



CAL FIRE

Madera – Mariposa – Merced Unit



2023 UNIT STRATEGIC FIRE PLAN

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SIGNATURE PAGE

Unit Strategic Fire Plan developed for *Madera-Mariposa-Merced 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.



Unit Chief

Mike van Loben Sels

5-4-2023

Date



Pre-Fire Engineer

Mike Keyser

5-4-2023

Date



EXECUTIVE SUMMARY

The Madera-Mariposa-Merced Unit has written its annual Fire Plan with the intention of establishing goals and priorities that align with CAL FIRE'S Strategic Plan and the California Fire Plan, while identifying goals and priorities specific to the Unit.

The California Fire Plan is the road map for reducing the risk of wildfire. The Madera-Mariposa-Merced Unit's fire plan identifies strategic goals and objectives that target the anticipation and reduction of wildfire within the boundaries of the Unit. For the challenges facing the Unit with excessive tree fall rates due to bug kill and severe years of drought, the Fire Plan will also serve the Unit in determining a plan to address our most dangerous areas and targets of risk within the overall Fire Plan. This fire plan seeks to improve operational effectiveness, scale to budgetary and fiscal circumstances, foster a healthy ecosystem and improve firefighter safety by identifying working projects specific to each Battalion within the Unit.

Pre-fire management projects are designed to reduce cost and losses, especially during periods of severe weather. With the use of fire-resistant landscaping, mechanical fuels treatment, prescribed fire projects, building construction standards, infrastructure, land use planning, pre-fire safety zones and escape plans, the Unit strives to keep what would otherwise be a large, catastrophic fire, to a smaller fire with less intensity, reducing suppression costs and property loss. The planning process defines a level of service measurement, considers assets at risk, incorporates the cooperative interdependent relationships of wildland fire protection providers, allows for public stakeholders' involvement, and creates a fiscal framework for policy analysis.

The bark beetle epidemic has hit California's wildland forests in the Coastal Ranges, Sierra Mountains and Foothill Communities, posing threat where dead trees are near homes and private property. In these areas, CAL FIRE has launched a public outreach campaign to educate and motivate residents to take steps now to protect their home and property from wildfire. More than 163 million trees have died in California since 2010, mostly pines in the Southern Sierra. In some communities, up to 85 percent of forest trees have died, and half of those have fallen, becoming dry fuel for wildfire and making fires more resistant to control. This epidemic has hit the Unit especially hard. In addition to the strategic goals outlined within the Fire Plan, all aspects of fire prevention, along with project and fuel reduction work, is prioritized along with the severe tree mortality issues that will continue to plague the citizens of the mountain areas for many years to come.

The strategic goals outlined above will be supported by the following objectives:

- Collect, analyze, and prepare data to assess communities at risk and in need of fuel reduction or other projects.
- Work with grant writers and stakeholders to secure funds to implement projects.
- Utilize CAL FIRE personnel and resources in conjunction with other public and private efforts to assist with the project work on the ground.
- Increase opportunities for utilizing fuel hazard reduction burns in areas that would benefit from the re-introduction of fire to the landscape.

- Educate the public on fire prevention practices that would incorporate fire landscaping and construction to reduce their threat from wildfire along with hazardous fuel reduction projects to keep lives, homes, property, and natural resources safe from catastrophic wildfires.
- Teach homeowners the value of removing bug killed and dead and dying trees from the landscape to improve the health of the forests and ecosystem while also improving fire prevention and land clearance methodology.

With these goals and objectives identified, the Fire Plan strives to reduce property loss, damage to our local environment and ecosystems from destructive wildfires, along with a reduction of suppression costs within the Madera-Mariposa-Merced Unit.

Mike van Loben Sels



SECTION I: UNIT OVERVIEW

UNIT DESCRIPTION

The Unit is comprised of three counties including Madera, Mariposa, and Merced. The Unit is in Central California between Fresno County to the south and Tuolumne County to the north. The western side of the Unit borders the counties of Santa Clara and San Benito. To the east, the Unit borders the Stanislaus National Forest, Sierra National Forest, and Yosemite National Park. Mono County is the next county to the east. The geographic center of the state of California is located within the unit between the communities of North Fork and Italian Bar in Madera County.

The Unit consists of 1,211,000 acres of State Responsibility Area (SRA) lands located on the western slopes of the Sierra Nevada Mountain range and the eastern slope of the Diablo Mountain range in central California. Major watershed areas significant to the Unit's fire problem include the San Joaquin River, Merced River, Chowchilla River, Tuolumne River, and associated drainages. These major river drainages dominate the landscape throughout the Unit and are directly related to the location of population, access/egress difficulties, fuel type, fuel loading, fuel continuity, shifting wind patterns and water accessibility; all contributing to suppression difficulties and highlighting the fire problem. Topography varies from steep rugged mountains to drainages with moderate to heavy vegetative cover, to rolling hills of grass and oak woodlands supporting livestock grazing. Fuel loading varies from 2 tons per acre in grass, to over 100 tons per acre in timber. Plant species vary by aspect, slope, elevation, and soil type. Annual grasses are found in the lower elevations, with approximately 1,000' elevation, vegetation changes to grass and oak woodlands. The introduction of brush intermixing with the grass and oak woodlands occurs between the 1,000' and 2,500' elevation marks. As the elevation approaches 3,000', the brush becomes the more prominent vegetation. As the elevation increases between 3,000' to 4,500', timber and brush intermix. Above 4500' timber dominates the landscape with mixed conifer.

During normal years, the Unit experiences all four seasons of weather. During the peak fire season, hot and dry weather conditions are present at all elevations. The valley and foothill temperatures average 100 degrees during the day and 65 degrees at night. The average humidity in the summer months is 15 to 20 percent.

There is typically no rainfall from May through mid-October except for occasional thunderstorms. Thunderstorm activity can bring with it the threat of dry lightning and increased fire activity; however, most of the thunderstorm activity occurs in the higher elevations of the Sierra Mountains and typically brings moisture. Rainfall is most prominent during the months of December, January, and February with an average annual rainfall of 12 inches for the valley, and between 20 to 45 inches in the higher elevations. Snowfall measurements begin around 3000' and average 7 inches. Drought conditions are predicted to persist through the summer of 2022. The combined effects of drought and bark-beetle infestations have resulted in a large amount of standing dead trees in the Unit which continue to cause challenges to fire suppression.

Winds are generally predictable during the dry months. Diurnal surface winds are up canyon during the day and down canyon at night. Prevailing upper-level winds are out of the west/northwest. These winds are more intense when they surface at the higher elevations and have a negative impact on fire behavior. It should be noted that western Merced County has its own microclimate with temperatures ranging from 95 to 105 degrees and humidity percentage ranging from the low teens to single digits. The strong northwest afternoon winds that occur from heating of the earth's surface, and a strong marine influence, bring an increase in humidity, and a slight cooling in temperature.

The coastal weather influence, together with periods of extreme fire weather conditions, provides a window for extreme wildland fire behavior in the Unit from late June until measurable rainfall. A history of large and damaging fires has occurred within the Unit during that time of year.



UNIT PREPAREDNESS AND FIREFIGHTING CAPABILITIES

The Madera-Mariposa-Merced Unit has three operational divisions whose boundaries are established by the three county lines. The Unit protects a total area of 3,570,000 acres, and a total population of 464,000 residents.

The three divisions include the Mt. Bullion Conservation Camp and thirteen Battalions. The key operational preparedness program is the Unit Structure Defense/Evacuation Plans (see appendix D). Other programs include the Emergency Command Center, Fire Prevention/Law Enforcement, Safety and Risk Management, Training, Resource Management, Volunteers in Prevention, Automotive Maintenance and Repair and the many important programs associated with the cooperative fire agreements.

Unit Operational Facilities

State Fire Stations	11
Madera County Fire Stations	12
Mariposa County Fire Stations	12
Merced County Fire Stations	20
Madera City Fire Stations	3
Atwater City Fire Stations	2
Central California Women's Facility Fire Station	1
Conservation Camps	1
Fire Centers	1

Local FIRE departments that our Unit has mutual or automatic aid agreements with are as follows:

Direct Protection Agreements – MMU/Sierra National Forest Local Operating Agent

Cooperative Fire Protection Agreements – Atwater City Fire Department, Madera City Fire Department, Madera County Fire Department, Merced County Fire Department, and Mariposa County Fire Department.

Automatic/Mutual Aid Agreements - Chowchilla City Fire Department, Dos Palos City Fire Department, Los Banos City Fire Department, Fresno City Fire Department, Fresno County Fire Protection District, Gustine City Fire Department, Livingston City Fire Department, Mariposa County Public Utility District, Merced City Fire Department, Newman City Fire Department, City of Turlock, Turlock Rural Fire Protection District, West Stanislaus County Fire Protection District.

Cooperative Fire Agreements for Dispatching - Atwater City Fire Department, Dos Palos City Fire Department, Gustine City Fire Department, Livingston City Fire Department, Madera City Fire Department, Madera County Fire Department, Mariposa County Fire Department, Mariposa Public Utility District and Mercy Ambulance.

SECTION II: COLLABORATION

COMMUNITY / AGENCIES / FIRE SAFE COUNCILS

Representatives involved in the development of the Madera-Mariposa-Merced Unit Strategic Fire Plan are included in the following table. Their organization are indicated below:

Plan Development Team:

Organization	Title
Mariposa County Fire Safe Council	https://www.mariposafiresafecouncil.org/
Yosemite/Sequoia Resource Conservation & Development Council	https://ysrcandd.org
U.S. Forest Service, Sierra National Forest	https://www.fs.usda.gov/sierra/
U.S. Forest Service, Stanislaus National Forest	https://www.fs.usda.gov/main/stanislaus
Bureau of Land Management, Mother Lode	https://www.blm.gov/office/mother-lode-field-office
Yosemite National Park, Park Service	www.nps.gov/yose
Mariposa Resource Conservation District	http://www.mcrcd.net
Coarsegold Resource Conservation District	www.crcd.org
Madera County Fire Department	www.madera-county.com
Madera County Sheriff's Department	www.madera-county.com
Merced County Fire Department	www.co.merced.ca.us
Mariposa County Fire	www.mariposacounty.org/76/fire-deparment
Mariposa County Sheriff's Department	www.mariposacounty.org/82/sheriffs-office
Mariposa Public Utility District	www.mariposapud.org
Southwest Interface SWIFT	Director
Eastern Madera County Fire Safe Council	www.easternmaderacountyfiresafecouncil.com

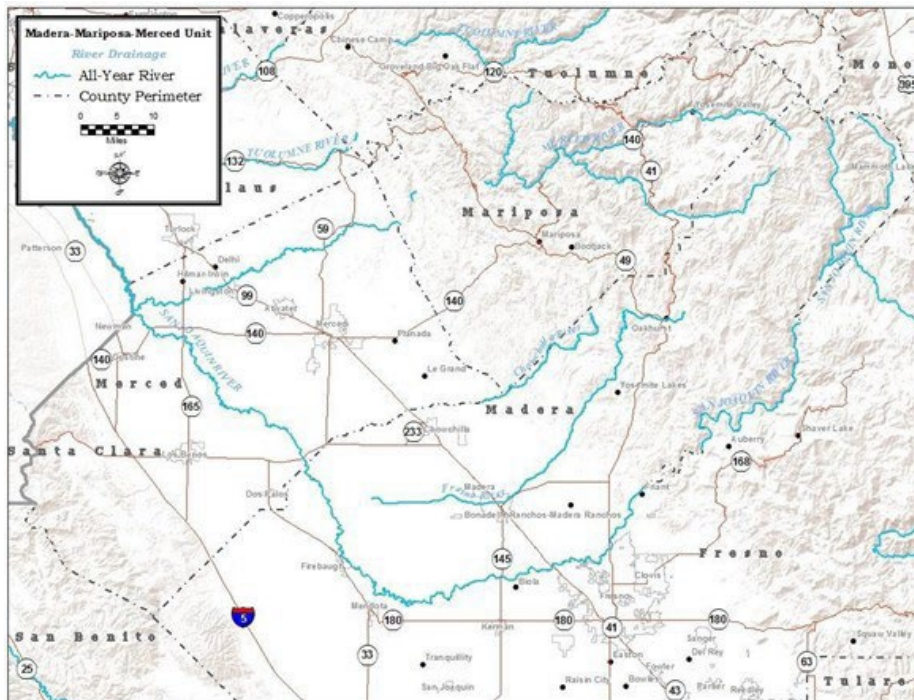
A: VALUES

The Madera-Mariposa-Merced Unit is rich in measurable values, including the people and their property, our diverse environment, and the many local ecosystems that inhabit our boundaries. When you begin to determine risk, as it relates to values, the threat from fire clearly affects those values at risk. The Unit has determined that values must be prioritized for necessary reporting purposes, but the prioritization does not allow for equality in the fire planning process.

The Unit has engineered its fire plan to include planning to protect and reduce risk to lives and property, timberland, rangeland, agriculture, water, watershed, wildlife and their habitat, cultural, historic, and scenic values.

The key to reducing damage to our values at risk from fire, not only includes planning but continuing prevention and education programs in our communities. If prioritization of values at risk includes how fire is carried, spreads, where the most destruction could occur in a large and damaging fire, then prioritization is the best method to determine if the Unit is placing their time and resources in the highest priority areas for loss. Fire moving out of or into the major river drainages that dominate the Unit's landscape, pose the highest threat to our values at risk.

Assets at Risk (AAR) to fire damage in the unit are identified in the communities at risk table on the following page.



B: COMMUNITIES

Twenty-seven communities within the Madera-Mariposa-Merced Unit have been recognized as communities at risk by CAL FIRE'S Office of the State Fire Marshal. For more information on Communities at Risk and the California Fire Alliance can be found at:

<http://osfm.fire.ca.gov/divisions/Wildfire-Planning-Engineering/Fire-Plan/Communities-At-Risk/>

Madera County

*Ahwahnee	Hidden Valley Estates	Raymond
Arnold Meadow	Indian Lakes	Sierra Highlands
*Bass Lake	Leisure Acres	Sierra Lakes
Bass Lake Annex	Madera	Sky Acres
Bass Lake Heights	Marina View	Sugar Pine
Beasore Meadows	Meadow Springs Ranch	Teaford Meadows
*Cascadel Woods	Miami Highlands	Wells/Trabuco
Cedar Valley	*Nipinnawasee	Wishon
Central Camp	*North Fork	Yosemite Forks
Chowchilla	*Oakhurst	*Yosemite Lakes
Coarsegold	O'Neals	Sierra Lakes
Goldside	Quartz Mountain	Tesoro Viejo

Mariposa County

Bear Valley	*Foresta	*Mormon Bar
*Bootjack	*Greeley Hill	Mount Bullion
Bridgeport	Hornitos	*Ponderosa Basin
Cathey's Valley	*Hunters Valley	*Yosemite West
*Coulterville	*Jerseydale	*Yosemite Village
Don Pedro	*Lush Meadows	*Wawona
*El Portal	*Mariposa	
*Fishcamp	*Midpines	

Merced County

Atwater	El Nido	Planada
Ballico	*Gustine	Santa Nella
Cressey	Hilmar	Snelling
Delhi	Le Grand	Stevinson
*Dos Palos	Livingston	Volta
Dos Palos Wye	*Los Banos	Winton
*S. Dos Palos	Merced	

***Communities listed as Communities at Risk on the California Fire Alliance website.**

The Community Wildfire Protection Plan's (CWPP) for each county focuses on identifying and prioritizing areas within the counties that fuel treatments are needed to limit the negative effects wildfire's have on the community.

You can find the Madera-Mariposa-Merced counties CWPP plans listed below:

Madera County Community Wildfire Protection Plan:

<https://firewisemaderacounty.org/madera-county-community-wildfire-protection-plan/>

Mariposa County Community Wildfire Protection Plan:

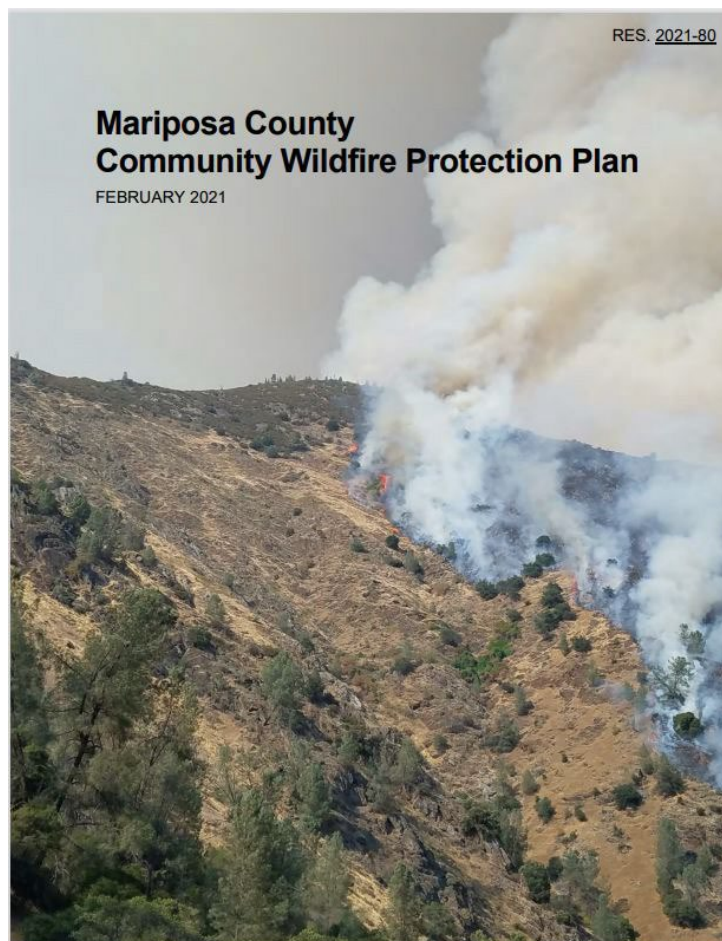
<https://www.mariposacounty.org/2448/Community-Wildfire-Protection-Plan>

Yosemite West Homeowners Organization:

<http://yosemitewest.org/ywcpwp.pdf>

Foresta Community Wildfire Protection Plan:

<http://www.wildlandfireassociates.com/services/fire-management-planning/community-wildfire-protection-planning/>



SECTION IV: PRE-FIRE MANAGEMENT STRATEGIES

A: FIRE PREVENTION



The goal of the Fire Prevention Bureau is to reduce the Unit's ignition problems through prevention, intervention, and enforcement.

ENGINEERING – Identifying fire trends through investigation data and then developing building or construction codes or ordinances to prevent recurrence of identified trends.

EDUCATION – Providing informational programs and public announcements through defensible space inspections, multiple forms of media, school programs, and community events.

ENFORCEMENT – Through inspection programs, citations, civil and criminal proceedings based on investigation findings.

The Unit responds to an average of 1,500 fires annually. Of these 1,500 fires, various percentages of the ignition problems deal with debris burning, vehicle fires, electrical power, arson, equipment, and miscellaneous fires (See annual supplemental section for date specific trends, graphs, and charts). An average of 300 wildland fires will start in the State Responsibility Areas annually. Fire Prevention Officers will actively and aggressively investigate all these ignition starts within the Unit and pursue criminal and civil action against violators of forest and fire laws.

Data is collected through CAL FIRE's software, California Incident Data and Statistics Program (CALFIRS). This system collects data for all ignitions including non-vegetation fires such as structure or vehicle fires and uses latitude and longitude information that points the ignitions to the actual area of origin.

ENGINEERING & STRUCTURE IGNITABILITY

CAL FIRE provides personnel and expertise through cooperative fire protection agreements and partnerships to implement fire and life safety regulations and building standards established by the California State Fire Marshal, the California Board of Forestry, and respective County and local codes and ordinances.

CAL FIRE Madera-Mariposa-Merced Unit Fire Prevention staff work in conjunction with Mariposa, Madera, and Merced Counties Building Departments and Public Works to review and enforce the Public Resources Codes, California Fire Codes, and Chapter 7A of the County Building Code for land use and other building and land use permit applications. In each county the Fire Marshal works very closely with the County Fire Department's and serves as the appointed "County Fire Warden" responsible for ensuring that the regulations stipulated in the California Public Resources Code 4290 are applied to new developments and structures in the State Responsibility Areas.

Code Enforcement

Various Code Enforcement techniques are utilized in our Unit's three counties to gain compliance with duty-adopted regulations such as land use and zoning ordinances, health and housing codes, sign standards and building and fire codes.

The California Public Resource Code 4291 (Government Code 51182) ensures continued maintenance of properties in conformance with the defensible space requirements outlined in section 4290 of the Public Resources Code in the State Responsibility Areas. The Unit goal is to staff a proactive defensible space inspection program with knowledgeable and productive defensible space inspectors. The Unit seasonally employs up to four Forestry Aide positions. The inspectors can complete PRC 4291 inspections, supplementing any inspections completed by fire engine staff and provide public education about defensible space whenever possible.

The link below will provide more information on PRC 4290 & PRC 4291:
<https://www.fire.ca.gov/programs/communications/defensible-space-prc-4291/>

Structure Defense/Evacuation Plans

The purpose for our Unit to produce a pre-fire planning document is to better protect the life and property within the boundaries of the Madera-Mariposa-Merced Unit.

Under agreement with CAL FIRE Madera-Mariposa-Merced Unit, the Mariposa County Sheriff's Department, and the Madera County Sheriff's Department, provide a pre-fire planning process to defend structures against uncontrolled wildfires and an evacuation process to move and house those individuals' needing assistance.

Objectives of this plan will be the following:

- Provide a structure defense/evacuation plan for each community in Mariposa and Madera Counties.
- Utilize "lead sheets" to provide specific information regarding each community to better assist in suppression, structure defense and evacuation efforts.
- Develop a mapping process to assist responding personnel in suppression, structure defense and evacuation efforts.



INFORMATION AND EDUCATION

As mentioned earlier, the goal of the Fire Prevention Bureau is to reduce fire causes through prevention, intervention, and enforcement. One way of accomplishing this goal is through public education by the Unit Fire Prevention Specialist. The use of information and education programs is a key essential in raising public awareness regarding how fires start and how they can be prevented.

The Madera-Mariposa-Merced Unit's information and public education outreach are focused primarily into the following programs listed below:

School and Senior Citizen Programs

Various schools within the Unit's counties are visited each year to educate children and staff on Wildfire Preparedness.

Remembering When Senior Program- "Remembering When" is a senior citizen outreach program developed by the National Fire Protection Association (NFPA.) There are 16 key messages that address burn and fall prevention. The program can be delivered in a group presentation or home visit.

Youth Fire setters

The FPS II is contacted whenever a Juvenile is involved in a fire setting incident. An interview is conducted, homework is assigned, and fire education given at the time of the interview. The Central California Burn Prevention Coalition has established two youth fire setter academies.

The biannual fire setter academy is geared towards youth who set fires due to curiosity or exhibit thrill seeking behaviors. The academy is designed to provide fire safety education to children up to 10 years of age throughout southern San Joaquin Valley and Sierra Foothills.

A comprehensive 13-week fire setter academy is offered for youths who set fires due to emotional upset, criminal or psychological problems. Youths receive counseling from Mental Health Clinicians and fire safety education from fire personnel, probation, and law enforcement. Counseling can exceed 13 weeks depending on the needs of the youth. MMU has a decrease in fire setters since 2020 with an average of 3 fire setters reported to the FPS each year, down from 13 fire setters per year.

The FPS II utilizes YFIRES national database to track fire setter activity within the unit. This program allows the FPS to target problem areas in the unit by offering fire safety education programs with specific information for areas with increased fire setting activity.

Public and Community Information Events or Programs

Fairs-The FPS coordinates and assists with the Merced County Fair, Mariposa County Fair, and Madera District Fair. VIP's, Merced City and County Fire Departments Mariposa County Fire USFS, Madera County Fire Department Explorers, Madera City and County Fire Departments, and CAL FIRE assist with equipment displays and fire education throughout the duration of the events.

Camp Smokey-The FPS II is involved with assisting with the care, maintenance and staffing of Camp Smokey at the California State Fair. Cooking safety and fire engine tours are given along with interactive equipment display activities.

Smokey Bear Run-CAL FIRE continues to partner with USFS, CHP, California Land Management, Madera County Sheriff's Department and Sierra Telephone to host the annual Smokey Bear Run/Walk 10K. This event attracts between 300-500 runners. Race day provides the entire community with fire and life safety awareness and education.

Roadside Signs-Roadside fire prevention signs are in the process of being updated throughout the unit. Three stations, every year, are scheduled to receive updated, modern roadside signs each year. Stations have a variety of signs to display for year-round fire prevention topics.

Public Information-The FPS II distributes approximately 25 news releases each year in addition to radio and newspaper interviews, special spots on TV, and annual radio interviews.

Call Center-The unit call center is located at Spring Hill School The call center is activated during incidents within the unit. A toll-free number has been established 844-MMU-FIRE (844-668-3473) and Facebook / Twitter Social Media accounts (CAL FIRE MMU) were established to help sharing information faster and more efficient.

Volunteers in Prevention-The Volunteers in Prevention (VIP) program recruits between 5-10 volunteers annually. The MMU VIP roster currently has approximately 50 active volunteers. and provides staffing for over 30 public fire and life safety education events. The MMU VIPs are trained as call takers and community outreach information officers. They are activated when needed to open the call center and provide accurate and

timely fire and/or disaster information to the public. The VIP's also travel specified routes to distribute information and/or staff information display boards.

The Unit HAM radio VIP's assist with events throughout the year and help provide an extra set of "eyes and ears" during the Red Flag Patrol. CAL FIRE magnets are placed on the sides of vehicles to show a CAL FIRE presence to discourage the use of fireworks and behavior that could result in fire.

Central California Burn Prevention Coalition- The FPS II is Co-Chair and member of the Central Valley Burn Prevention Coalition. Members of the coalition consist of Community Regional Medical Center (CRMC) Nurses, Selma Fire, Alisa Ann Ruch Burn Foundation (AARBF), Cornerstone Family Counseling, Tulare County Fire and CAL FIRE. The Coalition supports one another in fire prevention education and events. Together, they have agreed to adopt four burn prevention programs to reach people of all ages.

Team Teaching / Firefighters in Safety Education (FISE)-The "Team Teaching" Program is presented by CAL FIRE in cooperation with the United States Forest Service (USFS) and Volunteers in Prevention (VIP). CAL FIRE MMU adopted the FISE programs as an outreach for youths TK through 3rd grade. The story of Smokey Bear is read and education on smoke alarms, exit drills in the home, 911, indoor/outdoor firefighter and emergency vs. non-emergency. The USFS discusses forest health, fire triangle, and good fires vs. bad fires and campfire safety. The FPS visits approximately 20 schools within the unit.

ASHES Program-The ASHES program is a social media outreach program geared toward pre-teen and teens with a focus on online fire challenges, peer pressure and choices. The goal of the program is to highlight consequences of actions and to steer youths away from peer pressure. This program consists of a 20-minute video that includes scenes of youths participating in fire challenges and a testimony of a burn survivor. Curriculum for the program was developed by the Central California Burn Prevention Coalition and funded by Cornerstone Family Counseling. The program can also be used in fire setter education and will debut in Spring 2022.



B. VEGETATION MANAGEMENT

Fuel Reduction

Fire prevention engineering processes reduce or eliminate fire hazards and risks by changing the environment by 1) removing or reducing the heat source, 2) modifying or reducing the fuels, 3) modifying the act or omission allowing the heat source to contact ignitable fuels.

Suppression Repair

Suppression Rehab on SRA deals primarily with mitigating or repairing damages caused to either environmental or structural disturbances related to suppression which may have been caused by construction of fire lines; safety zones and helispots; handlines; debris deposited into watercourses; reopened roads; trash; fences, gates, and culverts.

The goals of the Department are two-fold: (1) to keep damage to a minimum during suppression and to (2) initiate rehabilitation work while the active suppression work is still occurring so that repairs will be completed shortly thereafter.

Forest and Range Health

The goal of forest management under the Forest Practice Program in relation to the Forest Practice Act falls into four objectives:

1. Achieve a balance between growth and harvest over time.
2. Maintain functional wildlife habitat with a planning watershed.
3. Retain or recruit late and diverse seral stage habitat components for wildlife.
4. Maintain growing stock, genetic diversity, and soil productivity.



SECTION V: PRE- FIRE MANAGEMENT TACTICS

DIVISION / BATTALION / PROGRAM PLANS

MMU BATTALION 1: COULTERVILLE

Battalion Overview

In the northeast corner of the Madera-Mariposa-Merced Unit, encompassing 274,462 acres and 426 square miles lies the Coulterville Battalion. The battalion has several thousand acres of BLM, and a great relationship has been established with their personnel. To the east, the battalion is bordered by the Stanislaus National Forest. To the west SRA runs into Merced and Tuolumne counties. TCU borders the battalion to the north.

Battalion Resources

The CAL FIRE resources are under the supervision of Battalion Chief 4211. Fire protection within the battalion is largely made up of seasonal staffing with CAL FIRE and volunteers through the Mariposa County Fire.

CAL FIRE

Catheys Valley Station- Engine 4271

Coulterville Station- Engine 4281, Engine 4291, and Transport Dozer 4241

Hornitos Station- Engine 4261

Mariposa County Fire Department

Volunteer Fire Companies within the Battalion are Company (Co.) 23- Cathey's Valley, Co. 24- Don Pedro, Co. 26- Coulterville, and Co. 31- Greeley Hill.

Wildland and Urban Interface

Several communities are based in the battalion and are mostly developed along state highways and county roads. State Highway 140 runs east to west and intersects the community of Cathey's Valley. State Highway 49 runs north and south and intersects the communities of Bear Valley and Coulterville. County road J132 intersects the communities of Don Pedro, Coulterville, and Greeley Hill. Hornitos Road is a county road that connects Hwy 140 into Road J132. This road intersects the community of Hornitos and runs into Merced County and Tuolumne County. While these communities are fairly spread out due to restrictions on land division, there are pockets of subdivisions that create a Wildland Urban Interface challenge. Whispering Oaks and Whispering Oaks West, in Cathey's Valley, is a 640-acre development of high-end homes while the Don Pedro subdivision is a 4,500 which is split between Mariposa and Tuolumne counties.

Fuels

The fuel transitions into the brush model of chemise, white thorn, and manzanita. As you move eastward to the USFS/CAL FIRE DPA line, the fuel transitions into timber. The battalion has several thousand acres of BLM.

Weather

Weather patterns in Battalion 1, during declared fire season, consist mostly of diurnal winds that combine with topography to create a predictable north-northwest (NNW) air flow mass. Spring and fall weather patterns are affected by approaching low pressure systems that generally have a southerly flow. When a high pressure establishes itself over California, dry, warm air from the NNW occurs. Late spring and early fall weather changes between low and high pressure. Such changes drastically increase winds in the western side of the battalion, and you can see a spread component index of up to 200.

Topography

Once you progress in elevations you notice the changing topography from rolling hills to steeper slopes and canyons in oak woodland. As you travel above the 2,500' elevation you see the transition from oak woodland to major river drainage topography and fuel. The northern Highway 49 corridor drops into and out of the Merced River Drainage.

Battalion Fire History

Fire history in the battalion includes some of the largest fires in the Madera-Mariposa-Merced Unit: The Hunter Fire of 2000, the Creek Fire of 2001, the Oliver and Telegraph Fires of 2008, and the Detwiler Fire of 2017. The potential lies in the fuel and topography of the Merced River drainage, which requires expertise in major river drainage firefighting that is found throughout the California foothills. Fires in this country have the time, fuel, and topography to establish themselves, due to poor access for suppression resources.

Goals/Fuels Reduction/Battalion Projects and Priorities

The goal of the Battalion Prevention Plan is to prevent unwanted wildfire within the battalion boundaries. With dedicated and committed battalion employees, Prevention Bureau Staff, and Pre-Suppression Staff, this prevention plan will be the leading document that supports our Unit Fire Plan and a model for the protection and safety of the citizens of Battalion 1 and the communities it serves. To accomplish these objectives, we will implement the following: Designate personnel to provide wintertime support for ongoing fuels treatment projects being conducted within the battalion, Educate the community within the battalion on proper fire hazard reduction through face-to-face contact during annual LE-100 inspections, Participate with local stakeholders in annual and ongoing community public education events, Provide assistance/information to local Fire Safe Councils, Evaluate current statuses of fuel breaks as well as continue to plan for future maintenance and future fuel reduction projects, and Coordination and participation with the Southwest Interface Team (SWIFT) to coordinate fuel break projects for the protection of communities of Tuolumne and Mariposa Counties. The SWIFT group also provides map updates to provide responders with information on location and status of fuel breaks to assist with strategies, tactics, and preplanning for wildland fire incidents.

MMU BATTALION 2: MARIPOSA

Battalion Overview

Battalion 2 stretches through the Eastern portion of Mariposa County's State Responsibility Area (SRA) with State Highway 49 and 140 intersecting in the town of Mariposa. Mariposa makes the county one of California's most popular year-round vacation destinations, with Yosemite National Park annually drawing nearly four million tourists from all over the world. Battalion 2 borders the Sierra National Forest to the East and has several areas of BLM land within the battalion.

Battalion Resources

The CAL FIRE resources are under the supervision of Battalion Chief 4212. Fire protection within the battalion is largely made up of seasonal staffing with CAL FIRE and volunteers through the Mariposa County Fire.

CAL FIRE

Mariposa Station- Engine 4282, Engine 4292, Transport Dozer 4242
Usona Station- Engine 4262

Mariposa County Fire Department

Volunteer Fire Companies within the Battalion are Company (Co.) 21- Midpines, Co. 25- Mt. Bullion Airport, Co. 28- Bridgeport, Co. 29- Lushmeadows, Co. 32- Ponderosa Basin, Co. 36- Hunter's Valley, and Co. 37- Bootjack.

Wildland and Urban Interface

The communities of Mariposa, Bootjack, Lushmeadows, Ponderosa Basin, Midpines, Mount Bullion and Mormon Bar are within this Battalion. The most populated areas are the communities located on the Highway 49 corridor. The areas of Mariposa, Bootjack, Lushmeadows, Midpines and Ponderosa Basin have grown in recent years with new residential construction. This rate of development created numerous areas in the Battalion that have a high potential for rapid fire spread and loss of structures.

Fuels

The fuel transitions into the brush model of chemise, white thorn, and manzanita. As you move eastward to the USFS/CAL FIRE DPA line, the fuel transitions into timber. The battalion has several thousand acres of BLM

Battalion Fire History

The Oak Fire in 2022 was an extremely damaging fire at 19,244 acres and 194 structures lost. The Telegraph Fire of 2008 burned 34,091 acres and 30 homes were lost.

Goals/Fuels Reduction/Battalion Projects and Priorities/Communities at Risk

Battalion 2 will support the Mariposa Fire Safe Council on current and future fuel treatment projects and public outreach. Will coordinate with local and Federal government agencies, utilize Unit equipment to improve access and egress within identified communities, and utilize private vendors to accomplish projects when State resources are limited. The Battalion will work with private utility companies to establish cooperative property protection fuel reduction projects, complete current projects, and identify future targets. Battalion 2 will maintain an aggressive LE-100 program within target areas and support local and Unit fire prevention activities. Lastly, prevent unwanted wildfires within the battalion boundaries. With dedicated and committed battalion employees, Prevention Bureau Staff, and Pre-Suppression Staff.

Areas in Battalion 2 that have communities at risk include Ponderosa Basin, Lush Meadows, Bootjack South, Bootjack North, Midpines and the town of Mariposa. The influencing factors causing tree mortality issues involve bug diseased dead conifers, housing density, timber, fire history, range, and fuel hazard ratings. Most of the Unit's large, damaging fires have originated within these areas. The fires that start in these areas immediately threaten high value/high-risk exposures. The historic ignitions are difficult to manage; therefore, the emphasis of efforts will involve fuel management activities and protection of asset exposures.

MMU BATTALION 4: AHWAHNEE

Battalion Overview

Battalion 4 consists of the communities of Oakhurst, Ahwahnee, Nipinnawasee, Raymond and Bass Lake. Smaller communities include Cedar Valley and Sugar Pine. The Oakhurst basin is currently the most densely populated area in MMU SRA. These areas were identified as having significant asset values with medium and high fuel hazard ranks.

Battalion Resources

The CAL FIRE resources are under the supervision of Battalion Chief 4214. Fire protection within the battalion is largely made up of seasonal staffing with CAL FIRE and volunteers through the Madera County Fire.

CAL FIRE

Ahwahnee Station- Engine 4264, Engine 4294

Bass Lake Station- Engine 4254

Raymond Station- Engine 4274, Engine 4284

Madera County Fire Department

Station 12 is in Oakhurst and has a type II engine, reserve engine, and water tender.

Wildland and Urban Interface

Like other Battalions in the Unit, there exists a significant Wildland-Urban Interface problem within the Battalion. There are several large, well-populated subdivisions that are at risk to large catastrophic fires. These areas include Oakhurst, Ahwahnee, Bass Lake, Cedar Valley, Raymond, Nipinnawasee, and Sugar Pine.

Battalion Fire History

The dead and down trees from the March 21st, 2011, severe snowstorm, along with the worst drought in recent history triggered the most destructive fire season in Eastern Madera County since the Harlow Fire in 1961. 35 residence and 3 Commercial structures were destroyed on the Junction and Courtney Fires in 2014. Reports from firefighters on the Junction and Courtney fires clearly showed the dry fuels and dead and down contributed to the long-range spotting and overall control issues on both fires. There were several large and damaging fires in 2017 including the Railroad and Mission on the SRA/FRA boundary where dead trees were the primary control problem.

Goals/Fuels Reduction/Battalion Projects and Priorities/Communities at Risk The goal of the Battalion Prevention Plan is to prevent unwanted wildfire within the battalion boundaries. With dedicated and committed battalion employees, Prevention Bureau staff, Defensible Space Inspectors and Pre-Fire staff, this prevention plan will be the leading document that supports our Unit Fire Plan and a model for the protection and safety of the citizens of Battalion 4 and the communities it serves.

Communities at risk in Battalion 4 include the areas of Oakhurst, Nipinnawasee, Ahwahnee, Bass Lake and Raymond. The influencing factors involved in identifying fuel reduction projects include fire history, housing density, fuel hazard, timber values and range. Fire ignitions have traditionally, not been a problem in these areas. 2013, 2014 and 2015 are the exception to the rule with several accidental and intentionally set fires became major fires. However, these areas are directly threatened by fires starting in the Chowchilla and Fresno River drainages. Past fires that have threatened or in one case destroyed these communities include the Harlow Fire and the Stumpfield Fire. The Harlow Fire devastated the area in 1961. The Stumpfield Fire in 1996 was almost a repeat of the Harlow Fire, but fortunately was stopped in the Chowchilla River drainage by an aggressive firefighting effort.

To protect our communities and values at risk Battalion 4 will accomplish the following objectives:

- Support the Eastern Madera County Fire Safe Council (EMCFSC), the Coarsegold Resource Conservation District (CRCD), the North Fork Resource Conservation District and Sierra Nevada Conservancy and the Ahwahnee Hills Park Board with current and future fuel management projects.
- Facilitate fuel reduction projects that will widen and open roads that affect ingress and egress for both the public and emergency equipment.
- Educate the public on fire safety and hazard reduction.
- Continue an aggressive LE-100 inspection program.
- Develop literature, flyers and/or maps to educate the public on wildfire awareness and evacuations.
- Support Unit and local fire prevention activities.

MMU BATTALION 5: COARSEGOLD

Battalion Overview

Battalion 5 is located on the south side of Madera County bordering Fresno County to the south, Sierra National Forest to the east, the valley floor of Madera County to the west and Battalion 4 to the north. Battalion 5 fuel models transition from annual grasslands, oak woodland with annual grass, brush, and conifers. There are three lakes provide year-round recreational activities - Hensley, Millerton, and Bass Lake. These lakes provide for year around recreational activity and increase the volume of vehicles and tourist to the areas during the summer months.

There are also several main travel routes through Battalion 5: Highway 41 (south entrance to Yosemite) is the main travel route from Fresno to all communities of the Battalion, Road 200 provides access from Highway 41 to the communities of O'Neals, North Fork and Bass Lake, and Road 400 which provides access to Hensley Lake, Yosemite Lakes Park and Coarsegold. The Chukchansi Gold Resort and Casino is in the center of the Battalion which creates a higher volume of traffic on Hwy 41. These roadways annually have a high number of fires from roadside ignitions.

Battalion Resources

The CAL FIRE resources are under the supervision of Battalion Chief 4215. Fire protection within the battalion is largely made up of seasonal staffing with CAL FIRE and volunteers through the Madera County Fire.

CAL FIRE

Coarsegold Station- Engine 4285, Engine 4295, and Transport Dozer 4245
Rancheria Station- Engine 4255 and Engine 4275

Madera County Fire Department

There is one staffed Madera County station in Indian Lakes which is the primary protection to the Chukchansi Casino. The station is staffed with 2 career personnel and houses a ladder truck. and Paid Call Firefighters. There are also Madera County Paid Call/Volunteer stations in North Fork (Sta 11) and Yosemite Lakes Park (Sta 10), which respond with, type 2, type 3, type 6 engines, and water tenders.

Wildland and Urban Interface

Like other Battalions in the Unit, there exists a significant Wildland-Urban Interface problem within the Battalion. There are several large, well-populated subdivisions that are at risk to large catastrophic fires. These areas include Coarsegold, O'Neal's, North Fork, Cascadel Woods, Yosemite Lakes Park, Quartz Mountain, Indian Lakes and Hidden Lakes Estates.

Goals/Fuels Reduction/Battalion Projects and Priorities/Communities at Risk

The goal of the Battalion Prevention Plan is to prevent unwanted wildfires within the Battalion. With dedicated and committed Battalion employees, Prevention Bureau staff, and Pre-Suppression Staff. Aggressively reduce the amount of bug killed trees within the Madera County easements and work diligently to complete the battalion fuel breaks.

This prevention plan will be the leading document that supports our Unit Fire Plan and a model for the protection and safety of the citizens of Battalion 5 and the communities it serves.

Communities at risk in Battalion 5 include the areas of Hidden Lakes Estates, O'Neal's, Yosemite Lakes Park, North Fork, Indian Lakes, Meadow Ridge Estates, Coarsegold, Bass Lake Annex, Quartz Mountain, Cascadel Woods and Central Camp. The influencing factors involved in identifying fuel reduction projects include fire history, housing density, fuel hazard, timber, and range values.

MMU BATTALION 12

Battalion Overview

Battalion 12 is in the eastern half of Madera County. The eastern portion of Battalion 12 meets the San Joaquin River, with the northern portion of the battalion bordering Battalion 5 and the southern boundary meeting the Fresno County line. Some of the newest developments within Madera County are in Battalion 12, including Tesoro Viejo, Riverstone, and Millerton Preserve Subdivisions. These communities will continue to expand for the foreseeable future.

The State Responsibility Area (SRA) portions of the Battalion are north of the Madera Canal and East to Millerton Lake. Fuel type is mainly annual grass, the topography is rolling foothills. Fires have been started by vehicles traveling along State Route Highway 41, which runs through the entire portion of Battalion 12. There have also been a few fires over the years caused by electrical distribution.

No CAL FIRE Resources

Accomplish the Objectives

Educate the ranch owners on proper fire hazard reduction through face-to-face contact during LE-100 inspections.

Develop literature, flyers and/or maps to educate the public on wildfire awareness and evacuations.

Provide monthly statistics to Fire Prevention on activities.

MMU BATTALION 13: MADERA VALLEY

Battalion Overview

The Madera Valley Battalion is in the western half of Madera County. The eastern portion of Battalion 13 meets Battalions 4 & 5 along the Madera Canal, with the northern portion of the battalion bordering the Merced County line and the southern boundary meeting the Fresno County line, which is divided by the San Joaquin River.

The State Responsibility Area (SRA) portions of the Battalion are in the southeastern corner. Fuel type is mainly annual grass, and the topography is rolling foothills.

The weather pattern in Battalion 13 during the summer months typically is hot and dry and high temperatures range from the 90s to 100s on a regular basis, with monsoonal moisture occasionally causing dry lightning a couple times throughout the summer.

No CAL FIRE Resources

Fire history

Battalion 13's SRA is very limited since the area has limited rural roads with few structures. Fires have been started by lightning and farming equipment usage. There have also been a few fires over the years caused by electrical power distribution.

Goals & Objectives Statement

Educate the public on fire safety and hazard reduction.
Implement an aggressive LE-100 inspection program.
Support Unit and local fire prevention activities.

MMU BATTALION 16: ATWATER

Battalion Overview

Communities within Battalion 16 include the towns of Winton, Cressey, and Snelling. The area around the City of Atwater is within Battalion 16 and includes the McSwain area and Castle Park. The Franklin/ Beachwood area makes up the east side of Battalion 16 near the City of Merced. Battalion 16 also has SRA (State Response Area) within its Boundaries near the Town of Snelling and on the eastside of Snelling Highway. The areas around the town of Snelling and Merced Falls have the highest fire risk in the battalion. These areas have a history of significant wildland fires with structure lost.

Battalion Resources

Battalion 16 is unique in that it has four fire stations and three major programs within its jurisdiction. Fire stations are in the towns of Winton, Cressey, Snelling and Atwater. The Haz Mat Program and Haz Mat 61 are located at Station 61 near the community of McSwain. The Aircraft Rescue Fire Fighting Program (ARFF) is located at Castle and maintains two ARFF Crash Trucks. The ARFF program has been tasked with protection of the USFS Very Large Air Tankers (VLAT) that are stationed at Castle for firefighting in central California. Other agencies that would use an ARFF response in an emergency are the Sierra Academy of Aeronautics, Gemini, Phos-Chek, Merced County Sheriff, USFS, CAL FIRE, Mercy Air/Riggs, US Air Force, US Navy, US Marines, US Army, Google, California Highway Patrol and TBM/TASCO (C-130 Operator).

Goals & Objectives statement

Support Unit and local fire prevention activities.
Educate the public on the new fireworks ordinance allowing for the use of Safe and Sane fireworks in the County to minimize the fire threat in the unincorporated areas of the County, and areas neighboring the SRA.
Aggressively pursue 100% LE-100 inspection compliance within Battalion 16 SRA areas. Place prevention signs throughout Battalion 16 to educate the public on fire safety. Support the area with current and future fuel treatment projects.
Improve access to all SRA areas within Battalion 16 to include the Snelling Highway, La Paloma Road, La Grange Road, the Merced River and Merced Falls Road. Network with property owners, Merced Irrigation District, and Pacific Gas & Electric to establish and maintain these fuel breaks.

MMU BATTALION 17: LOS BANOS

Battalion Overview

Communities at Risk in Battalion 17 include the areas of Santa Nella and San Luis Hills. The influencing factors involved in identifying fuel reduction projects include fire history, housing density, fuel hazard, and range value. Fire ignitions have traditionally been an issue near roadways and campgrounds in the area and fast-moving grass fires have threatened these communities or their interests in the past.

Additional Communities at Risk in Battalion 17 include Dos Palos, Dos Palos "Y", Gustine, Los Banos, and Volta. These areas were identified as having moderate to significant asset values with light to medium fuel hazards. Fire prevention efforts will emphasize structure clearance and fuel management to mitigate the wildfire hazard in the area.

CAL FIRE Resources

Los Banos Station- Engine 4267 and Engine 4287

Goals and Objectives Statement

Support the area with current and future fuel treatment projects.

Educate the public on fire safety and hazard reduction.

Educate the public on the new fireworks ordinance allowing for the use of Safe and Sane fireworks in the County to minimize the fire threat in the unincorporated areas of the County, and areas neighboring the SRA.

Implement an aggressive LE-100 inspection program.

Support Unit and local fire prevention activities.

Complete annual Weed Abatement project within the Merced County Schedule "A" portion of the battalion.

MMU BATTALION 18: MERCED

Battalion Overview

The Merced Battalion is in the Merced area of Merced County; the Eastern portion of Battalion 18 bumps up to the Mariposa County line, with the Southern portion of the battalion bumping the Madera County line. The State Responsibility Area (SRA) Portions of the battalion are on the Eastern portion of the Unit and the fuel type is mainly annual grass, with topography of mainly rolling foothills.

The weather pattern in Battalion 18 during the summer months typically are hot, dry, and have high temperatures ranging from 90's to 100's on a regular basis, with monsoonal moisture occasionally causing dry lightning a couple of times throughout the summer.

No CAL FIRE Resources

Fire History

Many of the fires have been started by lightning. This area is mainly used for cattle ranching, so the occasional fire is started by equipment. With rural roads in the area, we have had fires start near roadways. In recent years, more agricultural trees have been planted in what used to be used for cattle ranching.

Assets at risk in Battalion 18 consist of mainly cattle ranches. The communities of Le Grand and Planada are located just to the west of the SRA boundaries and could be impacted.

Communities at risk in Battalion 18 include the areas of McKee, Planada, and Le Grand. The influencing factors involved in identifying fuel reduction projects include fire history, housing density, fuel hazard, and range value. Fire ignitions have traditionally been an issue near roadways and throughout watershed areas due to lightning activity in the area. Fast moving grass fires have also threatened these communities, or their interests, in the past.

Additional communities at risk in Battalion 18 include North and East Merced, and El Nido. These areas were identified as having moderate to significant asset values with light to medium fuel hazards. Fire prevention efforts will emphasize structure clearance and fuel management to mitigate the wildfire hazard in the area.

Goals & Objectives Statement

Support the area with current and future fuel treatment projects. Educate the public on fire safety and hazard reduction.

Educate the public on the new fireworks ordinance allowing for the use of Safe and Sane fireworks in the County to minimize the fire threat in the unincorporated areas of the County, and areas neighboring the SRA.

Implement an aggressive LE-100 inspection program. Support Unit and local fire prevention activities.

MMU BATTALION 19: DELHI

Battalion Overview

The Delhi Battalion is in the Northern part of Merced County, which borders Stanislaus County. The two Major Rivers that run through Battalion 19 are Merced River and San Joaquin River. McConnell State Recreation Area located in Ballico, George J. Hatfield State Recreation Area located in Hilmar, and Great Valley Grasslands State Park located in Stevinson are the three State Parks that contribute to Battalion 19's diversity. The fuel types in these areas consist of heavy Oak woodland, annual grass and tule grasslands.

No CAL FIRE Resources

Weather

Battalion 19 is like most of the county, hot and dry during the summer months with temperatures ranging in the 90's to 100's, and cold and foggy during the winter months with temperatures ranging in the 30's to 50's.

Fire History

Battalion 19 varies from rangeland grass fires, which is mainly used for cattle ranching to river bottom fires in recreational areas. Assets at risk in Battalion 19 consist of Gallo Winery (the largest winery in the U.S.), Foster Farms (the largest poultry company in the west), Hilmar Cheese (the largest producer of cheese in the world) and Major thoroughfare (Hwy 99, Santa Fe Railroad, and Southern Pacific Railroad).

Communities at risk in Battalion 19 include the areas of Delhi, Hilmar, Stevinson, Ballico and the City of Livingston. The influencing factors involved in identifying fuel reduction projects/hazard areas include fire history, housing density, fuel hazard, and range value. Fire ignitions have traditionally been an issue near roadways or in remote areas

Goals and Objectives Statement

Continue to evaluate and enhance fire protection in the communities above by address inadequate staffing levels and obsolete equipment.

Support the area with current and future fuel treatment projects. Educate the public on fire safety and hazard reduction.

Implement an aggressive Weed Abatement inspection process. Support Unit and local fire prevention activities.

MT. BULLION CAMP

Overview

Mt. Bullion Conservation Camp opened as a California Youth Authority fire camp in 1958. In October 2004, Mt. Bullion was converted to a California Department of Corrections and Rehabilitation (CDCR) adult conservation camp. Many modifications were made to existing structures to accommodate the one hundred and ten (110) inmate capacity population. CAL FIRE and CDCR have an excellent working relationship and take pride in the camp. On duty personnel meet twice a week to discuss health, safety and procedural issues concerning the operation of the camp.

The fire protection responsibilities for Mt. Bullion Camp fall within the CAL FIRE Madera-Mariposa-Merced Unit (MMU). The fire resources at Mt. Bullion include two or three inmate fire hand crews and a vehicle demobilization trailer. These resources are regularly dispatched to fires and floods throughout the state. Mt. Bullion also has a Model 14 fire engine that is used to protect the camp and acts a relief engine after front line engines are dispatched out of the unit.

Due to the location and size of Mt. Bullion Camp as well as the available support facilities that it has, it is often used as a staging area/mobilization center for inmate fire hand crews that are enroute to emergency and preposition incidents across the state. The permanent and temporary (tent) facilities at the camp can support ten strike teams of crews during each operational period. This support includes feeding, sleeping, shower and restroom facilities. Mt. Bullion Camp is the primary inmate firefighter base camp for Federal incidents in Yosemite National Park, the northern portion of the Sierra National Forest & southern portion of the Stanislaus National Forest.

The following CAL FIRE personnel are assigned to Mt. Bullion Camp: Division Chief, ten Fire Captains, Water and Sewer Plant Operator, Heavy Equipment Mechanic (HEM) and an Office Technician. The following CDCR personnel are assigned to Mt. Bullion Camp: Lieutenant, Sergeant and seven Correctional Officers. Facilities include a vehicle repair shop that supports the Emergency Crew Transports (ECT), a metal fabrication.

shop that supports the camp, MMU and local municipalities, and a wood shop and plaque shop that support the camp and MMU. The camp also has a dump truck, six-person stake side, and a woodchipper that support the camp, MMU, local municipalities and communities.

MMU TRAINING

Overview

The Madera-Mariposa-Merced Training Bureau is responsible for training 350 CAL FIRE career firefighting personnel and 350 Paid Call Firefighters (PCF)/Volunteers from the counties of Madera, Mariposa and Merced. The training provided serves to educate Firefighters from their first day on the job throughout the extent of their careers. Furthermore, the Training Bureau is responsible for identifying the Unit's training needs. This includes CAL FIRE training; federal, state and OSHA mandates; and other fire-related service training. The training is accomplished through various methods: formalized classes at the Unit, CAL FIRE Training Center in Lone and Regionally, multi-company drills, exercises of the Joint Apprentice Committee program, new and returnee. Firefighter I academies, HFEO proficiency training, Spring Training Preparedness exercises, and Continuing Professional Training courses and testing. Training is divided into three operational areas – Madera, Mariposa, and Merced:

Goals & Objectives Statement

The Training Bureau has set several goals to improve firefighting operation efficiency and safety for the Unit. Provide educational courses and Continued Professional Training as appropriate to meet mandated recertification needs and review expiration dates to schedule division CPTs accordingly.

Improve employee performance in their current position through non-mandated, job enhancement training (We provide as many additional classes through our Unit as needed and as possible each year.)

Produce a training calendar prior to the start of each year and send it out to the Unit by September 31st.

Ensure that Training Requests (TR7's) have been submitted prior to December 31st of each year.

Have the Unit's training needs assessment completed prior to February 1st of each year per the Needs Assessment Process as cited in CAL FIRE Handbook 4022

Review the minimum Incident Command System (ICS) Qualifications Matrix (7700 Handbook) yearly and compare it to the Emergency Response Directory (ERD), to identify any lack of ICS qualified personnel within the Unit.

Have training prepared for Amador Firefighters; usually takes place February or March of each year where approximately twenty-five Firefighters are hired.

Prepare training and preparation of spring transition for the first Firefighter hiring. This usually takes place March/April and provides training for approximately 80- 100 returning Firefighters.

Prepare training and preparation of second Firefighter hiring. This will bring the Unit to peak staffing levels around mid-June, training approximately 35 additional Firefighters. Plan Spring Preparedness Exercise. All Schedule "B" engines and personnel participate in a live fire skills and physical fitness evaluation. Usually takes place in June.

Assist with 4064 testing as needed.

APPENDIX A: PRE- FIRE PROJECTS

**PRE-FIRE PROJECTS
Madera-Mariposa-Merced Unit
01/01/2022 thru 05/01/2023**

PROGRAM	PROJECT NAME	Project Status	Treatment Footprint Acres	Treatment Footprint Miles
Fire Plan	Ahwahnee Hills Park	Planned	394.32	MMU
Fire Plan	Ahwahnee Hills RP Fuel Reduction Project	Active		MMU
Fire Plan	Alta Vista Fuel Break	Active	824.45	MMU
CFIP	Anderson CFIP 2019	Complete	208.28	MMU
CFIP	Barron Management Plan	Active	63.35	MMU
Fire Plan	Boyer Road Fuel Break	Complete in Maintenance	213.32	MMU
Fire Plan	California Vipassana Center	Active	224.81	MMU
CFIP	Campbell CFIP 2019	Active	75.43	MMU
CFIP	Cascadel Heights CFIP 2017	Complete	122.96	MMU
Fire Plan	Community Wildfire Preparation Videos	Active		MMU
Cal VTP	Crooks Mountain Ranch VTP	Active		MMU
Fire Plan	ECCO	Complete	21.86	MMU
CFIP	ECCO CFIP 2019	Active	432.14	MMU
Fire Plan	Eastman Lake Fuel Reduction	Active	328.41	MMU
CFIP	Eppler CFIP 2019	Active	63.64	MMU
Fire Plan	Foran Fuel Reduction Project	Active	68.14	MMU
VMP	Greeley Hill VMP	Active	4,577.56	MMU
Fire Plan	Grist Fuel Break	Complete in Maintenance	225.07	MMU
VMP	Grupe Ranch VMP	Active	881.81	MMU
Fire Plan	Harner Ranch Training Burn	Planned	76.90	MMU
Fire Plan	Highway 41 Training Burn	Active	451.11	MMU
Fire Plan	Jailbreak	Active	114.30	MMU
CFIP	Laing CFIP 2020	Active	300.74	MMU

Fire Plan	Lazy L Summit	Planned		MMU
Fire Plan	Lazy Oaks	Active		MMU
Fire Plan	Los Banos Road Grading	Active	15.25	MMU
Forest Health	Lower Bass Lake District Restoration Project	Active		MMU
Fire Plan	Lushmeadows Fuel Break	Complete in Maintenance	487.67	MMU
Fire Plan	MMU Fuel Break Maintenance	Planned		MMU
Fire Plan	Madera County Hazardous Fuel Reduction/Maintenance	Active		MMU
Fire Plan	Madera County Roads	Active		MMU
Forest Health	Madera Projects-SSALRR Project	Active	3,338.32	MMU
Fire Plan	Madera Strategic Wildfire Mitigation Project	Active		MMU
Fire Plan	Manzanita Lake	Complete in Maintenance	171.07	MMU
Fire Plan	Mariposa County Fuel Reduction Equipment Purchase	Planned		MMU
Fire Plan	Mariposa County Roads	Active		MMU
Fire Plan	Mariposa Countywide Brushing and Chipping Project	Active		MMU
CFIP	Massetti CFIP 2019	Complete	507.11	MMU
Fire Plan	McClure Training Burn	Complete	59.67	MMU
Fire Plan	Merced College Tree Removal	Cancelled		MMU
Fire Plan	Minarets High School	Active	6.46	MMU
Cal VTP	Mt Bullion Ridge VTP	Planned		MMU
Fire Plan	Regional Home Hardening Public Education Program	Planned		MMU
Fire Plan	SNF Good Neighbor Fuel Break	Active	759.05	MMU
Forest Health	SSALRR – Mariposa County, Phase II	Active	5,751.93	MMU
Forest Health	SSALRR-Mariposa County Project	Active	593.10	MMU
Fire Plan	Starchman Fuel Break	Complete in Maintenance	66.25	MMU
Fire Plan	Stumpfield Mountain Fuel Break	Active	278.02	MMU

CFIP	Veater CFIP 2021	Complete	2,978.58	MMU
Cal VTP	Vista Del Rio	Active	178.24	MMU
Cal VTP	Wells Road VTP	Planned		MMU
Totals			24,721.11	15.25



The Miller Fire in 2022 burned to the top of the ridge where Starchman Shaded Fuel Break is.

APPENDIX B: UNIT GOALS AND OBJECTIVES

Goal Statement

The Madera-Mariposa-Merced Unit has developed its fire plan to align with the CAL FIRE Strategic Plan and the California Fire Plan. The focus of these goals is protection of life, property, and natural resources from wildland fire, as well as the improvement of Environmental Resilience to wildland fire. The Unit's specific goals target anticipation and reduction of wildfires within the boundaries of the three counties and are as follow:

- Improve operational effectiveness.
- Scale to budgetary and fiscal circumstances
- Foster a healthy ecosystem.
- Improve firefighter safety.

Objectives

Utilizing Battalion project planning, the Unit's goals will be supported by the following objectives:

- Collect, analyze, and prepare data to assess communities at risk and in need of fuel reduction or other projects.
- Work with grant writers and stakeholders to secure funds to implement projects.
- Utilize CAL FIRE personnel and resources in cooperation with other public and private efforts to assist with work projects on the ground.
- Educate the public on fire prevention practices that would incorporate fire landscaping and construction to reduce their threat from wildfire along with hazardous fuels reduction projects to keep lives, homes, property, and natural resources safe from catastrophic wildfires.



APPENDIX C: HISTORY OF FIRE IN MMU

The Role of Fire and the Ecosystem

To understand the threat of wildfire to our communities, we must first understand wildfire itself and the role it plays in our ecosystem. In ecological terms, wildfire is far from the devastating demon of common perception, ravaging the forest and its inhabitants. Only since the intrusion of present civilization and its altering of the natural cycle have wildfire's undesirable characteristics surfaced.

Fire, as a result of lightning and geological activity, is a natural occurrence in our ecosystem. Charcoal deposits, found in Sierra lakebed sediment samples, indicate that fire has long been an important component of the Sierra Nevada environment, predating the current vegetation types now associated with our landscape. The greatest charcoal concentrations found at one local site appear during the warm period following the end of the Pleistocene period about 10,000 years ago. This same interval is the one in which the Sierra's vegetation types at the middle and lower elevations evolved from the subalpine species of that period to the mixed conifer forests of today. From that point on, charcoal continues to be routinely present in sediment core samples.

The Sierra's fire history of the last several thousand years can be traced through existing vegetation. Growth ring samples taken from the giant sequoias show the period between natural fires, referred to as fire return intervals (FRI), were never longer than 30 years for a period of more than two thousand years. Only during the last 100 years has this pattern been broken and fire excluded from the growth process in many of the groves. The frequency of fire indicated by these tree ring scars appears to be a product of both the sample's elevation and variations of temperature and moisture. Low precipitation years and lower elevation yielded the highest fire occurrence.

Only two studies are available that reflect fire frequency in the blue oak-gray pine woodlands of the lower elevations. Scott Mensing of the University of California Berkeley, after studying fire scars on blue oaks in the Tehachapi Mountains, found an average FRI of 9.6 to 13.6 years. In the foothills east of Marysville, McClaren and Bartolome found FRIs from 8 to 49 years for the years prior to 1848. The reason for this relatively long interval in the latter study is unexplained, especially in light of studies conducted on the nearby black oak-ponderosa pine forests, which generally have a FRI of two to three years. Perhaps the light fuel (grass) coupled with low fire intensities was insufficient to leave detectable scars on the study samples.

The fire return intervals of chaparral, such as the chamise found in the Merced River Canyon of northern Mariposa County, appear to be highly dependent on individual circumstance. Elevation, drought, and slope aspect are among the factors influencing the frequency of fire in this vegetation type. The primary component to determine fire return intervals in chamise, however, seems to be fuel dynamics. This relates to the amount of total fuel available in a stand, the product of the stand's age (dead to live component) and environment. Generally, FRIs have been estimated to be from twenty to a hundred years. Large, severe fires tend to occur in brush stands over thirty years old. The longest fire return intervals, 50 to 100 years, occurred in chaparral stands at elevations above 4000 feet.

The Historic Use of Fire

It is now generally recognized that Native Californians considerably influenced the fire frequency of California's mountains, especially in the foothills. Native Americans inhabited the Sierra Nevada for at least the last 9,000 years. By the 1600s, the drainages of the Chowchilla, Fresno, and Merced Rivers had a combined population of 22,500 natives representing at least three tribes. These Indians utilized fire to open lands for hunting and to promote the regrowth of plants used in various facets of daily life. An October 1774 entry in the diary of Captain Fernando Rivera y Moncada confirms this:

"[The Indians] are wont to cause these fires because they have the bad habit, once having harvested their seeds, and not having animals to look after except their stomachs, they set fire to the brush so that new weeds may grow to produce more seeds, and also catch rabbits that get confused and overcome by smoke".

The first fire prevention law, in what was to become California, was a result of this burning. Issued by Governor Jose Joaquin de Arrillaga in 1793, it read in part:

"With attention to the widespread damage which results from the burning of fields, customary up to now among Christian and Gentile Indians in this country, whose childishness has been duly tolerated, and because of various complaints that I have had of such abuse, I see myself required to have the foresight to prohibit burning for the future (availing myself, if it is necessary, of the rigors of the law) all kinds of burning, not only in the vicinity of the towns but even in the most remote and distances, which might cause some detriment, whether it be by Christian Indians or by Gentiles who have some relationship or communication with our missions".

It is doubtful that this edict had much of an impact on the natives of the Sierra Nevada foothills. Locally, a Culture Element Distribution Survey conducted in 1936 by the University of California found that all three of the tribes (Chukchansi, Mono and Southern Miwok) in the Madera and Mariposa County foothills used fire as a tool for hunting and improving crops of native plants. Jack Rhoan, a local Native American (Chukchansi and Southern Miwok) recalled in a 1948 interview that when he was a boy in the 1870s, the Indians throughout the region (eastern Madera and Mariposa counties) set fire to the brush after the seeds had been gathered (approximately July). "The men started the fires and the women watched to see that it did not approach the homes. When it did, it was beaten out. It burned the hills, all over, clean through to the next one." The trees, which were green did not ignite easily, however "dead trees and logs were all cleaned up that way".

Despite the apparent widespread use of fire by the Indians, any references to problems with uncontrolled fires are conspicuously absent. In researching the volumes of information available on the native people of California, no mention of fire being considered a threat was found. From this, one can only deduce that while wildfires did occur with relative frequency, they were not of an intensity to cause the widespread destruction we now associate with them.

The Euro-American settlement in the 1850s began an alteration of the long-established wildfire occurrence cycle. The influx of miners because of the gold rush brought an increase in fire ignitions. J. Goldborough Bruff, an early miner in California, reported in an October 1849 diary entry that the “woods [are] alight with many crackling fires” and “Fallen pines afire near us, we passed numerous fires of this kind, and the hills are light with them. Prospectors and Indians caused them”. This account is substantiated by scars in the growth rings of the Blue Oaks near Fort Tejon in Kern County, which indicate that fire frequency there peaked in the 1850’s.

The vegetation of California’s mountains was changed in other ways as well. The miners also had an insatiable demand for wood. Heating and cooking fires, buildings, mine timbers, and fuel for steam engines all relied on the local vegetation as a wood supply. East of Coulterville, the Red Cloud Mine alone was using 4 ½ cords of wood per day in 1888 to power its stamp mill. With dozens of similar mines operating in Mariposa and Madera counties, the changes in the natural vegetation must have been dramatic. Little regard was given to the residual material left after cutting, and this accumulation of limbwood and other unusable material lent itself to more severe wildfire intensity.

Interestingly, contemporary newspaper accounts give only passing mention to these uncontrolled fires, usually incidental to smoke conditions or the occasional loss of an isolated structure. Wildfires seem to have been an accepted and common nuisance during this period, with attention only given to them when they threatened a community or other resource.

The Shift to Fire Suppression

Sheep and cattle grazing after the 1870s also became a major factor influencing fire frequency and intensity. While it is well documented that literally millions of sheep grazed in the upper Sierra meadows from the 1860’s to 1900, little information is available regarding impacts on the lower, foothill environments. These areas, considered desirable as rangeland, were often fenced, and used for cattle grazing.

Menning’s study of blue oak tree rings in the Tehachapi Mountains found a period of 60 years, from the 1860s to the 1920s with no fire scars. This period coincided with the introduction of grazing in the area. It is likely that the establishment of these herds at the lower elevations placed a value on forage, which in turn led to the first local attempts at fire suppression. The grazing also removed dry grasses that allowed the spread of fire.

The first state laws concerning wildfire prevention were written in 1872. They made the burning of state or federal land (excluding private land) a misdemeanor punishable by a fine of \$1000 or a year in jail, or both. The new laws also deemed that “every person who willfully or negligently sets on fire or causes or procures to be set on fire any woods, prairies, grasses, or grain on any lands is guilty of a misdemeanor.

Conspicuously, this latter law, which applied to private lands, contained no punishment for the offense. Both laws predated the establishment of National Forests and most of

the un-owned land in California was in state government's hands. It was not until the 1905 passage of the Forest Protection Act that burning of private lands during the summer season became truly prohibited.

On the federal level, the end of 1800s saw the establishment of "Forest Reserves" which eventually evolved into our present national forest system. Laws to protect these lands from fires were first written in 1897 and amended in 1900. True fire protection on the forests, however, began just after the turn of the century with the appointment of Fire Guards to patrol the reserves for fires and fire hazards. In the event of a fire, private citizens, most often loggers and ranchers, would be pressed into service to extinguish the blaze.

The California Forest Protection Act of March 18, 1905, created a similar protection system for lands outside of the federal reserves. This law allowed the appointment of a State Forester and the creation of fire districts encompassing from one to four counties. Each district was to have its own volunteer fire warden appointed by the State Forester. Counties desiring additional protection could fund paid fire wardens. The fire warden was charged with preventing and suppressing all fires in the "woods, brush, prairies, grass, grain, or stubble" lands of the state. To carry out this task the warden was given all the powers of a peace officer to arrest perpetrators. As with their federal counterparts, they had the right to impress citizens into fire suppression work in fact, many of the federal fire guards were enlisted as county wardens as well, thus gaining them law enforcement power not provided by federal policy.

Why the shift to fire exclusion after so many centuries of naturally occurring fire? The primary reason was the increased value of standing timber now that a market for lumber was available. It was perceived that fire scarred mature trees and destroyed seedling and young growth. A certain amount of truth existed in this belief. By 1900 the residue from earlier logging operations was creating hotter, more destructive fires than the earlier, natural fires. Any regrowth of timber occurring in these harvested areas was

likely to be destroyed and scarring of mature trees probably occurred as well. In the lower foothill region, grasslands were becoming increasingly valuable for cattle grazing. In fact, a loosely organized group of citizens, The Stockmen's Protective Association, was organized in 1904 to "promote the stock and range interest of its members, especially for protection against fire. This group funded the first state operated lookout station on Mount Oso, west of Patterson in Stanislaus County. That same year, 1904, 800,000 acres of California burned in wildfires adding further impetus to the perceived need for fire protection.

There was, however, local dissension regarding burning restrictions. This came from both ranchers who burned their summer pastures in the forest to prevent the encroachment of brush and timber upon the meadows, and from timbermen, who

burned logging slash to eliminate hazards and allow new timber growth. The State Forester's office was not to be swayed. In his 1912 Biennial Report, Forester G.M. Holmes readily dismissed "light burning". "The forest floor, so necessary for the retention of water is destroyed; seedlings and small trees are killed, and the ground is unsuited for the germination of seeds. The cost is prohibitive. It would cost about \$9,000,000 to burn over our forest area once. Such a practice should be prohibited law." The exclusion of fire from California's wildland continued, at least on paper, until 1945. Despite the best efforts of the fire wardens and fire guards, uncontrolled fires continued to occur. The Sierra National Forest has maintained a map of these fires since 1908 (Figure 1). Though few of the fires occurring in the lower foothills were mapped, one can get an idea of the scope of the burning that took place. Though it appears fires were widespread, the fire return interval for the region had increased considerably from the eight to nine-year intervals, common prior to Euro-American civilization.

Government Involvement with Burning

Throughout the 1930s and early 1940s the California Division of Forestry (CDF) had been heavily lobbied by the cattle industry to conduct range improvement burns for the purpose of converting brush lands into grazing forage. When these lobbying efforts failed ranchers often took it upon themselves to burn outside of the law. To appease the situation, several tests on the effectiveness of brush burning as a land clearing tool were conducted at various locations in California. One of these areas was located in eastern Madera County near Ahwahnee. Burning, chemicals, and goats as brush removal agents were all tested. Based on the results of these experiments, the restrictions on large-scale controlled burning were gradually loosened. By 1950 range improvement burning was common in the foothills of both Madera and Mariposa counties.

The formal Range Improvement Program was carried out by the cooperative groups of ranchers organized into "Brush Burning" associations. These associations, which met regularly, planned out burns months ahead of time. Through cooperative efforts, control lines were constructed, crews were assembled, and logistical needs met. A local rancher was appointed "fire boss" and coordinated the operation. The association to ensure its safety reviewed each proposed burn. The local CDF representative would also participate in this review, and when everything was in order, a permit was issued. The local ranchers completed nearly all the work with CDF's involvement generally limited to providing standby crews in case of an escape.

Burns were done each summer throughout the 1950s and 60s. Individual burns ranged from 40 acres to over 12,000 acres. Altogether, over 137,000 acres in Madera County and 224,000 acres in Mariposa County were burned under the Range Improvement Program (Figure 6). No records are available for burns occurring on the west side of Merced County. Increasing threat of liability coupled with more stringent air pollution control laws eventually led to the programs demise. The last local burn was conducted in 1975 on Schaubach Ranch near Highway 41 and County Road 406. To circumvent the legal problems that terminated the Range Improvement program, CDF developed the Chaparral Management Program in the 1970s. This program, which became the

present-day Vegetation Management Program (VMP) placed the responsibility on CDF, now referred to as the California Department of Forestry & Fire Protection (CAL FIRE), to prepare environmental review of each burn, assume liability, and perform most of the work associated for the burn. This program has been responsible for burning 17,970 acres in Madera and Mariposa counties (Figure 8).

Since the 1930s, fire suppression capabilities have been increasing as well. Effectiveness of these efforts was limited during the first few decades of the century. The Great Depression however, created an available pool of labor, which was soon harnessed for the task of fighting wildfires. Work camps were established locally by CAL FIRE at Coarsegold, Grub Gulch, Mariposa and Coulterville. Civilian Conservation Corp (CCC) camps under the auspices of the U.S. Forest Service were also strategically located throughout the Sierra National Forest. These crews provided the areas first professional organized forces. While World War II brought about the demise of the public work crews, it saw, under the auspice of Civil Defense, the creation of a year-round, professional wildland fire fighting force of a sufficient size to accomplish the task. This organization has continued to evolve into our present-day wildland fire agencies.

We have eliminated wildfire, as the pre-Euro-American ecosystem knew it. The placement of our assets in its path, and the values we have tied to resources, such as timber and aesthetics, have made it too great a risk to live with. Ironically, its exclusion has only served to increase the risk to the values we are trying to protect. Like a dam without an outlet, the flammable vegetation in our environment continues to build up. Eventually a point will be reached at which the intensity of a wildfire will be beyond the ability of our suppression resources to handle. When this dam breaks the loss of assets and resources is inevitable.

Madera Mariposa-Merced Unit Major Fires

Undoubtedly the most disastrous wildfire to strike the Madera and Mariposa Counties was the Harlow Fire of July 1961. The Harlow burned 43,329 acres in Madera and Mariposa counties, destroyed 104 structures, and claimed two lives. What was truly remarkable about this fire was how fast it spread. In two hours, it burned 20,000 acres making it one of the fastest burning fires ever recorded in the United States.

Perhaps the largest, modern fire event in Mariposa County occurred in mid-July 1939. That year an unusually heavy grass crop had dried and then been subjected to a late spring rain. This had caused the dried grass to partially decompose, creating a fuel that “carried fire as if it were gasoline” according to one witness. In a ten-day period 5 major fires burned through the county. One fire started on Bear Creek west of Bear Valley and burned over Mt. Bullion before being stopped on Whitlock Road. North of Cathey’s Valley, on Guadalupe Mountain, another fire swept southwest from Cathey’s Valley through the Bridgeport district to White Rock Road. In Bootjack yet another fire burned out the area surrounded by Triangle Road on the north and east, Highway 49 on the south, and Highway 140 on the west. Simultaneously, a fire in the Merced River Canyon

burned 8,000 acres. All told, in those ten days, nearly 100,000 acres of Mariposa County burned.

Madera County was by no means spared from similar conflagrations. In 1906 a fire started on the Fresno River near the present intersection of Yosemite Springs Parkway and Road 400 and burned to the San Joaquin River near North Fork. A similar fire in 1916 started and burned from the present Hensley Lake to the San Joaquin River south of North Fork.

The conditions that created havoc in Mariposa County in 1939 were also shared with Madera County. A fire started by a construction blast near Picayune south of Coarsegold burned westward to the San Joaquin River, while another fire, the Point Source Fire, started northeast of North Fork near Chawanakee and burned to Kaiser Pass. This latter fire destroyed an estimated 61 million board feet of timber on over 20,000 acres of land.

When these fires occurred, our mountains had fewer residents or suppression resources. Since then, firefighting capabilities have increased tremendously but so have the number of homes in the wildland. Any of the fires, or even a portion of one, would quite easily today claim the infamous title of our communities' most destructive fire.

Fire Season 2008

The fire season of 2008 proved to be one of MMU's most active and destructive. The year started off with the lightning event that passed through California on June 21, 2008. The fires that ensued stretched the state's resources beyond critical levels. Many fires were left burning around the state because of a lack of firefighting resources. MMU was able to control all the fires within two days except the Oliver Fire and the Telegraph Fire.

The Oliver Fire broke out in Sierra National Forest and threatened the community of Ponderosa Basin. After a team was activated and a Unified Command was in place, the fire was brought under control at 2789 acres.

The largest fire of the year, and most destructive in recent unit history, was the Telegraph Fire. The Telegraph Fire started July 25, 2008, at approximately 1510 hours near the banks of the Merced River, two miles west of Telegraph Hill in Mariposa County. The fire was started in such a remote, inaccessible area that fire crews were unable to gain access to the fire. Burning in steep, rugged terrain in a remote part of the county, the fire consumed over 18,000 acres in the first day and a half alone. The Telegraph Fire was a 50-year fire event for Mariposa County. Not since the early 1960s were so many acres burned in such a short period of time. In addition to the topography, other significant environmental factors that influenced the extreme intensity and spread of this fire were low humidity, heavy fuel loads and historically low live and dead fuel moistures resulting from 2 consecutive years of record drought. One week later, the fire was contained at 34,091 acres. It was started by individual's target shooting along the Merced River at the end of Mosher Road. The final cost of the Telegraph Fire was almost 23 million dollars.

APPENDICES C-Z

APPENDIX C: PROJECTS

Battalion 1 Projects:

Project #1

Project Name: Ponderosa Fuel Break
Description: 9-mile long, 300 ft wide shaded fuel break.
Community: Greeley Hill

Project #2

Project Name: Penon Blanco Road
Description: Access to Penon Blanco Lookout and repeater serves as a fire road.
Community: Coulterville

Project #3

Project Name: Greeley Hill VMP
Description: 4500-acre VMP that includes a shaded fuel break, mastication, chipping, and pile/broadcast burning
Community: Greeley Hill

Project #4

Project Name: Wagner Ridge Fuel Break
Description: 400 ft wide 213-acre shaded fuel break. Mariposa County Fire Safe Council received funding from Sierra Nevada Conservancy.
Community: Greeley Hill starting point ending in Tuolumne County

Battalion 2 Projects:

Project #1

Project Name: Stumpfield Mountain Fuel Break
Description: 6-Mile long 300 ft wide shaded fuel break. Mariposa County Fire Safe Council received funding from a CAL FIRE, fire prevention grant.
Community: Bootjack

Project #2

Project Name: Lushmeadows Fuel Break
Description: 5 mile long 300 ft wide shaded fuel break.
Community: Lushmeadows

Project #3

Project Name: Grist Fuel Break
Description: 2.5-mile long 300 ft wide shaded fuel break.
Community: Bootjack

Project #4

Project Name: Boyer Road Fuel Break
Description: 2.5-mile 400 ft shaded fuel break.
Community: Bootjack

Project #5

Project Name: Starchman Fuel Break
Description: 1.5-mile 200 ft shaded fuel break
Community: Mariposa

Project #6

Project Name: Grupe VMP
Description: 7800-acre VMP where C-234 Intermediate Firing Methods are conducted.
Community: Mariposa

Project #7

Project Name: Mt Bullion Ridge VTP
Description: 7.5-mile 300 ft wide shaded fuel break/VTP.
Community: Mt Bullion

Battalion 4 Projects:**Project #1**

Project Name: Potter Ridge Fuel Break
Description: 9.5-mile 400 ft shaded fuel break.
Community: Oakhurst

Project #2

Project Name: Metcalf Gap
Description: 130-acre 200 ft wide fuel reduction project/fire road maintenance.
Community: Ahwahnee

Project #3

Project Name: Cedar Valley
Description: 1.5-mile 300 ft shaded fuel break.
Community: Cedar Valley

Project #4

Project Name: Vista Del Rio
Description: 48-acre VTP.
Community: Oakhurst

Battalion 5 Projects:

Project #1

Project Name: Highway 41 Training Burn

Description: 12-mile annual burn on the east side of Highway 41, utilizing Caltrans right of way. The 2019 priority project has prevented almost all ignitions along the highly traveled Highway 41.

Community: Coarsegold

Project #2

Project Name: SNF Good Neighbor Fuel Break

Description: 5 Fuel Breaks totaling 759-acres in the Sierra National Forest's Bass Lake area that CAL FIRE resources assist in construction and maintenance.

Community: Bass Lake

Battalion 17 Projects:

Project #1

Project Name: Los Banos Road Grading

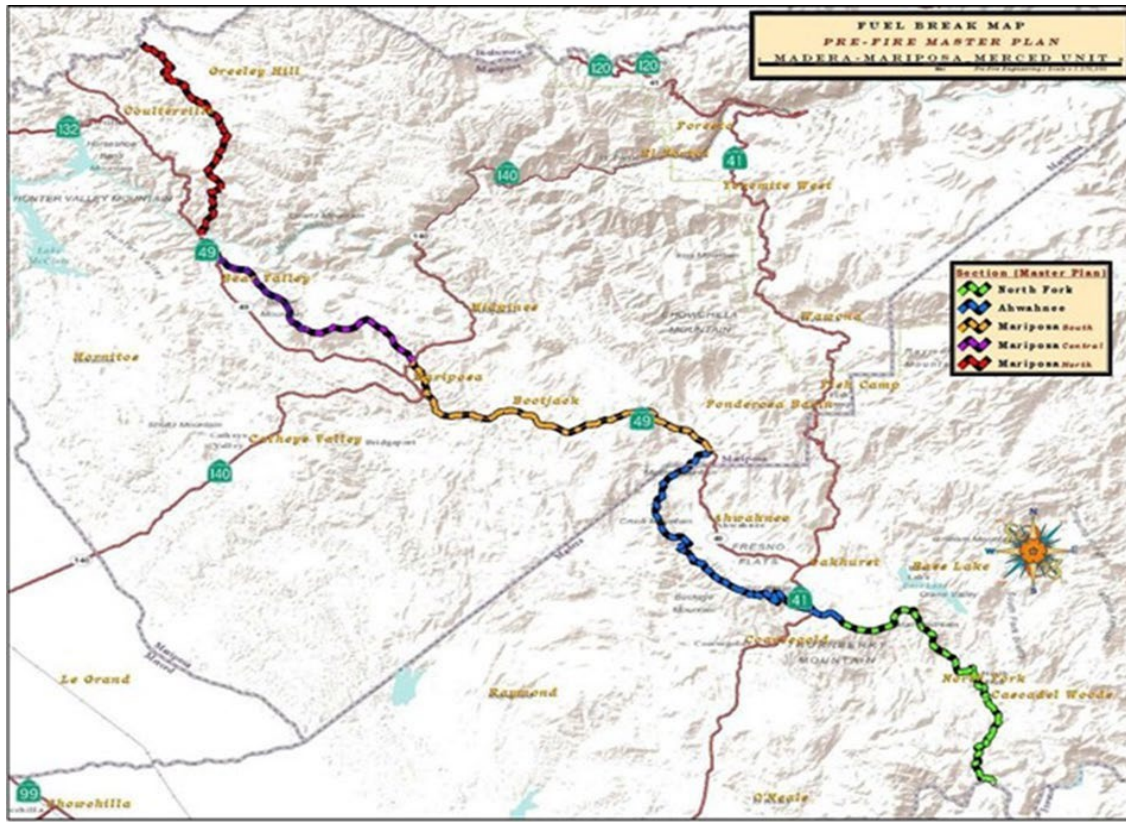
Description: 40-miles and 65-acres of road grading maintained every year. This project enables fire equipment to access fires south of Highway 152 and west of Interstate 5.

Community: Los Banos



APPENDIX D:

Madera-Mariposa-Merced Unit, Pre-Fire Engineering Master Plan Fuel Break



MADERA DIVISION / NORTH FORK / SEGMENTS 1-3

In the North Fork area of Madera County there are three segments of the continuing fuel break that runs through MMU.

Segment 1: from the San Joaquin River to the town of North Fork along Road 222. Working with Madera County Roads Department and private landowners, use machines and hand crews to clear vegetation along both sides of Road 222.

Segment 2: from the town of North Fork to Goat Mountain Lookout, following Road 226 to Walker Ranch Road, thence from Walker Ranch Road to the USFS fuel break over Goat Mountain Lookout. Use machines and hand crews, working with Madera County Roads Department, private landowners, and the USFS to clear vegetation along the road system and maintain the existing USFS fuel break.

Segment 3: from Goat Mountain Lookout to Road 420, following USFS Road 7S23 to USFS Road 7S33 along Thornberry Mountain to Road 420. Use machines and hand crews, working with Madera County Roads Department, private landowners and the USFS to clear vegetation along the road system and maintain the existing USFS fuel break.

MADERA DIVISION / AHWAHNEE / SEGMENTS 1-3

In the Oakhurst to Ahwahnee area of Madera County there are three segments of the continuing fuel break that runs through MMU.

Segment 1: from Road 420 to Highway 41 thence following the predominant ridge through Sections 27 and 21, Township 7 South, Range 21 East, to Deadwood Peak. Use machines and hand crews, working with Madera County Roads Department and private landowners to clear vegetation along the road system and create a new fuel break.

Segment 2: from Deadwood Peak along the Potter Ridge Fire Road to the ridge in Sections 11 and 2, Township 7 South, Range 20 East, to the Fresno River. Use machines and hand crews, working with private landowners, to clear vegetation along the road system. Maintain and widen the existing fire control road and create a new section of fuel break.

Segment 3: from the Fresno River following the ridgeline in Sections 2 and 3, Township 7 South, Range 20 East, thence continuing into Section 24 Township 6 South Range 20 East, over Crooks Mountain in Section 27 into Section 22 to Metcalf Gap, thence from Metcalf Gap Road through Section 22 to Miami Lookout, thence down the ridgeline in

Section 12 to Highway 49. Use machines and hand crews, working with Madera County Roads Department, private landowners and the USFS to clear vegetation along the road system and maintain an existing USFS fuel break, or create new areas of fuel breaks through the SRA and FRA where needed.

MARIPOSA DIVISION / SOUTH / SEGMENTS 1-2

In the southern portion of Mariposa County there are two segments of the continuing fuel break that runs through MMU.

Segment 1: from Highway 49 South at the county line following Highway 49 to the Starchman Fuel Break at Old Highway. Work with CAL TRANS, CHP and landowners using machines and hand crews to clear vegetation along both sides of Highway 49.

Segment 2: following the Starchman Fuel Break across Stockton Ridge to Highway 140. Maintain the existing fuel breaks that are completed and in place.

MARIPOSA DIVISION / CENTRAL / SEGMENTS 1-2

In the Central portion of Mariposa County there are two sections of the continuing fuel break that runs through MMU.

Segment 1: From Highway 140 following Alta Vista Road to the ridgeline starting in Section 4, Township 5 South, Range 18 East, thence following the ridgeline to Bullion Knob, and then to the intersection on Mount Bullion Camp Road. Use machines and hand crews, working with Mariposa County Roads Department and private landowners to clear vegetation along the road systems and create new fuel breaks where needed.

Segment 2: from the intersection at the top of Mount Bullion Camp Road going north following Mount Bullion Ridge Road to the Josephine Mine, thence leaving the road and

following the ridgeline and existing fire line to the Merced River at Bagby. Use machines and hand crews to maintain and widen the existing road and fire line that is in place.

MARIPOSA DIVISION / NORTH / SEGMENTS 1-2

In the northern portion of Mariposa County there are two sections of the continuing fuel break that runs through MMU.

Segment 1: starting at the Merced River at Bagby Recreation Area following an existing powerline road through the BLM lands to Shilling Road, thence following Shilling Road to Ponderosa Way. Use machines and hand crews to maintain and widen the existing road system, working with BLM and Mariposa County Roads.

Segment 2: following Ponderosa Way to the Ponderosa fuel break. Use machines and hand crews to maintain and widen the existing road and fire line that is in place.



APPENDIX E: PRE-FIRE ACTIVITIES



PRE-FIRE ACTIVITIES for Madera-Mariposa-Merced Unit (MMU) 20

This report contains activities that have been completed or are currently active. Activities with a start date prior Jan 1st of the year in the report title are not reflected in this report.

PROJECT NAME	TYPE	PROJECT STATUS	PROJECT ACREAGE	TREATMENT OBJECTIVE	TREATMENT NAME	ACTIVITY	QTY	UOM
Boyer Road Fuel Break	Fire Plan	Complete in Maintenance	213	Fuel Break (Polygon)	Boyer Road Fuel Reduction	Pile Burning	3.00	Acres
						Thinning (Manual)	2.00	Acres
						Limbing and Bucking	46.00	Hours
California Vipassana Center	Fire Plan	Active	337	Fuel Reduction (Polygon)	California Vipassana Center Fuel Redu	Pile Burning	7.00	Acres
						Thinning (Manual)	2.50	Acres
						Chipping	0.60	Acres
						Limbing and Bucking	45.00	Hours
Community Wildfire Preparation Videc	Fire Plan	Active	0	Fire Prevention (Point)	Administration	Project Administration	19.00	Hours
ECCO	Fire Plan	Complete	164	Broadcast Burn (Polygon)	Broadcast Burn	Broadcast Burn	21.90	Acres

PROJECT NAME	TYPE	PROJECT STATUS	PROJECT ACREAGE	TREATMENT OBJECTIVE	TREATMENT NAME	ACTIVITY	QTY	UOM		
Eastman Lake Fuel Reduction	Fire Plan	Active	1,993	Broadcast Burn (Polygon)	Eastman Fuel Reduction					
							Project Administration	119.00	Hours	
Foran Fuel Reduction Project	Fire Plan	Active	68	Fuel Reduction (Polygon)	Foran Fuel Reduction					
							Project Administration	6.25	Hours	
Greeley Hill VMP	VMP	Active	2,289	Fuel Break (Polygon)	Greeley Hill Fuel Reduction					
							Lop and Scatter	0.50	Acres	
							Pile Burning	6.00	Acres	
							Piling (Mechanical)	12.00	Acres	
							Thinning (Manual)	3.00	Acres	
							Chipping	0.25	Acres	
							Piling (Manual)	3.00	Acres	
							Limbing and Bucking	65.00	Hours	
Grist Fuel Break	Fire Plan	Complete in Maintenance	102	Fuel Reduction (Polygon)	Grist FB					
							Chipping	0.50	Acres	
							Thinning (Manual)	1.50	Acres	
							Lop and Scatter	3.50	Acres	
							Limbing and Bucking	17.00	Hours	
							Mastication	12.00	Acres	

PROJECT NAME	TYPE	PROJECT STATUS	PROJECT ACREAGE	TREATMENT OBJECTIVE	TREATMENT NAME	ACTIVITY	QTY	UOM										
Grupe Ranch VMP	VMP	Active	15,597	Broadcast Burn (Polygon)	2022 Grupe Spring Burn	Broadcast Burn	368.00	Acres										
						Fuel Reduction (Polygon)	Grupe Ranch Burn Prep	Limbing and Bucking	42.00	Hours								
								Site Preparation (Manual)	18.00	Hours								
								Site Preparation (Mechanica)	44.50	Hours								
								Highway 41 Training Burn	Fire Plan	Active	338	Broadcast Burn (Polygon)	2022 Highway 41 Burn	Broadcast Burn	112.00	Acres		
														Fuel Break (Polygon)	Highway 41 Fuel Break	Piling (Manual)	11.00	Acres
																Limbing and Bucking	67.00	Hours
Thinning (Manual)	10.00	Acres																
Pile Burning	1.00	Acres																
Jailbreak	Fire Plan	Active	229	Fuel Reduction (Polygon)	Jailbreak Fuel Reduction	Pile Burning	1.80	Acres										
						Thinning (Manual)	6.44	Acres										
						Limbing and Bucking	97.50	Hours										
						Piling (Manual)	2.80	Acres										

PROJECT NAME	TYPE	PROJECT STATUS	PROJECT ACREAGE	TREATMENT OBJECTIVE	TREATMENT NAME	ACTIVITY	QTY	UOM
Los Banos Road Grading	Fire Plan	Active	65	Road Maintenance (Line)	LOS BANOS FIRE ROAD MAINTENANC	Road Grading	15.00	Miles
Madera County Roads	Fire Plan	Active	0	Fuel Reduction (Point)	Madera County Roads ROW	Limbing and Bucking	14.50	Hours
						Chipping	4.00	Acres
Madera Projects - Southern Sierra All I Forest H	Active	Active	3,034	Reforestation (Polygon)	01 - French Fire	Tree Planting (Manual)	800.00	Acres
Madera Strategic Wildfire Mitigation P	Fire Plan	Active	0	Fuel Reduction (Point)	Fuel Reduction	Project Administration	98.50	Hours
						Thinning (Manual)	110.00	Acres
Manzanita Lake	Fire Plan	Complete in Maintenance	171	Fuel Reduction (Polygon)	Manzanita Lake Fuel Reduction	Limbing and Bucking	6.00	Hours
Mariposa County Roads	Fire Plan	Active	0	Fuel Reduction (Point)	Fuel Reduction	Limbing and Bucking	37.00	Hours
						Thinning (Manual)	2.00	Acres

PROJECT NAME	TYPE	PROJECT STATUS	PROJECT ACREAGE	TREATMENT OBJECTIVE	TREATMENT NAME	ACTIVITY	QTY	UOM
McClure Training Burn	Fire Plan	Complete	30	Broadcast Burn (Polygon)	2022 Fuel Reduction			
							Broadcast Burn	29.80 Acres
Minarets High School	Fire Plan	Active	54	Broadcast Burn (Polygon)	2022 Broadcast Burn			
							Broadcast Burn	14.00 Acres
SNF Good Neighbor Fuel Break	Fire Plan	Active	6,072	Fuel Break (Polygon)	SNF Good Neighbor Fuel Reduction			
							Mastication	92.00 Acres
							Thinning (Manual)	3.25 Acres
							Piling (Mechanical)	27.00 Acres
							Chipping	9.75 Acres
							Limbing and Bucking	183.00 Hours

PROJECT NAME	TYPE	PROJECT STATUS	PROJECT ACREAGE	TREATMENT OBJECTIVE	TREATMENT NAME	ACTIVITY	QTY	UOM
SSALRR – Mariposa County, Phase II	Forest H	Active	28,673					
					Biomass Utilization (Polygon)			
					01 - Yosemite NP			
						Biomass Removal (Bone Dr)	819.22	Tons
						Piling (Mechanical)	125.91	Acres
					04 - Wawona			
						Biomass Removal (Bone Dr)	2,658.23	Tons
						Piling (Mechanical)	52.31	Acres
					05 - Yosemite West			
						Biomass Removal (Bone Dr)	342.59	Tons
					Broadcast Burn (Polygon)			
					02 - Yosemite NP			
						Site Preparation (RxBurn)	107.54	Hours
					Fuel Reduction (Polygon)			
					08 - Yosemite NP			
						Thinning (Mechanical)	128.65	Acres
					09 - Wawona			
						Thinning (Manual)	30.00	Acres
Starchman Fuel Break	Fire Plan	Complete in Maintenance	99					
					Fuel Break (Polygon)			
					Starchman Fuel Reduction			
						Limbing and Bucking	35.00	Hours
						Pile Burning	4.00	Acres
						Lop and Scatter	2.00	Acres
						Piling (Manual)	2.00	Acres
						Thinning (Manual)	2.25	Acres

PROJECT NAME	TYPE	PROJECT STATUS	PROJECT ACREAGE	TREATMENT OBJECTIVE	TREATMENT NAME	ACTIVITY	QTY	UOM
Vista Del Rio	Cal VTP	Active	96	Fuel Reduction (Polygon)	VISTA DEL RIO WUI FR MECH UNIT 1	Thinning (Mechanical)	3.00	Acres
						Piling (Mechanical)	5.00	Acres
						Mastication	12.75	Acres
					VISTA DEL RIO WUI FR PILE BURN UN	Pile Burning	5.00	Acres
					Vista Del Rio WUI FR Manual Unit 1	Site Preparation (Manual)	71.00	Hours
						Piling (Manual)	3.00	Acres
						Pruning	2.50	Acres

EXHIBITS: MAPS

Figure A: Unit Boundary Maps





CAL FIRE

Madera-Mariposa-Merced Unit

Battalion Proximity Map

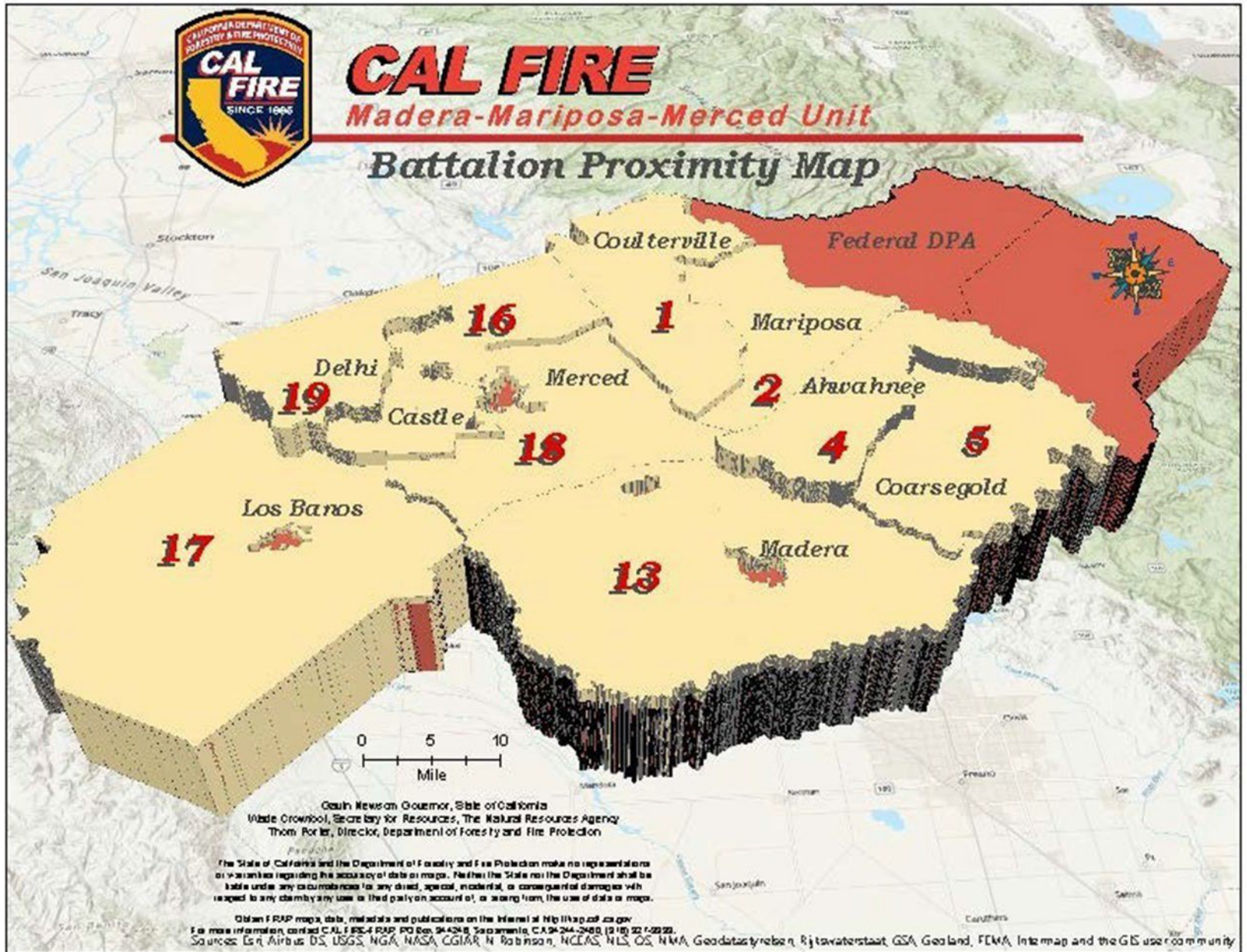
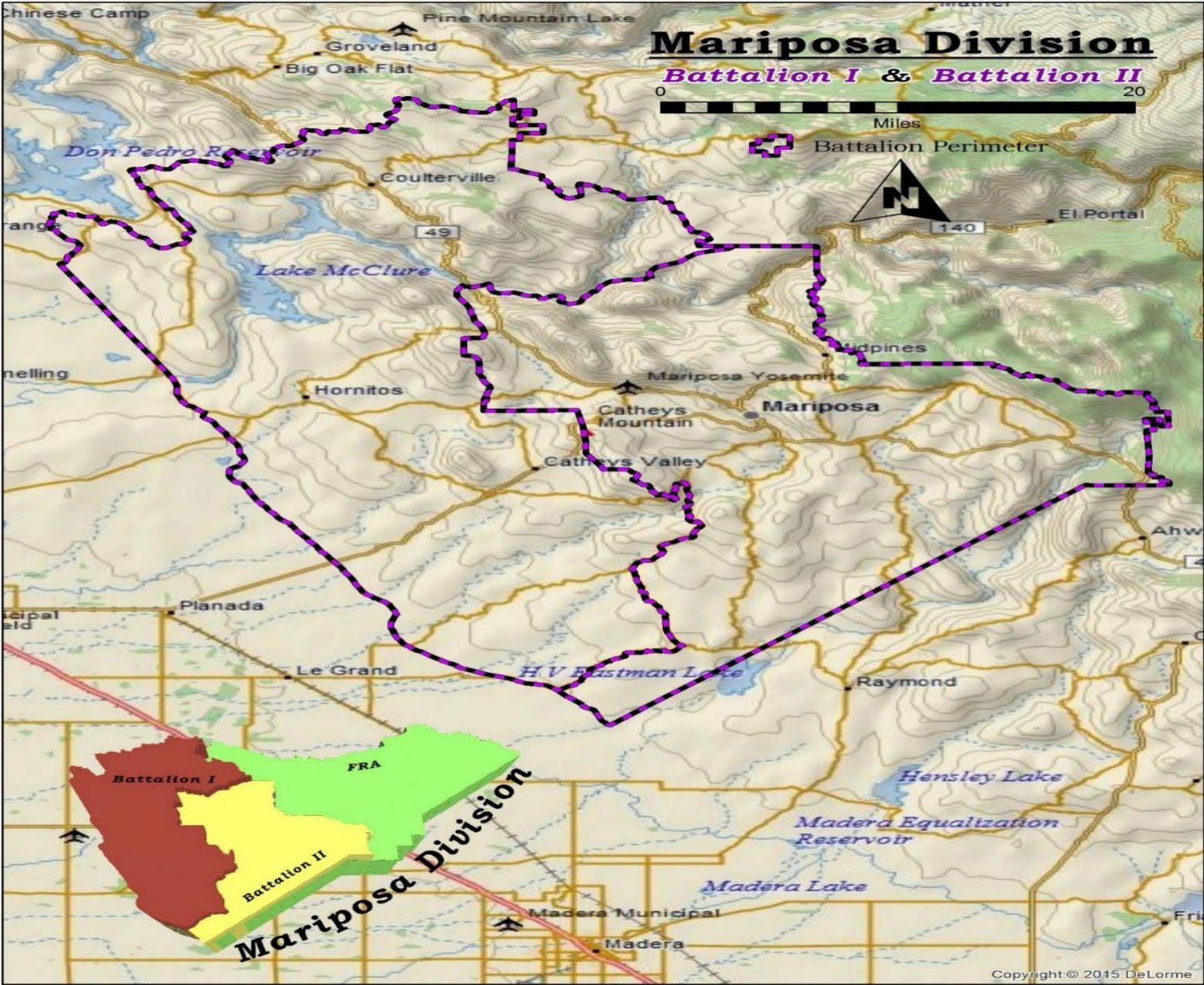
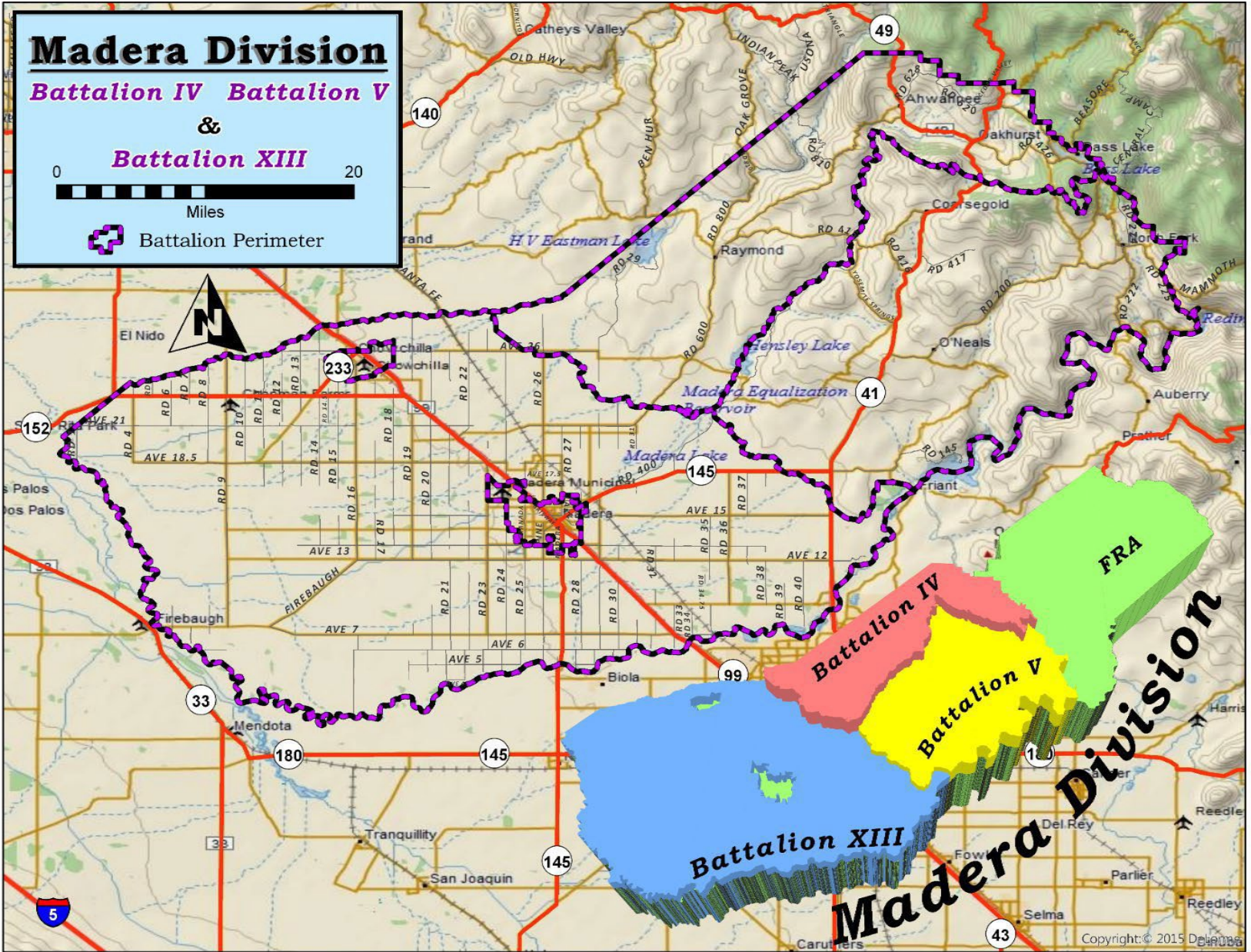


Figure B: Individual Battalion Maps





Last update: 5 May 2022

SUPPLEMENT: 2022

Annual Report of Unit Accomplishments

Fuel Reduction Project Accomplishments

In 2022, the Madera-Mariposa-Merced Unit continued to work with cooperators to identify new projects and continue progress on active projects in the Unit.

Unit staff were very busy working to support the Governor's mission of creating fuel reduction projects with an emphasis on protecting communities most vulnerable to wildfire.

Stumpfield Mountain Fuel Break is a 339-acre Shaded Fuel Break that was completed by the Mariposa County Fire Safe Council with cooperation from Battalion 4212 and Resource Management/Pre-Fire staff.

Starchman Fuel Break Success Story

The Miller Fire was ignited by a commercial vehicle fire on Highway 49 South. The driver pulled over as he noticed smoke coming from the back of his vehicle. The fire burned to the top of the ridge and slowed dramatically as it burned into a shaded fuel break known as Starchman Fuel Break. Fire Retardant and water from aircraft was able to reach the ground, covering the annual grass. Starchman Fuel Break also allowed Fire Engines and Hand Crews to make quick access to the ridge top and suppress the fire. Prior to construction of the fuel break the south side was not accessible by vehicles due to thick brush, and overgrown live oak. The Miller Fire was contained at 9 acres and no structures were threatened.

Annual Ignitions Summary

Fire Prevention and Information & Education Goals

The Fire Prevention Bureau's Goals for the Madera-Mariposa-Merced Unit is described through the 3 – E acronym (Engineering, Education, and Enforcement). Their Goal is to reduce the number of ignitions starts each year through implementation of this acronym.

- ENGINEERING – Identifying fire trends through investigation data and then developing building or construction codes or ordinances to prevent recurrence of identified trends.
- EDUCATION – Providing informational programs and public announcements through defensible space inspections, multiple forms of media, school programs, and community events.
- ENFORCEMENT – Through inspection programs, citations, civil and criminal proceedings based on investigation findings.

2022 Prevention Bureau Statistics

- 4 citations were issued.

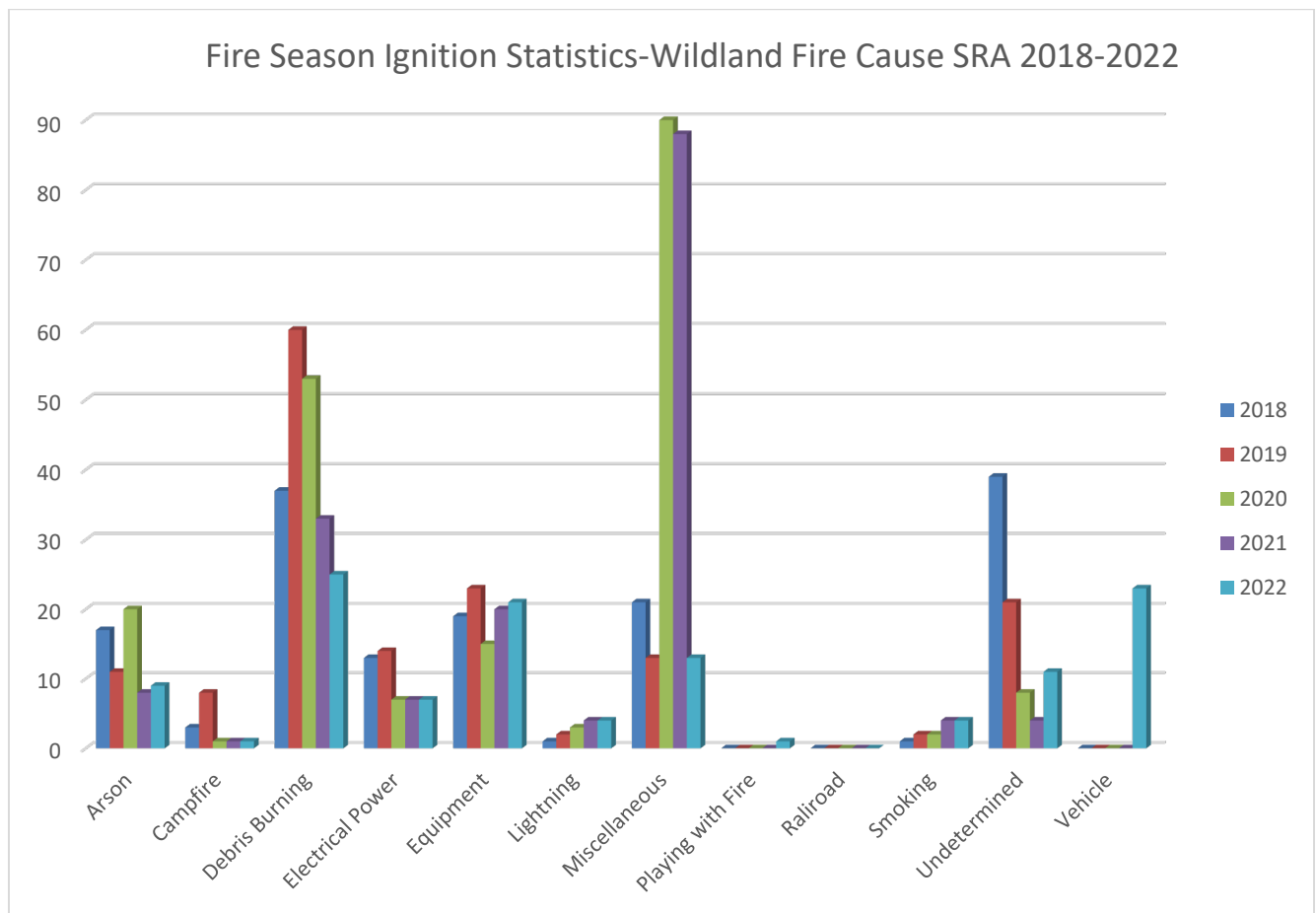
2021-2022 Significant Fires over 5,000 acres in the Unit

1. 2021 River Fire: 9,656 Acres
2. 2022 Oak Fire: 19,244 Acres



SRA Unit Ignition Statistics are depicted in the charts that follow:

Fire Season Ignition Statistics-Wildland Fire Cause SRA 2018-2022					
Cause	2018	2019	2020	2021	2022
Arson	17	11	20	8	9
Campfire	3	8	1	1	1
Debris Burning	37	60	53	33	25
Electrical Power	13	14	7	7	7
Equipment	19	23	15	20	21
Lightning	1	2	3	4	4
Miscellaneous	21	13	90	88	13
Playing With Fire	0	0	0	0	1
Railroad	0	0	0	0	0
Smoking	1	2	2	4	4
Undetermined	39	21	8	4	11
Vehicle	0	0	0	0	23



LE-100 Defensible Space Program

In 2022 the Unit completed a total of **7,439** inspections. Majority of these inspections were completed by four seasonally funded Forestry Aides-Defensible Space Inspectors, with involvement from the Unit's fire stations. A significant emphasis was placed on completing inspections in un-incorporated areas of the Unit that had never been inspected.



Defensible Space Inspection
Inspection Activity By Unit
 Inspections conducted from 1/1/2022 to 12/31/2022

Report generated on:
 5/4/2023 12:37 pm

	Un - inspected Total	Non Compliant Total	Compliant Total	Inspection Total	Citation Count	Inspection Hrs:Min	Contact Hrs:Min	Non Habitable Structures Totals	Dead Trees Count
SOUTHERN									
<u>CAL FIRE</u>									
MMU	563	1,275	5,601	7,439	4	1,868:35	439:10	1,579	88
Sub-Totals	563	1,275	5,601	7,439	4	1,868:35	439:10	1,579	88
Region Totals	563	1,275	5,601	7,439	4	1,868:35	439:10	1,579	88
Report Totals	563	1,275	5,601	7,439	4	1,868:35	439:10	1,579	88

