and Pt. Lakeview Road, near the community of Lower Lake. Additional work will be completed this year to improve access into this part of the battalion.

CEQA documentation for the Soda Bay Road Shaded Fuel Break was recently completed. This project is being done jointly with the Lake County Fire Safe Council and other stakeholders. Once completed the fuel break will improve the access/egress for emergency vehicles and provide for safer evacuations from several neighborhood communities located along an 8-mile stretch of Soda Bay Road near the community of Kelseyville. This project was identified in the 2009 CWPP for Lake County.

Future Projects and Priority Rankings

Battalion Chief 1418 is working with the County of Lake to establish a fire plan for the new Mt. Konocti Public Lands, located on top of Mt. Konocti. The county acquired approximately 1,600 acres from a private landowner and will be opening the land for public use during the summer of 2011. These lands are adjacent to land owned by the BLM, and not too far from the Clear Lake State Park.

A possible project is in the planning stages in the Cow Mountain Area for prescribed burning called the Pyramid Ridge VMP. The BLM is currently updating the NEPA documentation prior to proceeding.

Battalion 1419 Brooks/Wilbur Springs/Leeseville (Colusa & Yolo Counties)

Battalion 1419 runs along the eastern edge of LNU, running the length of Colusa,Yolo Counties, and extends into Solano County. There are three single engine fire stations located near Leesville, Wilbur Springs, and Brooks. The battalion is very rural, with many large landowners. The battalion consists of over 454,026 acres of SRA, LRA and FRA lands.

Highway 16, which runs from Highway 20 to Interstate 505, has had an above average number of fire ignitions in the area referred to as Rumsey Canyon. The above average number of fire ignitions was due to an arson problem that has recently been mitigated due to arrests.

Past Projects

CAL FIRE has been able to take advantage of the rural setting and large landowners to complete many prescribed burns over the past 20 years.

Present Projects

With direction and leadership from previous battalion chiefs, CAL FIRE has been very proactive in working with landowners, local government and BLM to complete many prescribed burns for a variety of purposes.

The Cortina VMP was developed in conjunction with local land owners. The goal is to, over a three-year period starting in 2011, burn brush in the fall and winter along with the spring burning of non-native grassland species.

Other projects have included the Bobcat Ranch burn (near the town of Winters) in 2010, various small burns with Williams Fire Dept., Capay Valley Fire Dept. and Yocha DeHe Fire Dept. Assist with annual Yolo County Fire Departments training burn in Dunnigun. Cal Fire's Northern Region firing class is held near Arbuckle each year. Besides offering training for Cal Fire personnel it creates a firebreak between the SRA mountains and the LRA valley floor. Over 500 prescribed acres were burned in the Rumsey Battalion in 2010.

Future Projects

Future projects will continue to include working with landowners, local government and the BLM to conduct prescribed burning for desired resource management objectives. Starting in the Spring of 2011, and continuing for the next few years, Cal Fire along with BLM will conduct several small prescribed burns in the Cache Creek Payne Ranch area. The goal is to eradicate several non native and noxious weeds that have taken over native grasses and plants.

LE 100 Inspections

During the spring and early summer of 2010, LE 100 defensible space inspections were conducted in the Rumsey Battalion. Over 266 inspections were made in Colusa and Yolo counties. Areas targeted were the Century Ranch subdivision near the town of Stonyford, Golden Bear Estates subdivision near Winters, as well as in the communities of Rumsey, Guinda and Capay. The program yielded many positive contacts with home owners and community groups.

APPENDIX A: HIGH PRIORITY PRE FIRE PROJECTS

Batt	Project Number	Project Name	Status	Estimated Completion Year	Project Type	Net Acres
14		Las Posadas Shaded Fuel Break	P		SFB	70
15		Berryessa Estates Shaded Fuel Break	O		SFB	50
15		Circle Oaks Shaded Fuel Break	O		SFB	40
15		Berryessa Highland Shaded Fuel Break	O		SFB	40
17		Bottle Rock Road Shaded Fuel Break	O		SFB	40
18		Soda Bay Shaded Fuel Break	P		SFB	
12		Sonoma Valley Pre-Attack Plan	A		Map	
14		Angwin-Deer Park Pre-Attack Plan	C		Map	
15		North Lake Berryessa Pre-Attack Plan	C		Map	
15		South Lake Berryessa Pre-Attack Plan	C		Map	
16		Dry Creek-Lakoya Pre-Attack Plan	C		Map	
16		Soda Cyn-Monticello Pre-Attack Plan	C		Map	

Status Guide: A = Active, P = Planning, C = Completed, O = Ongoing, M = Maintenance.

APPENDIX B: UNIT STRATEGIC FIRE PLAN AMENDMENTS

Date	Section Updated	Page Numbers Updated	Description of Update	Updated By

APPENDIX C: PRIORITY GOALS AND OBJECTIVES FOR 2010-2012

CAL FIRE Units were asked to identify two or more priority objectives under each goal in the 2010 Strategic Fire Plan for California. The Units' priorities are identified in bold and a measurement criteria are provided for each of the identified objectives. Throughout the next year, the Units will implement the identified priorities and report on the measurement criteria by June 2012. The priority objectives are displayed under three headings:
A. SACRAMENTO PROGRAMS OR COMMITTEE ONLY
B. SACRAMENTO PROGRAMS AND STAFF OR COMMITTEE, REGIONS AND UNITS
C. UNITS ONLY
These categories are not intended to exclude Units from addressing priority objectives in any of the three categories, they are only recommendations.

A. SACRAMENTO PROGRAMS OR COMMITTEE ONLY

Goal 1: Identify and evaluate wildland fire hazards and recognize life, property and natural resource assets at risk, including watershed, habitat, social and other values of functioning ecosystems. Facilitate the sharing of all analyses and data collection across all ownerships for consistency in type and kind.

Objectives:

a) Identify and provide appropriate automated tools to facilitate the collection, analysis and consistent presentation of datasets.

Measurement Criteria: *CAL FIRE shall establish policy that specifies spatial databases covering all forest and rangeland to not be older than 10 years. Include minimum requirements for spatial databases. Follow the coordinated work schedule with the USDA Forest Service to maintain cost effective collection and processing of data.*

Goal 2: Articulate and promote the concept of land use planning as it relates to fire risk and individual landowner objectives and responsibilities.

Objectives:

a) Identify the minimum key elements necessary to achieve a fire safe community, and incorporate these elements into land use planning, CWPPs and regional, county and Unit fire plans.

Measurement Criteria: *CAL FIRE to create a working committee with CAL Chiefs, USDA Forest Service and other key organizations to develop, monitor and refine elements of fire safe community, including evacuation plans. The Committee shall review existing templates for FIREWISE Assessments, CWPPs, fire plans and land use plans; identify the common elements and approaches for better integration. Utilize fire protection, planning and engineering expertise to identify the key elements (from existing templates) necessary for fire safe communities. Once agreed upon, these key elements will then be used as a checklist to guide consistency in fire safe planning efforts across jurisdictions. At a minimum, annually report to the Board on results.*

Goal 3: Support and participate in the collaborative development and implementation of wildland fire protection plans and other local, county and regional plans that address fire protection and landowner objectives.

Objectives:

a)Establish a working group, consisting of Board members and Departmental staff, to develop minimum standard elements for inclusion in Unit fire plans.

b) Emphasize coordination of Unit fire plans with community wildfire protection plans to encourage and support one consistent approach. Develop county or regional fire plans by bringing together community-based groups, such as fire safe councils and affected fire and land management agencies.

Measurement Criteria: *These measurement criteria meets objectives a and b. CAL FIRE to revise the template for the Unit fire plans to incorporate the goals and objectives of the 2010 Strategic Fire Plan. During the revision, the template for a CWPP will be jointly reviewed in order to reduce duplication of fire planning efforts. The key elements identified through the process identified in Goal 2, Objective b will also be incorporated into the Unit fire plan/CWPP.*

c) Create and support venues in which individual community members can be actively involved in local fire safe councils, community emergency response teams, FIREWISE and other community-based efforts to develop readiness plans and educate landowners to mitigate the risks and effects of wildland fire.

Measurement Criteria: *The California Fire Alliance to work with the California and local FSCs to develop venues (e.g., workshops) that assist landowners with readiness planning and education. CAL FIRE, California Fire Alliance Liaison to report to the Board annually on Alliance activities.*

Goal 4: Increase awareness, knowledge and actions implemented by individuals and communities to reduce human loss and property damage from wildland fires, such as defensible space and other fuels reduction activities, fire prevention and fire safe building standards.

Objectives:

a) Educate landowners, residents and business owners about the risks and their incumbent responsibilities of living in the wildlands, including applicable regulations, prevention measures and preplanning activities.

Measurement Criteria: *In coordination with the CAL FIRE Communications Program, the USDA Forest Service and local fire agencies, University of California and county cooperative extension offices, CAL FIRE to collect information on methods and effectiveness of existing outreach. Complete the information collection within year one of adoption of the 2010 Strategic Fire Plan. Develop a common set of measures to assess CAL FIRE efforts, build those into Unit fire plans and report to the Board. Report the progress of implementation at the end of year two.*

Goal 5: Develop a method to integrate fire and fuels management practices with landowner priorities and multiple jurisdictional efforts within local, state and federal responsibility areas.

Objectives:

b) Work to remove regulatory barriers that limit hazardous fuels reduction activities.

Measurement Criteria: *In conjunction with the Resource Protection Committee, CAL FIRE will develop an approach to identifying and recommending ways to address regulatory and other barriers that limit hazardous fuels reduction activities. This approach should include consultation with the Board's Interagency Forestry Working Group and with other agencies, such as the USDA Forest Service, the US Fish and Wildlife Service, the California Energy Commission, the Department of Fish and Game, regional water quality control boards, local government and the public. Finish this compilation within the first year of adoption of the 2010 Strategic Fire Plan. Based on barriers identified and recommendations for change, report to the Board starting in the second year.*

Goal 6: Determine the level of fire suppression resources necessary to protect the values and assets at risk identified during planning processes.

Objectives:

e) Initiate and maintain cooperative fire protection agreements with local, state and federal partners that value the importance of an integrated, cooperative, regional fire protection system and deliver efficient and cost effective emergency response capabilities beneficial to all stakeholders.

Measurement Criteria: *CAL FIRE to identify the number and effectiveness of agreements and partnerships. In conjunction with the Board's Resource Protection Committee, CAL FIRE will develop suggested measures of effectiveness of cooperative agreements. This should be in collaboration with its partners, completed within 18 months of adoption of the 2010 Strategic Fire Plan and reported to the Board.*

i) Provide for succession planning and employee development at all levels within CAL FIRE to maintain emergency response leadership capabilities, administrative management skills and pre-fire planning expertise.

Measurement Criteria: *CAL FIRE to revise and update the information developed in the 2005 Succession Planning meetings. This work should be completed within two years of the adoption of the 2010 Strategic Fire Plan, with annual reporting to the Board based on issues raised, including identification of key training needs, funding available and expenditures on the training program, content of Academy curricula, number of students requesting and/or able to take classes at the Academy, local community college or other educational outlets.*

B. SACRAMENTO PROGRAMS AND STAFF OR COMMITTEE, REGIONS AND UNITS

Goal 1: Identify and evaluate wildland fire hazards and recognize life, property and natural resource assets at risk, including watershed, habitat, social and other values of functioning ecosystems. Facilitate the sharing of all analyses and data collection across all ownerships for consistency in type and kind.

Objectives:

b) Engage and participate with local stakeholder groups (i.e., fire safe councils and others) to validate and prioritize the assets at risk.

Measurement Criteria*: CAL FIRE shall designate personnel as advisors/liaisons to the California Fire Safe Council (CFSC) and to each county or regional FSC. The advisors will be responsible for reporting activities to the Unit and Region. The advisor to the CFSC will report to the Board. Annual reporting of time-spent working will be displayed in hours at the Unit, Region and Headquarters level. Reporting will include activities with local FSCs, communities, watershed groups or others defining hazards and risk of wildfire and documenting these in a CWPP or Unit fire plan. Emphasize the products developed in Goal 3, Objective b. Advisors will emphasize using standard guidelines and templates for consistency throughout the state.*

Goal 2: Articulate and promote the concept of land use planning as it relates to fire risk and individual landowner objectives and responsibilities.

Objectives:

b) Assist the appropriate governmental bodies in the development of a comprehensive set of wildland and wildland urban interface (WUI) protection policies for inclusion in each county general plan or other appropriate local land use planning documents.

Measurement Criteria: *CAL FIRE to appoint a committee including Unit, Region, Headquarters and Contract County representatives. Develop a work plan that identifies key elements of improving WUI strategies, including planning. Reporting should be based on elements identified and priorities for addressing them.*

Under the Board's Resource Protection Committee, review existing Board policies as they relate to wildland fire and the relevance (ease of use, applicability) to incorporation in local general plans. Identify areas of possible improvement and update policies.

Track and report hours at the Unit, Region and Headquarters level spent in reviewing plans and projects; number of local Board/Council, Planning Commission meetings and/or meetings with other cooperators.

Goal 4: Increase awareness, knowledge and actions implemented by individuals and communities to reduce human loss and property damage from wildland fires, such as defensible space and other fuels reduction activities, fire prevention and fire safe building standards.

Objectives:

c) Increase the number and effectiveness of defensible space inspections and promote an increasing level of compliance with defensible space laws and regulations through the use of CAL FIRE staffing as available, public and private organizations, and alternative inspection methods.

Measurement Criteria: *CAL FIRE to form an advisory committee to review PRC §4291 regulations and make recommendations to the Board that will provide for consistency, streamlining and clarification of existing regulations. The Committee shall develop criteria to increase the number and effectiveness of defensible space inspections. The Committee will develop an implementation plan for the recommendations and report on progress to the Board*

Goal 7: Address post-fire responsibilities for natural resource recovery, including watershed protection reforestation, and ecosystem restoration.

Objectives:

a) Encourage rapid post-fire assessment, as appropriate, and project implementation to minimize flooding, protect water quality, limit sediment flows and reduce other risks on all land ownerships impacted by wildland fire.

Measurement Criteria*: Provide training for CAL FIRE personnel on suppression repair and damage assessment procedures. Develop standard formats and documentation templates for these assessments. Identify and use the findings to reduce the impacts of fire suppression on the landscape and improve resiliency of assets at risk from wildfire.*

C. UNITS ONLY

Goal 5: Develop a method to integrate fire and fuels management practices with landowner priorities and multiple jurisdictional efforts within local, state and federal responsibility areas.

Objectives:

h) Support the availability and utilization of CAL FIRE hand crews and other CAL FIRE resources, as well as public and private sector resources, for fuels management activities, including ongoing maintenance.

Measurement Criteria*: CAL FIRE will report to the Board on the number of crews available each year with a description of projects, including acres treated, completed by each Unit. Report the number of agreements and/or amount of funding and acres treated that involve grants or partnerships with federal agencies, resource conservation districts, local FSCs, fire districts, watershed groups or other non-profit or community groups that support the ability to carry out fuels reduction projects.*

Goal 7: Address post-fire responsibilities for natural resource recovery, including watershed protection reforestation, and ecosystem restoration.

Objectives:

e) Assist landowners and local government in the evaluation of the need to retain and utilize features (e.g., roads, firelines, water sources) developed during a fire suppression effort, taking into consideration those identified in previous planning efforts.

Measurement Criteria: *CAL FIRE (utilizing Incident Command Teams) to schedule a post-fire review of the planning documents that cover the area affected by the fire. Review the goals, objectives and projects (implemented and planned) to identify successes and failures. Review the features developed during the fire and incorporate them into the existing Unit fire plan documents. This objective will only be reported when a fire occurs in an area with an existing Unit fire plan document. Incident command teams may conduct this post fire assessment under the direction of the Unit Chief.*

D. ADDITIONAL UNIT SPECIFIC GOALS AND OBJECTIVES

APPENDICES D-Z

LNU MULTIPLE INCIDENT MANAGEMENT PLAN (MIMP)

INTRODUCTION

This plan is designed to assist the Unit in managing multiple incidents in a safe, efficient and expedient manner.

OBJECTIVES:

- **Identify and prioritize multiple incidents in a timely manner.**
- **Provide a standard method of managing multiple incidents that may have the potential of escalating and causing immediate draw down of personnel and equipment within the Unit.**
- **Reduce the workload on the ECC.**
- **Provide an effective method of managing the Unit's resources.**
- **Minimize resource draw down by committing local government resources.**
- **Provide proper management of radio frequencies.**

ACTIVATION

Activation of this plan will occur under two circumstances:

1. **Intelligence received forecasts the high probability that multiple incidents will have a significant impact on the Unit. (Predicted lightning, flooding, etc)**
2. **It is obvious the increasing number of incidents are creating an immediate draw down of resources and/or the ECC can no longer support all incidents.**

ORGANIZATION

The Multiple Incident Management Plan will be operated in accordance with the Incident Command System.

1. **The Unit Duty Chief will function as such for contacts with the Region Duty Chief, the Unit Chief, the ICs and the ECC Chief.**
2. **The North, South, East, and West Division Chiefs or their designee will function as Incident Commanders of their respective Divisions. (North IC, South IC, East IC, West IC).**
3. **The Unit will function into Operational Battalions in those affected battalions. (13 Operations--Healdsburg Battalion, 17 Operations—Middletown Battalion, 14 Operations—St. Helena Battalion, etc). The Battalion boundaries will define the Operational Area perimeters unless circumstances require otherwise.**
4. **Numbering and naming of incidents will be by Battalion number followed by a sequential number. (Bat. 13—Inc. 13-1, 13-2, 13-3, etc.)**
5. **A Logistics Chief will be assigned to each Division activated and coordinate with the Service Center to provide logistical support within that Division.**
6. **Two additional vehicles per Division will be staffed with division/group qualified personnel.**

7. **Pre-designated staging areas will be identified. (Healdsburg FFS, Lake Sonoma Visitor Center, Konocti Camp, Calistoga Fairgrounds, etc.)**

DUTY CHIEF

1. **Coordinate with North, South, East, and West IC's on Divisional needs and priorities.**
2. **Determines need for plan activation**
3. **Coordinates with Region Duty Chief and Unit Chief on Unit needs and priorities.**
4. **Coordinates with ECC on draw down and Unit needs**
5. **Ensure callback of all DCs, BCs, Logistical Sec. Chief, Div/Group, ECC Support, Air Attack personnel and Unit Support Team.**

INCIDENT COMMANDER

1. **Determine need for plan activation within their Division.**
2. **Prioritize incidents within their Division.**
3. **Assign Operations Chiefs and coordinate their resource needs.**
4. **Coordinates assignment of resources to Operational Battalions.**
5. **Liaison with local government entities on incident status.**
6. **Track and assign Multiple Incident Management Plan number to incidents within their Division.**

OPERATIONS

1. **Coordinate with Incident Commander.**
2. **Determine Operational Battalion resource needs.**
3. **Prioritize Operational Battalion incidents.**
4. **Manages and assign resources.**
5. **Maintain situation unit information on FC 34.**
6. **Ensures staging and logistical support.**
7. **Ensure accurate tracking of incidents within their Operational Battalion.**

COMMUNICATIONS

1. **ECC will assign frequencies to each IC for use in each Division.**
2. **ECC ensures ICs have incident numbers for all incidents assigned in their Division.**
3. **ECC coordinates airtanker assignments until an IC or Air Ops is activated.**
4. **ECC will keep ICs informed of weather forecasts.**
5. **ECC will dispatch all new non-MIMP incidents and request resources from appropriate divisional IC.**

INTELLIGENCE AND DETECTION

The ICs and Operational Battalions will request and use any resources needed for planning or detection of incidents. Air attack will be activated and used in conjunction with fixed detection,

suppression and air tanker operations by IC request. Supplemental aircraft will be utilized when needs arise to free air attack for operational needs.

1. **Lookouts will report all smokes within SRA to the ECC, identifying type of smoke, bearing , distance, landmarks and location. The ECC will then notify the appropriate IC of the incident.**
2. **Aerial Recon will be activated and used in conjunction with fixed detection, suppression and air tanker operations.**
3. **ECC will advise recon aircraft of target areas after checking with ICs.**
4. **Air Recon will plot smokes using Lat and Longs and report them to the ECC until advised to report directly to the ICs.**
5. **The ECC or SAAB will order additional recon aircraft as early as possible.**
6. **Consideration should be given to using a Call When Needed (CWN) aircraft when recon flights are ordered.**

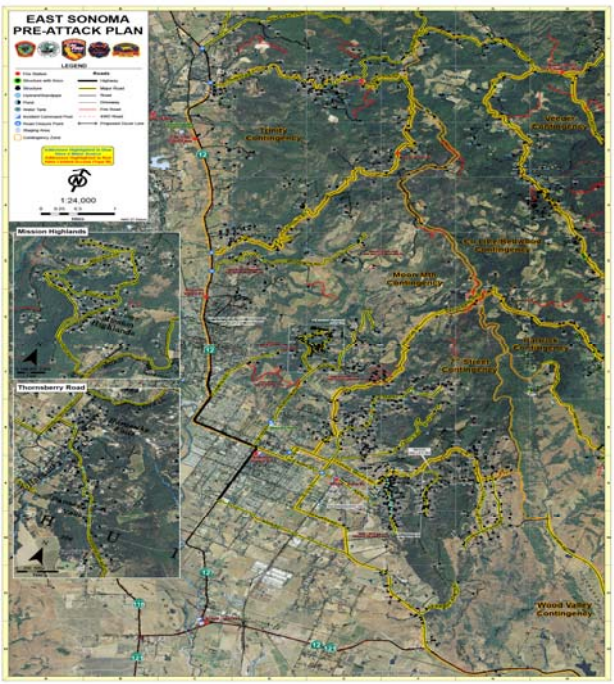
ESCALATING INCIDENT

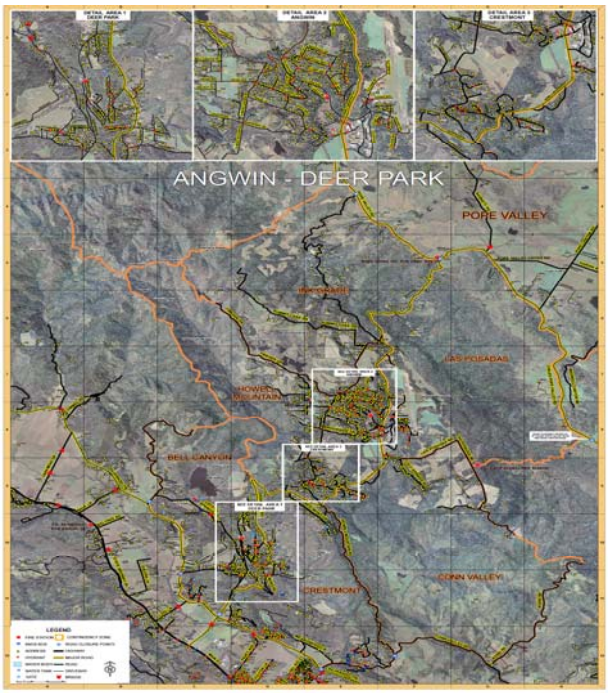
Any incident that is predicted or escalates beyond the support capabilities of the Operational Battalion, will become a separate incident from that IC's responsibilities. An Incident Commander will be assigned and all requests for resources will go through the normal ECC channels and will be run as a separate incident.

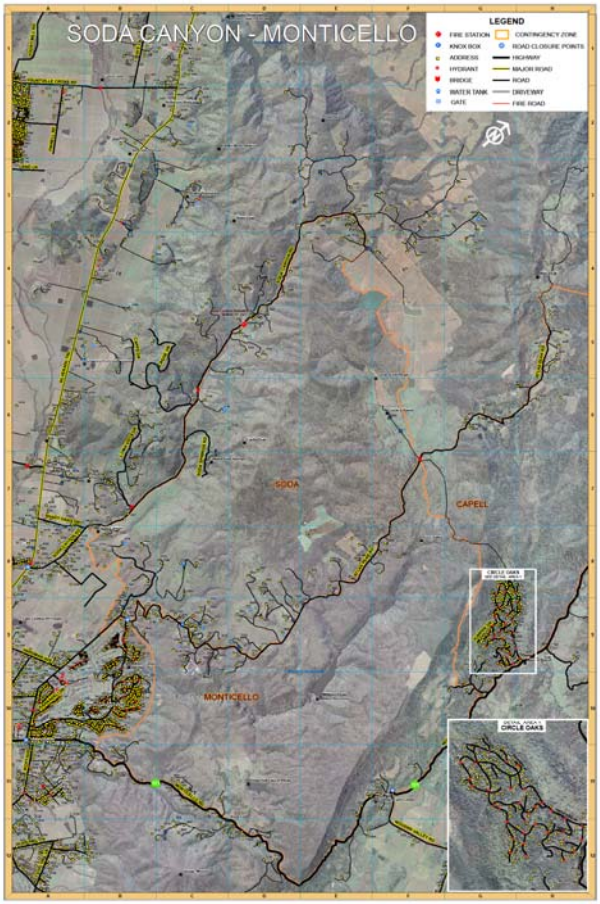
DEACTIVATION

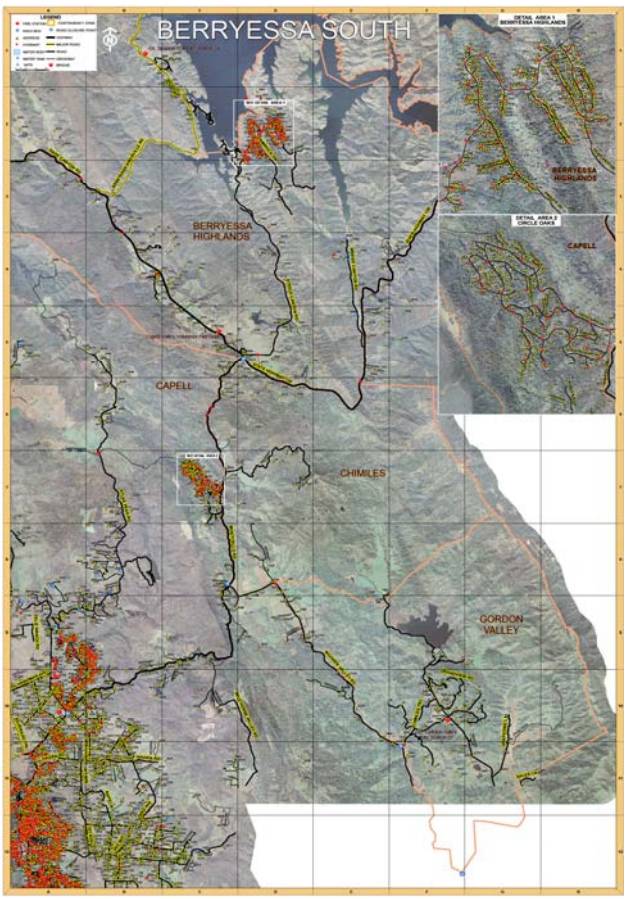
A joint decision will be made between Operational Battalions, ICs, Duty Chief and the ECC to deactivate the appropriate Operational Battalion, IC or Plan.

Pre-Attack Map Product examples:



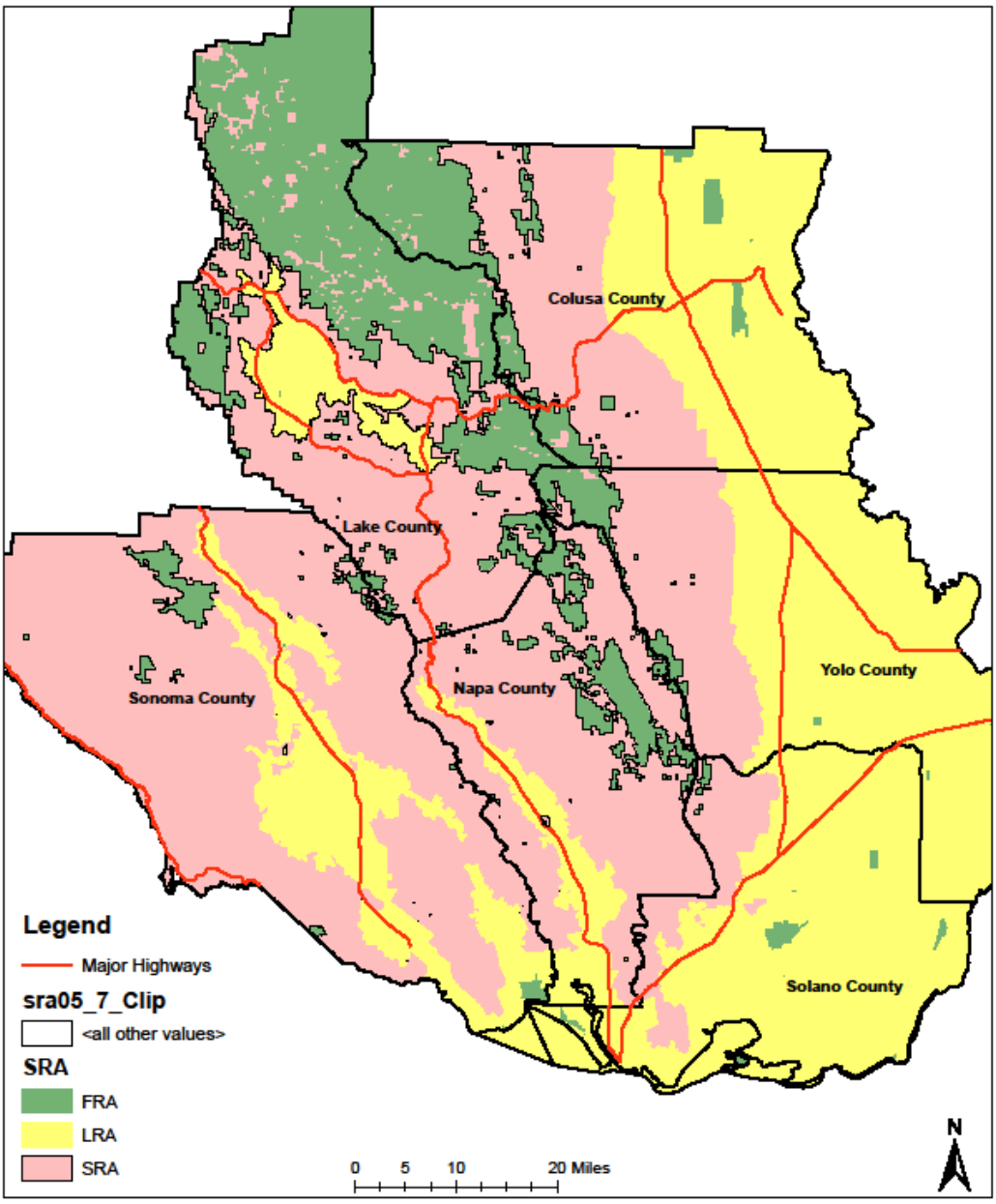






EXHIBITS: MAPS

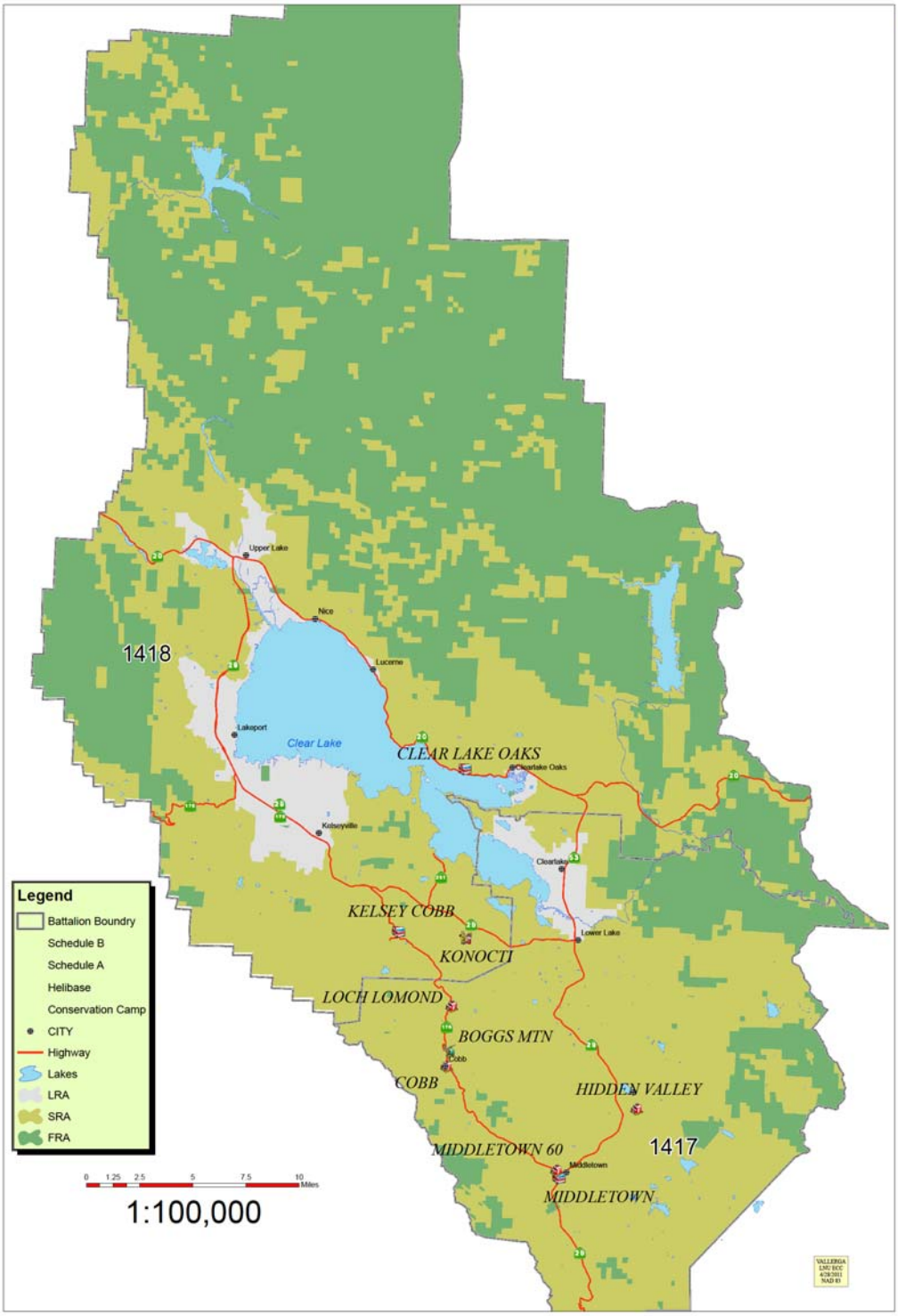
Figure A: Unit Map



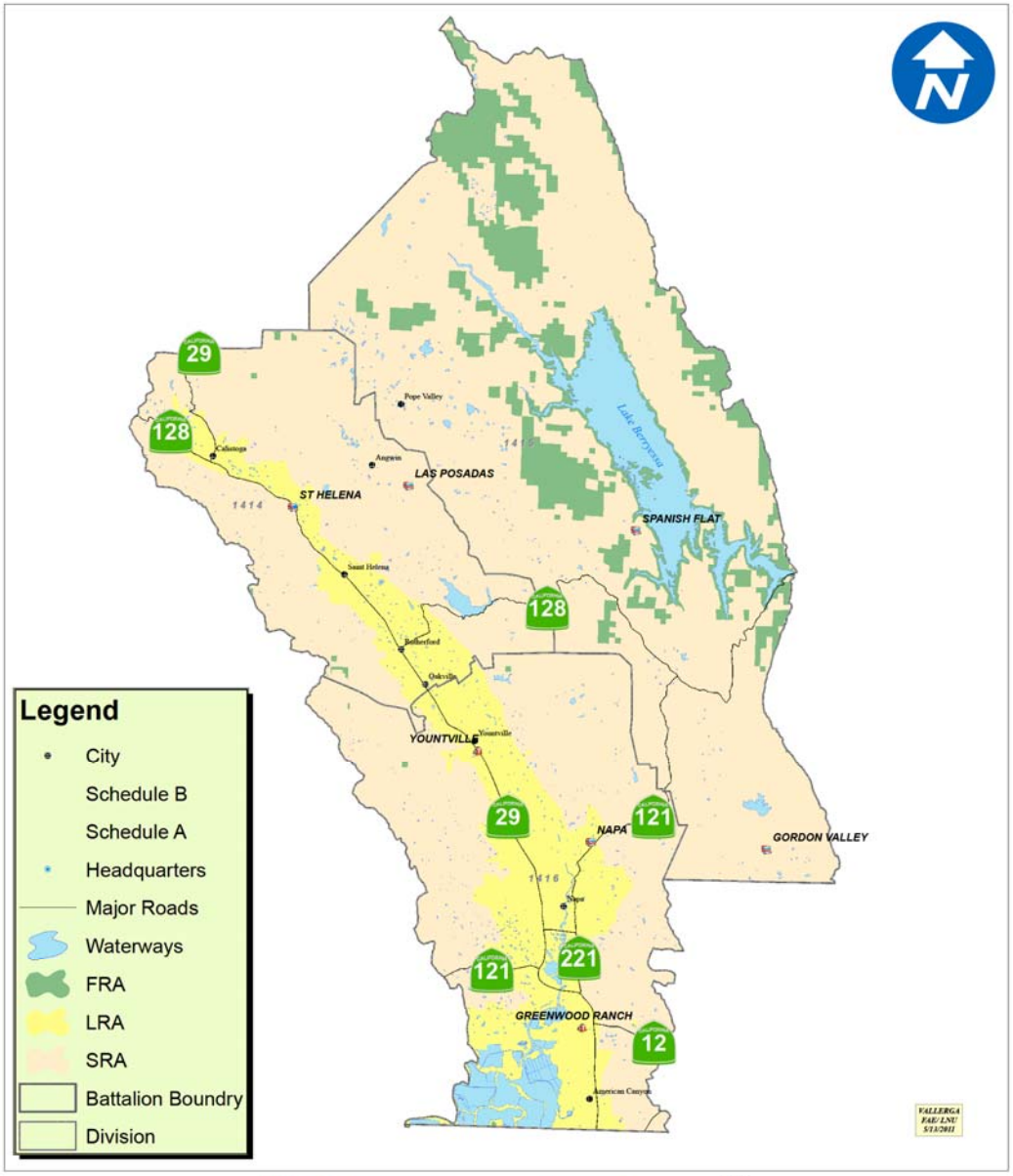
Map Created by:
Jon Lovie
April 2011

Sonoma-Lake-Napa Unit by County
FRA SRA LRA Boundaries

Figure B: Division Maps



SOUTH DIVISION SRA BOUNDRY
SONOMA-LAKE-NAPA UNIT
NAPA COUNTY



Miles
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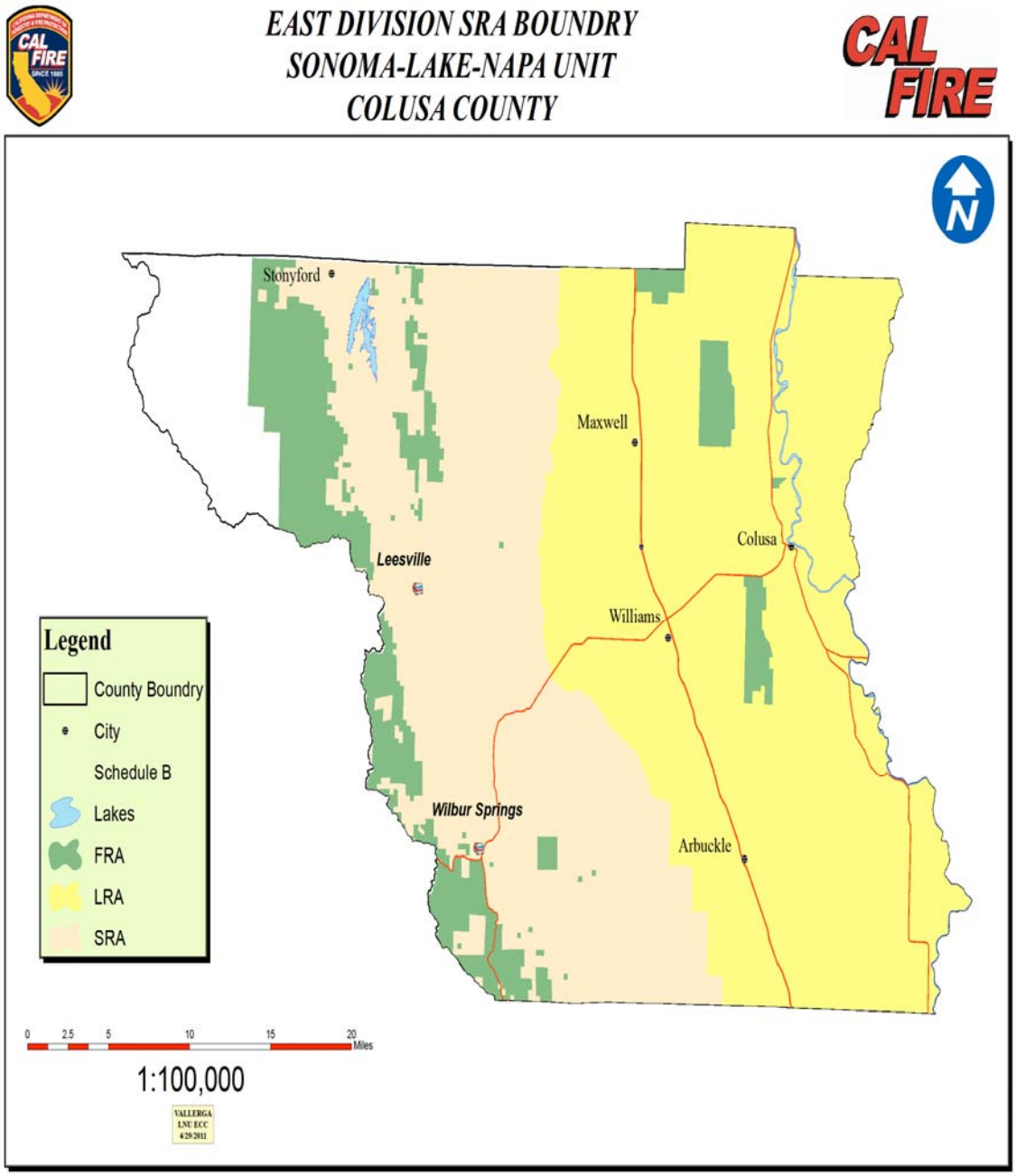
EAST DIVISION SRA BOUNDRY
SONOMA-LAKE-NAPA UNIT
COLUSA COUNTY
CAL FIRE
N
Stonyford
Maxwell
Colusa
Leesville
Williams
Wilbur Springs
Arbuckle
Legend
County Boundry
City
Schedule B
Lakes
FRA
LRA
SRA
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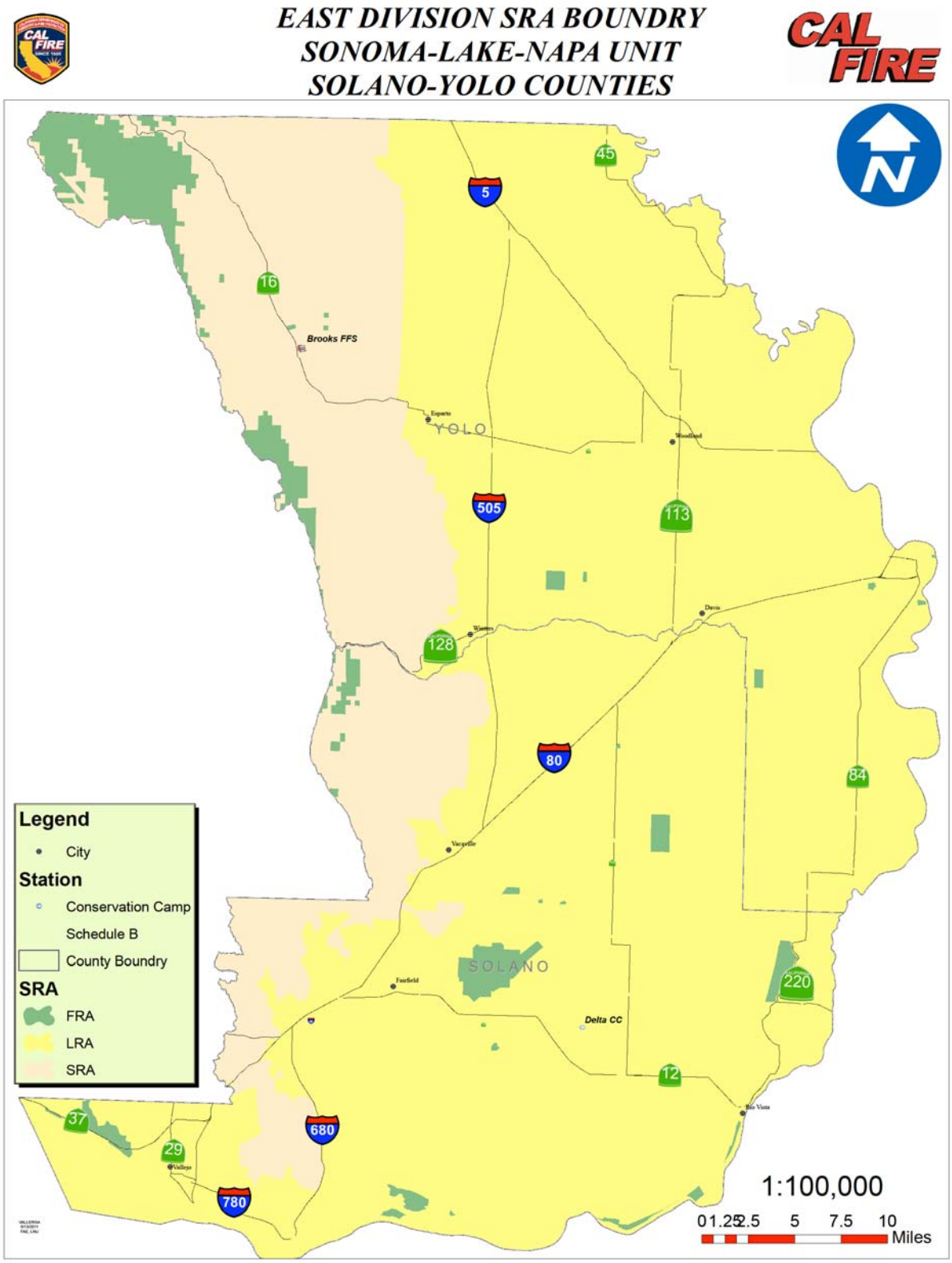
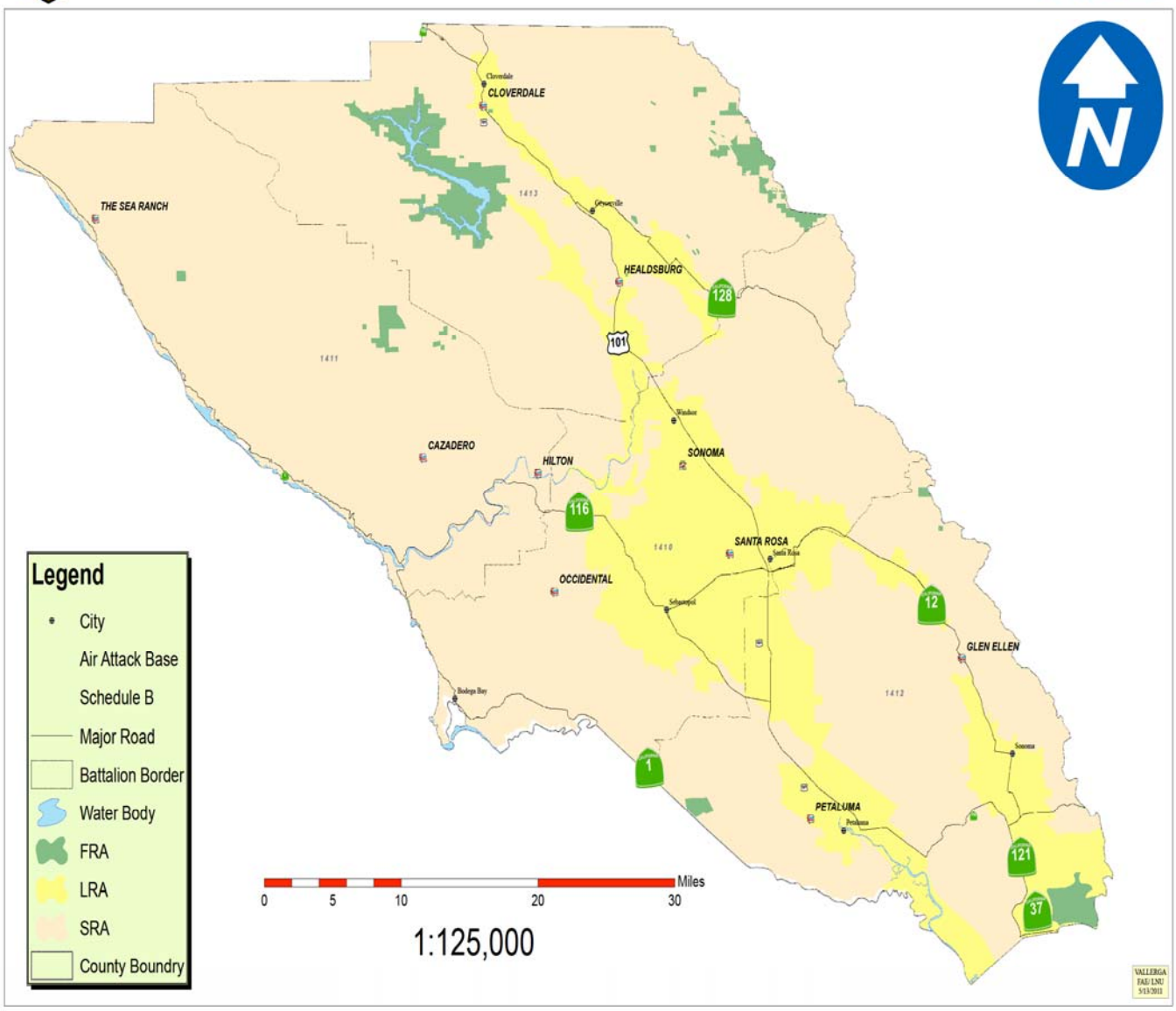
VALLERGA
LNU ECC
4/29/2011


EAST DIVISION SRA BOUNDRY
SONOMA-LAKE-NAPA UNIT
SOLANO-YOLO COUNTIES
CAL FIRE
N
Brooks FFS
YOLO
SOLANO
Delta CC
Legend
City
Station
Conservation Camp
Schedule B
County Boundry
SRA
FRA
LRA
SRA
1:100,000
0 1.25 2.5 5 7.5 10
Miles


WEST DIVISION SRA BOUNDRY
SONOMA-LAKE-NAPA UNIT
SONOMA COUNTY
CAL FIRE
N
CLOVERDALE
THE SEA RANCH
HEALDSBURG
CAZADERO
HILTON
SONOMA
SANTA ROSA
OCCIDENTAL
GLEN ELLEN
PETALUMA
128
101
116
12
1
121
37
1411
1412
1413
1410
Legend
City
Air Attack Base
Schedule B
Major Road
Battalion Border
Water Body
FRA
LRA
SRA
County Boundry
Miles
0
5
10
20
30
1:125,000

ADDENDUM: 2012