Unit Strategic Fire Plan

San Mateo - Santa Cruz Unit

Bonny Doon Ecological Reserve Fuel Reduction Project - 2010

UNIT STRATEGIC FIRE PLAN AMENDMENTS

Date	Section Updated	Page Numbers Updated	Description of Update	Updated By
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6/12/12	2	12	Added persons to plan development team	JPM
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SIGNATURE PAGE

Unit Strategic Fire Plan developed for the San Mateo Santa Cruz 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.

Will be signed prior to final submittal on June 15 _____

Unit Chief **Date**

Scotty Jalbert

Will be signed prior to final submittal on June 15 _____

Pre-Fire Engineer **Date**

John Martinez

EXECUTIVE SUMMARY

The history of wildfire in the San Mateo – Santa Cruz Unit can be dated back to Native Americans and later in the 1900's with slash and burn logging. Our knowledge of these fires is limited to verbal history and newspaper clippings. In the 1950's, the Division of Forestry began gathering data on large fires. Prior to the devastating wildfires of 2008 and 2009 large destructive wildfires were vague memories. Besides large fires in neighboring Units, Santa Cruz and San Mateo County have not seen much significant fire activity since the early 1960's. Until the Summit Fire of 2008, most residents had never experienced a destructive wildfire firsthand. The reasons for the lack of fire activity in the past 40 to 50 years can be argued; Weather, changes in the way we manage our forests, extended fire regimes, aggressive firefighting, and a multitude of others. Regardless the reason, the fact remains, wildfires will occur. What makes the present different from early part of this century is the number of people living in the wildland. In the past 30 years, scores of people have left the city and are living in the mountainous, more rural part of the counties, or the Wildland Urban Interface (WUI). People living in the wilderness is nothing new, however, their increasing numbers has caused the fire service to change the way they do business. In the past, firefighters focused primarily on the fire; they are now faced with an ever increasing infrastructure of roads, structures, traffic and people. What has also changed is the fact there are not enough firefighters or fire apparatus to protect each and every home during a wildfire. Knowing this, it is the joint responsibility of the greater community and government to take preventative measures to make homes, neighborhoods, and the community more defensible from wildfire.

The 2010 strategic Fire Plan, developed collaboratively between the State Board of Forestry and Fire Protection (Board) and the California Department of Forestry and Fire Protection (CAL FIRE), asks how we can we utilize and live with the risk of wildfire. The answer is through a vision, goals, and objectives.

Locally, there is a history of collaborative efforts between fire agencies and groups such as Fire Safe San Mateo, and communities like Las Cumbres, La Honda, Olive Springs and Bonny Doon. Efforts such as these have culminated in numerous fuel reduction projects and community education. More recently, the Unit has seen an unprecedented amount of pre-fire "grass roots" organization, including the formation of the Soquel, South Skyline, and Bonny Doon Fire Safe Councils. Also, with the assistance of the Resource Conservation District (RCD) through a grant from the United Fish and Wildlife Service, a Community Wildfire Protection Plan (CWPP) was developed with input from stakeholders throughout San Mateo and Santa Cruz Counties. In 2010, the Board of Supervisors for both San Mateo and Santa Cruz County adopted the 2010 San Mateo County – Santa Cruz County CWPP.

The Unit Strategic Fire Plan is a living document, to be updated annually with additional goals and objectives. This document is also meant to work in collaboration with the already completed 2010 San Mateo County - Santa Cruz County Community Wildfire Protection Plan. Over time, we will be able to utilize measurement criteria to evaluate our accomplishments and their effectiveness.

SECTION I: UNIT OVERVIEW

UNIT DESCRIPTION

The San Mateo – Santa Cruz Unit includes the counties of Santa Cruz, San Mateo, and San Francisco. The Unit primarily operates in the State Responsibility Areas (SRA) of Santa Cruz and San Mateo County an area of approximately 894 square miles. CAL FIRE is the County Fire Department for both San Mateo County and Santa Cruz County. In addition to providing fire protection in the SRA, CAL FIRE contracts with the Coastside Fire Protection District in San Mateo County and Pajaro Valley Fire Protection District in Santa Cruz County.

San Mateo and Santa Cruz Counties border the Pacific Ocean to the west; San Francisco County to the north; San Francisco Bay and Santa Clara County to the east; and the Pajaro River along San Benito and Monterey Counties to the south. The counties straddle the eastern and western flanks of the Santa Cruz Mountains (part of the Coast Range) which runs in a general northwest to southeast direction. The ridgeline travels about 65 miles from just south of San Bruno Mountain in San Mateo County to Mount Madonna in Santa Cruz County. The highest point of the range is Loma Prieta at 3,806 feet (southwest of San Jose). Other notable peaks are: Mount Umunhum (3,442 feet); Castle Rock (3,214 feet); Ben Lomond Mountain (2,600 feet); Eagle Rock (2,488 feet); Kings Mountain (2,315 feet) and Mount Madonna (1,897 feet).

Weather conditions in the Unit are considered to be Mediterranean in nature due to their warm dry summers and colder wet winters. In both Santa Cruz County and San Mateo County, the weather is generally mild throughout the year. Due to the proximity of the Monterey Bay in Santa Cruz County, the Pacific Ocean and San Francisco Bay in San Mateo County, fog and overcast conditions are common in the morning and evening.

Vegetation is dominated by dense conifer stands typically having forest floor accumulations of litter and downed woody material and coastal scrub communities consisting of low vegetation up to six feet in height, typically occurring on coastal bluffs, coastal hills and wind swept summits. Vegetation is usually dense and difficult to penetrate. True chaparral communities can be found in isolated areas on southwest aspects and at higher elevations. Grasslands occupy coastal valleys along the western slopes of the Santa Cruz Mountains and in the southern end of Santa Cruz County (the majority of this community has been converted to agriculture or urban development). Grasslands can also be found on the western slopes of the Santa Cruz Mountains in rural San Mateo County, especially in areas of upland grazing.

Approximately one million residents make up the combined population of San Mateo and Santa Cruz Counties. Additionally, numerous other non-residents frequently visit the counties for work, recreation and tourism. Recreational use of public lands is a year round activity in great demand by people from the local communities, the surrounding metropolitan Bay Area, and points beyond. There are approximately 29 miles of beaches in the county with an additional 40+ thousand acres of parks available to the public.

Santa Cruz County has an estimated population of 250,000 of which the highest population densities occur in the Cities of Santa Cruz and Watsonville. San Mateo County has much higher population densities than Santa Cruz, with many of the county's 700,000 residents dwelling in the more urban northeastern portion of the county. The Cities of Daly City, San Mateo, Redwood City, South San Francisco and San Bruno make up the highest population centers. With the exception of Half Moon Bay, El Granada, Princeton, Moss Beach, Montara and Pacifica, coastal San Mateo County is largely undeveloped. Major landowners in the area include local and state government, private timberland, water districts and smaller private ownerships.

The boundary between residential/commercial development and wildland in both counties is not clearly demarcated. Development of rural residential dwellings is progressing at a moderate to rapid pace. Where there were once scattered rural summer cabins on winding, narrow roads, there are now yearlong residential subdivisions, and an increased density of structures. Much of this intermix zone is within the State Responsibility Area (SRA) in Santa Cruz County and contiguous to SRA in San Mateo County.

Due to local topography, fuels (forest, chaparral, grasslands) and certain weather conditions, San Mateo and Santa Cruz counties are prone to periodic large wildfire events. Each year, State, local, and volunteer departments throughout the region respond to numerous wildfires. The vast majority of these are held to less than one acre. The reasons for this include, but are not limited to: early identification and reporting, large fire suppression response (both local and state agencies), generally good access to fire areas, favorable fuels, favorable fire weather, and air support. Effective fire suppression over the past 100 years has led to uncharacteristically high fuel loads. When ignitions occur during unfavorable weather and/or in areas with poor access, fires can rapidly increase to an unmanageable size prior to fire resources arrival. In 2008 Santa Cruz County experienced three large wildfires resulting in approximately 5,400 acres burned and numerous homes destroyed. In 2009, Santa Cruz County experienced two large wildfires resulting in approximately 8,500 acres damaging and destroying numerous homes and structures.

Martin Fire as seen from Felton HQ (2008).

Since the 1970s, there has been increasing public pressure to preserve local natural features. This philosophy has influenced the management of parks, open space, and private land holding. There are also the pressures of subdivision and home development on rural lands prone to fire hazards. The result is an ever-increasing land base where little to no vegetation management occurs. In many instances, the resulting landscape is overgrown with a variety of species with an increasing non-native, invasive species component in a variety of age classes. The increased number of homes and proximity to flammable landscapes can be a potentially dangerous situation in the event of a fire. Compounding the problem is with new ownership and management objectives, many existing access roads are abandoned resulting in poor access to fires during suppression activities.

Priority Landscapes

State law requires periodic assessment of California's forest and rangeland resources. Beginning in 2008, this became a Federal Law as well. In June of 2010, the Fire and Resource Assessment Program (FRAP) released California's Forest and Rangelands: 2010 Assessment. As part of the assessment, states were required to identify key issues and define the status and trends throughout the forests. Additionally, they were asked to identify specific geographic areas, called "priority landscapes". The intent of identifying "priority landscapes" was to assist planners and encourage investment in projects associated with the identified areas. The assessment identifies forest and rangeland issues across the state, with strategies to address them. A complete copy of the assessment can be found on the CAL FIRE FRAP Website. The Unit will consider the following priority landscapes, as identified by the assessment, when planning for future projects:

Chapter 1.1 – Population Growth and Development Impacts - Landscapes at risk include annual grasslands and coastal scrub, found in both San Mateo and Santa Cruz County. Strategies to address development include land acquisition, easements and zoning policies.
Chapter 1.2 - Sustainable Working Forests and Rangelands – Priority landscapes were identified in the Unit in regards to "Risk Reduction on Rangelands".
Chapter 3.1 Water Quality and Quantity Protection and Enhancement – Landscapes at risk include Santa Cruz County for water supply from forests in source watersheds.
Chapter 3.3 Planning for and Reducing Wildfire Risks to Communities - San Mateo and Santa Cruz Counties have been identified as priority landscapes. A primary strategy for this priority landscape is to complete a CWPP (this has occurred for both counties).
Chapter 3.7 – Climate Change: Threats and Opportunities - San Mateo and Santa Cruz County have been identified as priority landscapes for threats to forest carbon from wildfire, insects, and disease. Strategies to mitigate these issues include reforestation, forestland conservation, fuels reduction, urban forestry and forest management to improve carbon sequestration

UNIT PREPAREDNESS AND FIREFIGHTING CAPABILITIES

The San Mateo – Santa Cruz Unit (CZU) Headquarters is located in the Santa Cruz County in the Town of Felton. CAL FIRE is the contracted to provide personnel and services for Santa Cruz County and San Mateo County Fire Departments, respectively. CAL FIRE has contracts to provide fire protection to Pajaro Valley in Santa Cruz County and to Half Moon Bay, El Granada and Montara in San Mateo County. The Unit is geographically divided into four battalions. Battalion's One and Two are within San Mateo County (with a small sliver extending into Santa Cruz County) and Three and Four in Santa Cruz County. Within the Unit there is State and County paid stations, local government departments, fire protection districts, as well as numerous volunteer companies. Additionally, the Unit manages both schedule "A" and schedule "B" stations.

Paid Schedule "A" Stations

Belmont Station	17320 Paul Scannell Dr., San Mateo, CA 94402
Cordilleras Station	18300 Edmonds Rd., Redwood City, CA 94062

Coastside Fire Protection District

Station 40	1191 Main Street, Half Moon Bay, CA 94019
Station 41	531 Obispo Road, El Granada, CA 94018
Station 44	501 Stetson Street, Moss Beach, CA 94038
Pajaro Dunes Station	2661 Beach Rd., Watsonville, CA 95076
Pajaro Valley Station	562 Casserly Rd., Watsonville, CA 95076

Paid Schedule "B" Stations

Big Creek Station 33	240 Swanton Rd., Davenport, CA 95017
Burrell Station 47	25050 Highland Way, Los Gatos, CA 95033
Corralitos Station 41	120 Eureka Canyon Rd., Watsonville, CA 95076
Fall Creek Station 31	7272 Empire Grade Road, Bonny Doon, CA 95060
Jamison Creek Station 23	16115 Jamison Creek Rd., Boulder Creek, CA 95006
Saratoga Summit Station	2112900 Skyline Blvd., Los Gatos, CA 95033
Soquel Station 43	4750 Soquel-San Jose Rd., Soquel, CA 95073
Belmont Station 17	320 Paul Scannell Dr., San Mateo, CA 94402
Skylonda Station 58	17290 Skyline Blvd. Woodside, CA 94062
Pescadero Station 59	1200 Pescadero Rd., Pescadero, CA 94060

CDCR Conservation Camp

Ben Lomond Camp	13575 Empire Grade Rd., Santa Cruz, CA 95060

The next closest CDC Conservation Camp is Gabilan Conservation Camp in Soledad, approximately 40 miles South of Santa Cruz County.

Volunteer Stations /Equipment

Bonny Doon Volunteers, Company 32:

Martin Road Station	975 Martin Road, Santa Cruz, CA 95060
McDermott Station	7276 Empire Grade Rd., Santa Cruz, CA 95060

South Skyline Volunteers, Company 29:

South Skyline Station	12900 Skyline Blvd., Los Gatos, CA 95033
Las Cumbres Station 29	18271 Las Cumbres Road, Los Gatos, CA 95033

Loma Prieta Volunteers, Company 36:

Loma Prieta Station	17445 Old Summit Road, Los Gatos, CA 95030
Burrell Station	25050 Highland Way, Los Gatos, CA 95033

Davenport Volunteers:

Company 37	P.O. Drawer D, Davenport, CA 95017

Corralitos Volunteers:

Company 41	120 Eureka Canyon Rd., Corralitos, CA 95076
Kings Mountain Fire Brigade	13889 Skyline Blvd Woodside, CA 94062
La Honda Fire Brigade	P.O. Box 97, La Honda, CA. 94020

Initial Attack Resources

The following CAL FIRE resources are available for initial attack (not accounting for local agency and adjacent Unit response):

(1) Dozers: D1741

(14) Engines: E1771, E1765, E1761, E1762, E1763, E1767, E1769, E1768, E1760, E1764, E1766, E1782, E1775, E1774

(5) Fire Crews: Ben Lomond Crew #1 through Crew #5

The nearest air support is Alma Helitack in the Santa Clara Unit off of Hwy 17 adjacent to Lexington Reservoir.

Auto Aid agreements

CAL FIRE has numerous auto aid agreements in both counties. The following list shows those agencies with which CAL FIRE has agreements.

Santa Cruz County

Felton, Ben Lomond, Boulder Creek, Scotts Valley

Santa Cruz Central Fire Dept., Aptos La Selva, Watsonville, UCSC and Santa Cruz City

San Mateo County

Belmont –San Carlos, Central County Fire, Golden Gate National Recreation area, Redwood City, San Bruno and Woodside.

Dispatch Agreements

Currently, the Unit has no dispatch agreements.

Local Government

While the majority of wildland fires occur in the SRA, there is potential for many different agencies in the county to be affected. In many cases, fires occur in Mutual Threat Zones (MTZ's) or in areas near adjoining jurisdictions and also in the Local Responsibility Area (LRA). It is through mutual relationships with local government agencies where initial attack resources become larger and more effective. The following local government agencies are typically available and involved in suppressing wildland fires:

Santa Cruz County

Aptos/La Selva Fire Protection District
www.aptosfire.com

Scotts Valley Fire Protection District
http://www.scottsvalleyfire.com

Boulder Creek Fire Department
http://www.bcfd.com

Central Fire Protection District of Santa Cruz County
http://www.centralfpd.com

Felton Fire Protection District
http://www.feltonfire.com

Santa Cruz City Fire Department
www.ci.santa-cruz.ca.us/fd

Watsonville Fire Department
http://www.ci.watsonville.ca.us/departments/fire/firedept.html

Zayante Fire Protection District
http://www.zayantefire.org/

Ben Lomond Fire
http://www.benlomondfd.com/

Branciforte Fire District
http://www.b40fpd.com/default.asp

UC Santa Cruz Fire Dept.

http://www2.ucsc.edu/fire_dept/

San Mateo County

Central County Fire Department
www.hillsborough.net/depts/fire/

Millbrae Fire Department
www.ci.millbrae.ca.us/fire.html

Redwood City Fire Department
www.redwoodcity.org/fire

San Bruno Fire Department
www.ci.sanbruno.ca.us/fire

San Mateo Fire Department
www.cityofsanmateo.org/dept/fire

South County Fire (San Carlos/Belmont)
www.scfa.dst.ca.us

Woodside Fire Protection District
www.woodsidefire.org

South San Francisco Fire Department
www.ci.ssf.ca.us/depts/fire/default.asp

North County Fire Authority
http://northcountyfire.org/index.htm

Coastside Fire Protection District
http://www.coastsidefire.org/

SECTION II: COLLABORATION

COMMUNITY / AGENCIES / FIRE SAFE COUNCILS

The Unit is continually engaging the community, local government, and other stakeholders to address the wildfire issues. CAL FIRE is typically involved in the recommendation and development of pre-fire projects in both counties independently and in advisory roles. CAL FIRE participates in Fire Safe programs as well as other ad hoc fire prevention groups seeking assistance. In 2008, CAL FIRE, with the assistance of the Resource Conservation Service (San Mateo and Santa Cruz Counties) and from a grant from the US Fish and Wildlife Service (USFWS) began development of a CWPP. The CWPP was completed in 2010 and is a living document. The information obtained during the Collaborative efforts undertaken in the development of the CWPP applies to this document as well.

As many residents of San Mateo and Santa Cruz Counties have experienced firsthand, wildfire can threaten lives, property, community assets, and natural resources. There are preventive measures that can be taken to help protect communities from the devastating losses that can result from wildfire. However, individual implementation of such measures can be prohibitive in terms of both cost and time, especially when neighboring properties do not participate. In this respect, the Strategic Fire plan and Community Wildfire Protection Plan (CWPP) can be very empowering tools, providing communities with the opportunity to influence where and how fuel reduction projects are implemented.

CWPP community outreach, Zayante (2009).

Communities with CWPPs in place are given priority for funding of hazardous fuels reduction projects. Funding is made available primarily through the California Fire Safe Council's grant clearinghouse that combines federal and state funding sources into one place. Organizations such as Fire Safe councils and the RCD's regularly apply for grant funding on behalf of the community. This plan, in conjunction with the approved CWPP creates the opportunity to address the wildfire problem across the two counties.

Early stages of development of the CWPP for San Mateo and Santa Cruz Counties began in 2008. After securing limited funding, a core Planning Group convened in June of 2008 to discuss the feasibility for

developing a CWPP for Santa Cruz and San Mateo Counties. This Group discussed the potential project scope and a rough timeline for the process of developing a CWPP. The Planning Group included the following participants:

- CAL FIRE
- Resource Conservation District of Santa Cruz County (RCDSCC)
- San Mateo Resource Conservation District (SMRCD)
- US Fish and Wildlife Service (USFWS)

Each time a CWPP is created in a given local, a unique and new process ensues for that region and it always involves a steep learning curve for each community. Rather than recreating the wheel, from July to November of 2008, the Planning group gathered and reviewed available guidance documents and talked to people in other areas who had previously developed CWPPs in order to gain from lessons they learned.

Beginning in December of 2008, representatives of CAL FIRE and the RCDs conducted preliminary outreach to Fire Districts in order to compile existing wildfire prevention information. Through individual meetings with local Fire Districts, this effort harnessed local fire professionals' knowledge in both counties about high risk areas, WUI boundaries, and priority projects. CAL FIRE compiled this information and represented it graphically on maps.

CAL FIRE and the RCDs solicited community input by holding several public meetings in order to create a draft CWPP. State Parks, the Bureau of Land Management (BLM) and the Central Coast Fire Learning Network were invited to advise on development of a process for public input. In May 2009, two public meetings were convened, one in each county, to introduce community members to the CWPP process, solicit self-identified members for a Stakeholder Advisory Committee and conduct breakout sessions to gather a preliminary round of feedback.

Throughout the process of public feedback, from May 2009 until present, community members interested in following the CWPP process online have been able to access updates and information about how to provide feedback through the CWPP blog (http://wildfireplan.blogspot.com).

In the middle part of 2010 the Santa Cruz County San Mateo County Community Wildfire Protection Plan was adopted by the respective Board of Supervisors for each County. Much of the information contained in the approved CWPP was considered and included in the development of the Strategic Fire Plan. They are to be considered related and should be used in conjunction. A link to the approved CWPP can be found here: http://www.santacruzcountyfire.com/cwpp.html

Plan Development Team:

Organization	Title
CAL FIRE, Pre-Fire Engineering	Fire Captain
CAL FIRE, Resource Mgmt.	Division Chief
CAL FIRE, VMP	Forester 1
Battalion 1	Battalion Chief
Battalion 3	Battalion Chief
Battalion 4	Battalion Chief
CAL FIRE Training	Fire Captain
Coastside Battalion	Battalion Chief
Battalion 2	Battalion Chief

SECTION III: VALUES

A: VALUES

During the preparation of the 2010 San Mateo County – Santa Cruz County CWPP, stakeholders were invited to identify assets at risk. Stakeholders provided specific assets at risk in each county. Due to the large size of the lists, they have not been included here. For complete lists of specific assets at risk for each county, please refer to the 2010 San Mateo County – Santa Cruz County CWPP.

In general terms, assets at risk have been divided into communities/neighborhoods, environmental, and other (non-environmental). It was determined most major assets would fall within one of these three categories. Communities and neighborhoods were given the highest priority because they are most often associated with life and property. Also considered a high priority assets at risk are both environmental and non-environmental assets. This includes public facilities such as parks, wildlife, open space, watershed, and includes uninhabited public facilities in the wildland.

Following stakeholder meetings, assets at risk were identified throughout the plan area. Based on priority ranking, high priority areas were identified and mapped.

Excerpt of CWPP map showing high priority project areas (in green).

B: COMMUNITIES

Communities at risk identified on the California fire alliance website do not accurately represent the number at risk from wildfire. This list was created with the intent of identifying communities adjacent to federal lands. In Santa Cruz County and San Mateo County, there are few federal properties and no US Forest Service holdings. There are however, numerous communities threatened by the possibility of wildfire. Included below are the communities identified by the California Fire Alliance as well as those identified during the development of the San Mateo County and Santa Cruz County CWPP.

Communities at risk in San Mateo County (per the cafirealliance.com list):

San Mateo	South San Francisco
San Carlos	Belmont
Moss Beach	Pacifica
Portola Valley	Redwood City
West Menlo Park	Menlo Park
Hillsborough	Brisbane
Burlingame	Colma City
Daly City	El Granada
Emerald Lake Hills	Half Moon Bay
Highlands	Woodside

Communities at risk in Santa Cruz County (per the cafirealliance.com list):

Santa Cruz	Soquel
Scotts Valley	Aptos
Aptos Hills - Larkin Valley	Davenport
Twin Lakes	Rio del Mar
Opal cliffs	Interlaken
Freedom	Felton
Day Valley	Corralitos
Capitola	Boulder Creek
Ben Lomond	Bonny Doon

In addition to those communities identified on the federal and state list, there are numerous other communities identified by stakeholders during the preparation of the CWPP. Many of these communities are unincorporated developments and sometimes neighborhoods within the WUI. Their names, although not cities, are known to fire agencies throughout the plan area (refer to table on next page).

San Mateo County - Communities at Risk	
Alpine Creek Tract	Montara
Big Canyon Open Space Park	Moss Beach
Butano Canyon Ranch Road	Palomar Park, Half Moon Bay
Cuesta Subdivision	Portola Heights
Dearborn Park	Portola Heights
Devonshire Canyon	Portola Valley
Eaton Park	Princeton
El Granada	Redwood Terrace
Emerald Hills	Rocky Creek – Heacocks – Crazy Pete's Roads Community
Guthrie Subdivision	San Gregorio
Hillsborough	San Juan Canyon in Belmont
La Honda	Skylonda
La Honda/Redwood Properties	Skylonda
Ladera	Vista Verde
Los Trancos Woods	Water Dog Lake in Belmont
Middleton Tract	Whitehouse Canyon Ranch Road
Miramar	Woodside
Santa Cruz County - Communities at Risk	
Aptos Hills	Lockheed area
Bear Creek Canyon	Loma Prieta
Ben Lomond	Lompico Canyon
Ben Lomond Camp	Mountain View Community
Bonny Doon	Mt Hermon
Boulder Creek	Mt. Modonna
Braemoor	Oak Ridge
Branciforte corridor	Olive Springs
Calabassas Road	Olive Springs Community
City of Scotts Valley	Paradise Park
Corralitos	Pilkington Road corridor
Davenport	Pine Ridge
Day Valley	Porter Gulch Community
Deer Creek	Rapley Ranch
Empire Grade Corridor	Redwood Drive
Fairway Drive Community	Redwood Drive Community
Fern Flat	Rodeo Gulch Community
Glen Canyon Road Corridor	Smith Road Corridor
Glen Haven corridor	Soquel San Jose Corridor
Glenwood Acres	Summit Road Corridor
Graham Hill Road Corridor	Swanton
Harmon Gulch	Trabing
Indian Trails	Trout Gulch
La Selva Beach	Trout Gulch Road
Langley Hill Quarry Roads	Hwy 1 corridor between Freedom Blvd and Buena Vista
Larkin Valley	Valencia Road
Las Cumbres	Vienna Woods
Laurel Glen	Weston Road Corridor
Laurel Glen Community	Whalebone Gulch
Lockhart Gulch Corridor	White Road
	Zayante

SECTION IV: PRE-FIRE MANAGEMENT STRATEGIES

A: FIRE PREVENTION

The Fire Prevention Program is made up of the Prevention Bureau overseeing Fire related public education and law enforcement, the Fire Marshal's Office whom oversees building code compliance issues, and the Pre-Fire Engineering Program, who works with Resource Management and the Vegetation Mgmt. Program Manager. Each of these programs works towards a common goal of reducing ignitions. It is the goal of the prevention program that with the combined efforts of each program, through enforcement, education, and implementation of projects, ignitions will be reduced.

Reducing the number of ignitions is a goal; however, there will still be a certain number of fires occurring. The Unit's objective is to keep these ignitions and subsequent fires to a manageable size, minimizing negative impacts to people and their property. There are a variety of methods for this can be accomplished. The CZU prevention program aims to reduce ignitions through the use of education, defensible space inspections, fuel reduction, and enforcement activities. The Unit plans on educating numerous residents throughout each county through LE-100 inspections and public contacts. Additionally, through the development of the CWPP and with numerous collaborators, fuel reduction projects are almost always in progress throughout the Unit. Increased educational efforts, coupled with fuel reduction projects in high priority areas are intended to reduce the number of ignitions.

ENGINEERING & STRUCTURE IGNITABILITY

Santa Cruz County

Santa Cruz County Fire Marshal's Office provides the fire prevention services for areas outside of established fire districts within Santa Cruz County and for the Pajaro Valley Fire Protection District. Santa Cruz County is known to have a pro-active fire prevention program in regards to new and existing building construction. Santa Cruz County recently completed adoption of the 2010 California Fire and Building codes (Title 24 parts 2, 2.5 and 9) with local amendments. The local amendments detail the requirements for roads, driveways, water supply, and the local fire sprinkler requirement for all new construction (in place since 1989).

Road Construction

Fire Apparatus access roads shall have an unobstructed width of not less than 20 feet except for approved security gates in accordance with Section 503.6 of Title 24, and an unobstructed vertical clearance of not less than 13 feet 6 inches. There are exceptions outside of the Urban Services Line as established by the County of Santa Cruz. In these locations access roads shall be a minimum of 18 feet wide for all access roads or driveways serving more than two habitable structures, and 12 feet for an access road or driveway serving two or fewer habitable structures. Where it is environmentally inadvisable to meet these criteria (due to excessive grading, tree removal or other environmental impacts), a 12-foot wide all-weather surface access road with 12-foot wide by 35-foot long turnouts located approximately every 500 feet may be provided with the approval of the fire code official.

Title 19 of the California Administrative Code requires that access roads from every state governed building to a public street shall be all-weather hard-surface (suitable for use by fire apparatus) roadway not less than 20 feet in width. Such roadway shall be unobstructed and maintained only as access to the public street. Vertical clearance may be reduced; provided such reduction does not impair access by fire apparatus and approved signs are installed and maintained indicating the established vertical clearance when approved by the fire code official. It is important to note this is for new construction and that many roads in the county do not comply with the standard.

Water Supply

In Santa Cruz County an approved water supply capable of supplying the required fire flow for fire protection shall be provided to premises upon which facilities, buildings or portions of buildings which are constructed or moved into or within the jurisdiction. The minimum water supply for all new dwellings within the SRA shall be capable of supplying a flow of 500 gallons per minute for 20 minutes (10,000 gallons) for each parcel. Privately owned water that is not supplied by a licensed water purveyor shall: (1) serve no more than two dwellings and no more than 10,000 square feet of habitable dwelling space, and (2) be provided pursuant to a recorded covenant that runs with the land if the water supply originates from

another parcel. If a water purveyor supplies the water, the applicant must submit with the building plan written verification from the licensed purveyor that the water supply meets the flow requirement. The fire chief may reduce the flow requirement to 250 gallons per minute for 20 minutes by substituting approved enhanced access, defensible space, and/or ignition-resistant material requirements.

Sprinklers

An automatic fire sprinkler system shall be provided in all new occupancies as defined in Chapter 3 of the California Building Code, regardless of type of construction and/or floor area, unless otherwise pre-empted by the California Health and Safety Code. Any occupancy not specifically mentioned shall be included in the group that it most nearly resembles based on the proposed life and fire hazard. Alternative automatic fire-extinguishing systems complying with the fire code shall be permitted in lieu of automatic sprinkler protection where recognized by the applicable standard and approved by the fire code official. Private garages, carports, sheds not more than 1,000 square feet of total floor area shall not require fire sprinklers where they are detached and separate from other structures and provided with exterior wall and opening protection as per the California Building Code. Sheds exceeding 1,000 square feet, but not exceeding 3,000 square feet shall not require fire sprinklers at the discretion of the fire chief when the applicant demonstrates that the applicant's proposal does not increase the fire hazard or fire load. For existing structures an automatic sprinkler system shall be provided when, after the effective date of the fire code, a building permit is issued to allow additions to be made to existing structures which either: already are six thousand (6,000) square feet or greater in total floor area; or when additions are made to a structure which contains an existing fire sprinkler system, the fire sprinkler system shall be extended, thus creating fire sprinkler protection throughout the entire structure.

Summary

These requirements are placed on new construction and some remodels that are reviewed by the Santa Cruz County Fire Marshal's Office during the plan review phase of building permitting. The Santa Cruz County Building department reviews plans for the fire resistive construction requirements found in the fire and building codes (previously Chapter 7a UWIC).

Protection planning is reviewed during the discretionary and building permitting process by both the Santa Cruz County Fire Marshal's office and the building department. Codes found in local amendments to the California fire and building codes and in the Sana Cruz County General Plan provide guidance and requirements for fire and life safety.

Code enforcement for new and existing construction is provided for in a joint effort by the Fire Marshal's office and the Santa Cruz County code enforcement department located within the building department.

All new construction and remodels over 500 square feet that are reviewed by the Santa Cruz County Fire Marshal's office have holds that are placed on the project that can only be removed by thorough inspections of the project during multiple phases of the construction. Most projects that go thru the permitting process receive a pre-site inspection prior to construction. All projects are inspected during

rough and final construction for fire sprinklers. Inspections are also made prior to the final sign-off the roads and driveways, address numbers, smoke detectors, water supply, and vegetation clearance around the structure (PRC 4291).

Pre-plans for fire operations are conducted, at the local level, by the fire station personnel that will respond to an incident. Pre-plans are done for commercial occupancies, schools, and larger residential facilities. Pre-plans are sometimes conducted in conjunction with business inspections or on a rotating basis throughout the year.

San Mateo County

The San Mateo County Fire Marshal's Office provides the fire prevention services for areas outside of established cities and fire districts within San Mateo County and for the Coastside Fire Protection District in Half Moon Bay.

San Mateo County Fire and the Coastside Fire Protection District both have active fire prevention programs inspecting both new and existing building construction and permitting tents, special events and other activities in San Mateo County. San Mateo County and the Coastside Fire Protection District both recently completed adoption of the 2010 California Fire and Building codes (Title 24 parts 2, 2.5 and 9) with local amendments.

The local amendments detail the requirements for roads, driveways, water supply, and the local fire sprinkler requirement for all new construction. The San Mateo County Fire Marshal's Office worked with the San Mateo County Building Department to establish a zero square foot trigger for the installation of Fire Sprinklers in all new residential construction in the 2007 code adoption cycle and decreased the trigger for installation of fire sprinklers in remodels from 75% of valuation to 50% of assessed valuation in the 2010 code adoption cycle.

The local requirements are placed on new construction and existing remodels that are reviewed by the San Mateo County Fire Marshal's Office during the plan review phase of building permitting. The San Mateo County Fire Marshal's Office assists the San Mateo County Building department in reviewing plans for the fire resistive construction requirements found in the fire and building codes and has developed a joint check-off sheet for use by the contractors, inspectors and the plan reviewers.

Code enforcement for new and existing construction is provided for in a joint effort by the Fire Marshal's office and the San Mateo County code enforcement department located within the building department. During the 2010 Code Adoption cycle the Red Tag process was strengthened and a fine structure added to assist in the mitigation of code violations.

All new construction, remodels and tenant improvements are reviewed by the San Mateo County Fire Marshal's Office and field inspections determine compliance of the projects with the state and local amendments to the building and fire code. Prior to the final sign-off the roads and driveways, address numbers, smoke detectors, water supply, fire suppression systems, fire alarm systems, Automatic Fire Sprinkler Systems and vegetation clearance around the structure (PRC 4291) are inspected.

Pre-plans for fire operations are conducted, at the local level, by the fire station personnel that will respond to an incident. Pre-plans are done for commercial occupancies, schools, and larger residential

facilities. Pre-plans are sometimes conducted in conjunction with business inspections or on a rotating basis throughout the year.

INFORMATION AND EDUCATION

Education is arguably the most valuable tool available to reach this goal of reduced ignitions and large fires. The Unit employs education in every aspect of our department from Firefighters to Foresters to Office Personnel. The fire service hopes to educate the community and cooperators through word of mouth, through the media, printed material and other documentation. Some of our educational effort is informal in nature, occurring through unplanned contact at the station, or while out in the community. The majority of our educational effort is more formal and delivered at a variety of public events, community meetings, and defensible space inspections, at the scene of an incident and during law enforcement contact. The formalized events allow the Unit to work with the County and local government agencies to deliver standardized messages and literature. It is the hope of the Unit that through education, the public will have a better understanding of the risks they face and have resources to take action both before and during a wildland fire. This can include everything from removing flammable vegetation and debris from around their residence to having a specific plan of escape should there be a fire.

Each year, Unit personnel and local government agencies attend a variety of events where pre-fire preparedness messages and materials are provided to the public. Events commonly attended include; community parades, fairs, festivals, community picnics, and school events. It is expected CAL FIRE resources will attend upwards of thirty events per year.

Property owners living in State Responsibility Areas (SRA) are required by Public Resource Code (PRC) 4291 to maintain clearance of flammable vegetation around their property. A property owner's clearance responsibility is limited to 100 feet from his or her structure(s) or to the property line, whichever is closer, and is limited to their lands. In both counties, state and local fire departments are generally available to conduct home defensible space inspections. Depending on the policy of each department, inspections are made when requested. Prior to the start of fire season, each battalion in CZU identifies priority areas for defensible space inspections (LE-100's.). There are far too many residents in the County to inspect each property every year. Battalions recognize this and focus on different areas each year, with goal of inspecting all SRA residences in the WUI every three to five years. Due to the fact there are more residents than can be inspected, the Unit has made efforts to mail defensible space literature to properties, serving as an informal "inspection". The Unit has mailed defensible space information to over seven-thousand properties in the WUI. When CAL FIRE personnel make a physical inspection of a property, the visit is documented on a LE-100 form. This is a legal form documenting whether the property in question has passed or failed the inspection. If a property fails, the homeowner is given a reasonable amount of time to come into compliance. A second inspection is made and again, it is documented on the inspection form. If the property fails a third time, the homeowner is given a final opportunity to come into compliance and if they fail the case is forwarded to the Prevention Bureau. The Prevention Bureau contacts the property owner and advises them legal action may occur and they could

be cited for failure to comply with state law. In almost every case, homeowners have complied prior to law enforcement action.

Each year, the Unit distributes educational materials through a variety of methods: direct mailing, at defensible space inspections and at public events. Materials are sometimes provided by CAL FIRE Headquarters in Sacramento, while other times they developed locally through cooperative partnerships. Such is the case with the Living with Fire in Santa Cruz County and Living with Fire in San Mateo County. These documents have been developed in partnership with CAL FIRE and Fire Safe San Mateo and the RCD of Santa Cruz County to reflect information relevant to the local jurisdictions.

Another locally produced fire prevention material is the *CAL FIRE San Mateo/Santa Cruz Unit - Are you prepared* pamphlet. The pamphlet, easily mailed or handed out, contains important wildfire preparedness information for Santa Cruz and San Mateo County. These handouts have been mailed and handed out to County residents living in the WUI since 2008.

Beginning in 2011, a new tri-fold titled "Wildfire – are you prepared" was developed in Santa Cruz County with a partnership between the RCD of Santa Cruz, CAL FIRE, and Aptos-La Selva Fire Protection District. The material focuses on defensible space around your home. There are tips on where to clear and what to plant. A fire safe checklist is also included. In an attempt to deliver a standardized message to specific jurisdictions, the pamphlet has been designed to have include some agency specific information such as websites and phone numbers

The Unit in partnership with local agencies and the RCD has also developed a 20 page pamphlet called "Living with Fire – in Santa Cruz County" and "Living with Fire – In San Mateo County, a guide for homeowners. The document is revised and updated every other year and distributed to the community. This document contains a large amount of important information from available resources, to defensible space, to fire safe landscaping.

Some of the printed materials provided to the community.

B. VEGETATION MANAGEMENT

The Unit Vegetation Management Program is heavily involved in all aspects of project planning, development, and implementation. The Vegetation Management Program collaborates with Fire Safe councils, community groups and cooperating agencies. In recent years, the VMP program has developed fuel reduction projects utilizing both mechanical and prescribed fire. The CAL FIRE Vegetation Management Program performs as both lead and in advisory roles in the development of fuels management throughout the Unit. There are a variety of methods of treatment prescribed whenever a project is developed. The type of treatment should be tailored to each individual project. Appendix D – General Recommendations describes the types of treatments typically prescribed.

Cloverdale VMP Burn (2010)

<u>Resource Management</u>

Forested areas occupy a large percentage of land area within the San Mateo/ Santa Cruz Unit. The Unit Resource Management staff is tasked by state statute to enforce the California Forest Practice Act and Forest Practice Rules on private timberland in the State of California. Santa Cruz and San Mateo County are within a special rules district, where the only allowable management practice is single tree selection. CAL FIRE and other agencies involved in the review of harvesting permits continually look for ways to improve fire safety, hazard reduction, public safety, vehicular access, water sources, timing of operations, and benefits to wildlife. Managed timberland constitutes an active and critical area for fuels management. Lands utilized for timber management are typically traversed with roads and trails, their use critical during fire suppression operations. During fires such as the Summit and Lockheed, roads primarily maintained for timber management were also used by CAL FIRE for fire-fighting operations. The Unit approves a

variety of forest management permits including 150-foot Fire Hazard Reduction Permits, Timber Harvest Plans, and Non-Industrial Timber Harvest Plans. As part of the permit, operators are required to comply with hazard (slash) reduction rules next to public roads, permitted structures, and throughout the harvest area. Operators are required to maintain firefighting tools during operations within fire season. On average, the Unit reviews and approves an average of two-thousand plus acres per year of timber harvesting plans.

Suppression Repair

Unit has (5) Registered Professional Foresters (RPF's) on staff, each trained and experienced in suppression repair. Unit foresters work with other state agencies, large landowners, and the community to complete suppression repair efficiently and to high standards. Additionally, suppression repair activities are completed with future fire prevention in mind. Recent fires in Santa Cruz County have occurred in forested landscapes. Due to high fuel loading and in some locations coupled with reduced fuel consumption, many areas are left with high amounts of unburned fuel. The Unit has a responsibility to repair damage incurred on the landscape during suppression activities, while at the same time attempt to reduce any increased fire hazard those suppression activities may have created. Unless all fuels are consumed, there is typically fuel loading found adjacent to roads, dozer trails, and structures where fire crews or equipment have modified the landscape for fire suppression.

Following control of the fire the areas of increased fuel loading need to be addressed. This is done through a variety of methods including: Hand crew, lop and scatter, and pile burning (as weather permits) or mastication. The Group Supervisor, usually a local RPF, will complete a plan of action and oversee the completion of suppression repair activities.

Post Fire Suppression Repair on the Lockheed Fire (2009).

SECTION V: PRE- FIRE MANAGEMENT TACTICS

DIVISION / BATTALION / PROGRAM PLANS

Battalion I

Battalion 1 stretches from the Santa Clara county line north along the Highway 280 and Highway 35 corridors to just south of the San Francisco City limits. It sits between two of the most densely populated cities in the nation being San Francisco, and the City of San Jose. The infamous San Andreas earthquake fault dissects the western and eastern portions of the Battalion.

The geography within the battalion is very diverse. Terrain ranges from rolling grass and brush intermix in the valley and foothill locations to heavily forested coastal redwoods. The fire weather conditions are also very diverse throughout the battalion. The temperature and humidity values typically fluctuate widely with the northern portions of the battalion usually under a coastal influence with mild temperatures in the mid 60's, while just 10 miles south the temperature may be in the mid 80's to low 90's. The Battalion has many areas of WUI and most fires will threaten structures within the initial attack period. The Hwy 280 corridor and San Bruno Mountain area continue to be the locations with the most fire activity.

Cooperators: San Mateo County Fire Safe, San Francisco Water Department, Mid-Peninsula Open Space District, Woodside Fire Protection District, Redwood City Fire Department, CAL FIRE / San Mateo County Fire Department, and San Mateo County Parks.

SF Water southern fuel break looking towards Hwy 280 Corridor.

Battalion 2

Battalion 2 stretches from the Santa Cruz County line north along the Highway 1 to just south of Pacifica City limits. The Battalion extends east toward the Hwy 35 corridor. Half Moon Bay, El Granada and Moss Beach are the most densely populated urbanized areas in the Battalion.

The geography within the battalion is very diverse. Terrain ranges from rolling grass and brush intermix in the coastal foothills, eucalyptus groves and coastal redwoods in the uplands. The fire weather conditions are also very diverse throughout the battalion. The temperature and humidity values typically fluctuate widely with the near coastal portions of the battalion usually under a marine influence with mild temperatures in the mid 60's. As the battalion extends to the east the temperatures can increase rapidly. The Hwy 1 and Hwy 92 corridors continue to be the locations with the most fire activity. Battalion 2 is committed to working with our cooperators in reducing the fire and life safety hazards that exist within the battalion boundaries.

Cooperators: Coastside Fire Protection District, Fire Safe San Mateo

Fuels management in Coastside Battalion near El Granada (2010).

Battalion 3

Battalion 3 is the northern Santa Cruz County Battalion. The boundary of Battalion 3 is north of the HWY 17 corridor, east of Hwy 1, South of the San Mateo County line and West of the Santa Clara County line. The Battalion includes the communities of Bonny Doon, Davenport. Within and adjacent the Battalion are Boulder Creek, Ben Lomond, Felton, Scotts Valley and the City of Santa Cruz.

Fuels vary greatly within the Battalion, from coastal grasses to varying levels of brush in the sandy soils upland. There are also many areas of heavy fuels including oak, madrone, knob cone pine, Douglas-fir and Coastal Redwood.

The weather is heavily influenced by the ocean during the summertime, keeping coastal areas cool and normally low to medium dispatch levels. Inland temperatures consist of low, medium to high dispatch levels depending on either the absence or the presence of the local coastal influence.

The topography in Battalion 3 varies greatly depending on your location, coastal areas have flat and gently rolling areas and then quickly transition into moderate to steep canopy covered canyons.

The Battalion has seen two major fires in the recent years. The Battalion has areas of high fire severity and many of these areas an over growth of and overcrowded forest will lead to high hazard burning if weather comes into alignment.

Cooperators: South Skyline Fire Safe Council, Bonny Doon Fire Safe Council, Bonny Doon Resource Conservation District, Lockheed Martin Space Systems Cooperation, Big Creek Lumber.

Example of fuels in Battalion 3, near Hwy 35 and Hwy 9 (Castle Rock State Park).

Battalion 4

The Battalion stretches from Highway 17 in the north to the Monterey and San Benito County lines to the south and the Santa Clara County line to the east. The western boundary runs adjacent to several Fire Protection Districts and to the Pacific Ocean in the southern part of the County. The Battalion contains heavy timber on steep slopes turning to mixed brush with grass lands in the foothills and valleys. Special features include the Soquel Demonstration State Forest and the Forest of Nicene of Marks, numerous State and County Beaches, two high schools, and portions of Highways 1, 129 and 152.

The general population varies from dense residential and commercial to the less dense rural settings found throughout much of the SRA. As with most SRA areas we have the increasing challenge of protecting homes in the WUI.

Battalion 4 is committed to working with our cooperators to reduce the fire and life safety hazards that exist within the Battalion boundaries. Cooperators include: Pajaro Valley Fire Protection District, Santa Cruz County Fire Department, Aptos La-Selva Fire Protection District, Central Fire Protection District, Scotts Valley Fire Protection District, Soquel Demonstration Forest, Cal Fire Santa Clara and Cal Fire San Benito Monterey Unit.

Aptos Creek Fire Road in Battalion 4 (2011).

Training

The CALFIRE CZU Training Battalion is responsible for delivery and documentation of training for all career and volunteer personnel. The Battalion will ensure that all federal, state and local training mandates, laws and regulations are followed as they pertain to training.

The CALFIRE CZU Training Battalion in coordination with local cooperators conducts pre-wildland fire training. Training is conducted at the company level and also consists of the complete activation of multiple county strike teams. The training covers all mandated safety requirements including perishable wildland firefighting skills. The Training Battalion also hosts a Strike Team Leader Refresher course for local government agencies in coordination with CAL-EMA. Many other State Fire Marshall and NWCG course of are offered thought the Training Officer Associations to build local knowledge of wildland firefighting.

State and local Government firefighters participate in wildland fire training (2011).

APPENDIX A: PRE- FIRE PROJECTS

Batt Planning area	Project Number	Project Name	Status	Estimated Completion Year	Project Type	Net Acres
4		Redwood Drive / Nisene Marks fuel reduction.	P	2013	SFB	
4		Monte Toyon Camp fuel reduction.	C	2013	SFB	
4	~~GT-151-CZU-016~~	~~Buzzard Lagoon / Nisene Marks~~	~~P~~	~~2012~~	~~SFB~~	
4	~~GT-151-CZU-010~~	~~South County fuel reduction~~	~~P~~	~~2012~~	~~SFB~~	
3	GT-151-CZU-009	Bonny Doon Ecological Reserve SFB	C	2013	SFB	30
1	Rx-North-035-CZU	Jasper Ridge VMP	C	2011	Burn	2
1	~~GT-151-CZU-012~~	Huddert County Park	A	2012	SFB	
1	~~GT-151-CZU-013~~	Pescadero County Park	A	2013	SFB	36
1	~~GT-151-CZU-011~~	Wunderlich County Park	A	2013	SFB	
1	GT-151-CZU-008	Edgewood County Park	C	2011	SFB	8
3	GT-151-CZU-003	Henry Cowell State Park	C	2012	SFB	47
2		Chalks Truck Trail	O	ONGOING	SFB	
3	GT-151-CZU-002	Big Basin SP Burn Prep	C	2011	SFB	150
3	GT-151-CZU-001	Big Basin SP Access Road	C	2011	SFB	17
3	GT-151-CZU-005	Big Basin SP Facility Protection	C	2011	SFB	125
3	~~GT-151-CZU-007~~	Wilder Ranch State Park	A	2013	SFB	25
1		Woodside Chipper Program	O	ONGOING	FR	
1		Highlands fuel reduction	C	2011	SFB	
1		S.F. Water Southern Fuel Break	O	ONGOING	SFB	
1		S.F. Water Hwy 35 fuel reduction	C	2012	FB	
2		San Mateo County Chipper Program	O	ONGOING	FR	
3	~~GT-151-CZU-004~~	Henry Cowell SP Sand Hill project	O	ONGOING	SFB	10
3	GT-151-CZU-006	Henry Cowell SP Facility Protection	C	2012	FR	90
4		Laurel Glen fuel reduction	C	2012	SFB	10
4	FWS# 816408-J0084	Ellicot Slough fuel reduction	C	2011	FR	8
4		Calabassas	C	2011	FR	7
4		Pau Hanna fuel reduction	C	2011	SFB	5
4		Porter Gulch fuel reduction	P	2013	SFB	7
3	~~Rx-North-CZU-034~~	Big Basin VMP	A	2013	Burn	1210
1	~~Rx-North-CZU-033~~	Cloverdale VMP	A	2013	Burn	320
3	Las Cumbres CFIP	Short Ridge Fire Road	C	2013	SFB	12

Batt Planning area	Project Number	Project Name	Status	Estimated Completion Year	Project Type	Net Acres
3		Indian Trails fuel reduction	P	2013	SFB	20
3		Las Cumbres Community Outreach	C	2012	CO	
3	WUI Grant	Kings Creek Truck Trail	A	2013	SFB	60
3		Empire Grade fuel reduction	A	2013	SFB	36
4		Hinkley Ridge fuel reduction	C	2013	SFB	24
1		Belmont Parade	C	2012	CO	
4		Camp Kennolyn	C	2012	CO	
3 - 4		Home Depot Safety Fair	C	2012	CO	
2		Half Moon Bay Pumpkin Festival	C	2012	CO	
1 - 2		San Mateo County Fair	C	2012	CO	
3		July 4 Parade – Boulder Creek	C	2012	CO	
3		July 4 Parade – Scotts Valley	C	2012	CO	
3		Felton Memorial Parade	C	2012	CO	
1		July 4 Parade – Highlands	C	2012	CO	
2		July 4 Parade – Half Moon Bay	C	2012	CO	
4		July 4 Parade – Aptos	C	2012	CO	
2		Pescadero Fun Festival	C	2012	CO	
4		Amesti School	C	2012	CO	
2		Hutter Park Skylonda	C	2012	CO	
3		SLV High School	C	2012	CO	
4		Corralitos Community Presentation	C	2012	CO	
4		Burrell Mt. Bible School Event	C	2012	CO	
2		Davenport Cinco De Mayo	C	2012	CO	
1 - 2		Community Preparedness Day	C	2012	CO	
3 - 4		Sheriff Posse Education Event	C	2012	CO	
2		Belmont Torch a Truck Event	C	2012	CO	
4		Capitola Mall Awareness Day	C	2012	CO	
3		Lockheed Fuel Reduction	A	2013	SFB	
2		Pescadero High School	C	2012	CO	
4		Lakeview School	C	2012	CO	
4		Alianza School	C	2012	CO	
4		Calabassas School	C	2012	CO	
4		Aptos Safety Fair	C	2012	CO	
3		Bonny Doon Elementary School	C	2012	CO	
3		Burrel Community Picnic with LP VFD	C	2012	CO	

Batt Planning area	Project Number	Project Name	Status	Estimated Completion Year	Project Type	Net Acres
4		Santa Cruz County Fair	C	2012	CO	
4		PV National Night Out	C	2012	CO	
2		San Mateo City Parade	C	2012	CO	
4		Soquel High School	C	2012	FR	
4		Oak Ridge Drive	P	2013	FR	
4		Los Robles Road	P	2013	FR	
4		Summit Road Fuelbreak	C	2013	SFB	
1		Mill Canyon	P	2013	SFB	
1		Hillborough Open Space Fuelbreak	P	2013	SFB	
4		Robinwood Lane/SDSF	P	2013	SFB	

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

In addition to the above listed specific projects, there are additional set of potential projects listed in the CWPP referred to as “Landscape Level Need”. This are ongoing and potential projects the Unit would like to engage is as time and resources allow (refer to **Appendix E – Landscape Level Needs**).

APPENDIX B: UNIT GOALS AND OBJECTIVES

In addition to those projects summarized in Appendix A, the following are goals and summaries for the Unit in 2013.

Battalion's 1, 2 & 3

The Targeted Activity priorities for the Battalions are broken down into four main components.

1. LE-100 structural clearance inspections (4291) in areas outlined by the local Battalion Chief.
2. Assist in the identification of Fuel Breaks, as requested.
3. Assist as needed with fuel reduction projects
4. Continued Community outreach and education

Battalion 4

1. Inspections of burn piles/areas and public education during permit issuance.
2. LE-100 inspections.
3. Complete reports and inform Fire Prevention on Cost Recovery incidents.
4. Public awareness/education of fire danger in State Park during Public Access days.
5. Report abandoned vehicle to the Santa Cruz County vehicle abatement program.
6. Pajaro Valley Fire Protection District will mail clearance notice to 600 residences in the SRA.
7. Continued Community outreach and education

The battalion LE-100 inspection program is focused on the following communities and roads:
Enos Lane, Telford Road, Corralitos Ridge Road, Haines Ranch Road and Rider Road.

Training Battalion

1. Enforce state/federal law, and County/District training policies, procedures and protocols as they apply to career and volunteer personnel.
2. Ensure that all personnel receive the opportunity for training that is required for their specific positions.
3. Document all employees training in a common database (Target Safety)
4. Work with the CALFIRE Region Office regarding the allocation of training for CALFIRE personnel and the presentation of training at regional training locations.
5. Work with cooperators at the County/State level to ensure communications, cooperation and coordination of all public safety training.
6. Work with cooperators as a member of the San Mateo County Training Officers Association and Santa Cruz County Training Officer Association.
7. The Training Battalion will assist and closely coordinate all training with assigned battalion training representatives.

APPENDIX C - ***General Recommendations (taken from CWPP)***

The following general recommendations were taken from the 2010 San Mateo County - Santa Cruz County CWPP. The plan identifies "high priority" areas, where fuel reduction projects should take precedence. When individual projects are implemented, site specific guidelines shall be developed by the persons/agency responsible for project development. Any proposed project shall conform to all applicable local, county, and state regulations concerning fuel modification projects. The following general recommendations are not intended to be site specific, but rather a tool to aid in the development of appropriate prescriptions.

Reduction of fuels adjacent to roads

Overgrown vegetation on or adjacent to the traveled road surface makes access difficult for fire fighters and equipment. Additionally, roadside vegetation, including tree limbs, brush, and grass is responsible for numerous fire starts each year. This is a problem adjacent to all types of roads in both counties. There are many narrow, one-lane roads that often make it difficult for emergency vehicles to access a fire area while residents are simultaneously leaving. During a wildland fire, ingress/egress may be obstructed by roadside vegetation. Vegetation impeding and growing into the road right of way should be reduced to a level allowing greater ease of access for emergency response personnel and equipment, and to reduce the number of roadside fire starts. This vegetation removal is also used for the safety of fire suppression personnel using roads as fire control lines.

County Public Works and Caltrans routinely conduct roadside clearing for access, visibility and fire safety. Historically, this work was accomplished through a combination of chemical and mechanical means. In recent years, there has been increasing public pressure to eliminate the use of chemicals as a roadside treatment. Most of this work has been completed with mechanical mowers and masticators.

Both local and state fire codes specify clearing of at least 10-feet on each side of a road or driveway and up to 15-feet vertical clearance over. Unfortunately, the specifications are inconsistent across the numerous county jurisdictions. A priority should be set to attempt standardization for these requirements across each County.

Strategically placed fuel breaks (including shaded fuel breaks)

The primary goal of a fuel break or shaded fuel break project is to change the behavior of a fire entering the fuel-altered zone. To reduce large flame lengths and high energy output, fuels should be modified to reduce flame length and decrease energy output. Changing fire behavior may be the key to allowing fire crews to protect people and property from wildland fire. Effective fuel breaks may:

- Act as an anchor point for indirect attack on wildland fires.
- Allow for fire fighter to use fire as operational tool (firing out).
- Support safer ingress/egress for emergency responders.

With reduced fuel adjacent to a roadways and structures, flame lengths, fire activity, and heat production will be reduced, making it safer for firefighters to access the area and protect structures in the community.

A fuel break typically refers to the removal of all or the majority of vegetation in a specific strategic area. A shaded fuel break refers to “thinning” of vegetation in a specific area with the remaining vegetation shading the ground. Non-shaded fuel breaks are typically used in non-residential, less visible areas. For the purposes of large scale wildland firefighting, these type of fuel breaks are preferable to shaded fuel breaks because they make little to no fuel available combustion. However, shaded fuel breaks are often preferred because they are less invasive to sensitive resources on the landscape and often have more support from adjacent property owners.

The type and size of fuel reduction projects should be determined on a project by project basis. The widths of roadside shaded fuel breaks generally range from 10 feet up to 50 feet, and in certain instances may even be wider. Strategic fuel breaks can be as wide as 400 feet. The responsible fire agency as well as the community should collaboratively develop projects that meet the needs of the stakeholders.

Shaded fuel breaks can be placed around individual structures, a community or neighborhood identified to be at risk. For example, after a community has developed defensible space out to 100 feet from structures, they may wish to augment that with an extended fuel break. Depending on the topographical location of the community, an extended fuel break around the residences may be of strategic importance. There is no specific prescription for this type of project. It should be developed in collaboration with the community and responsible fire agency, and be adapted to local environmental constraints.

There are many communities and neighborhoods identified as priority areas in this document where a roadside fuel break would be beneficial. Stakeholders in both counties consistently agreed, reducing fuel loading adjacent to roads is one of the most important and highest priority projects. There is no standard distance recommended from the roads edge, other than more is often better. Extended fuel reduction projects may be reduced in some areas with continued maintenance and treatment of roadside grass and continued trimming of vegetation. Roadside fuel breaks are typically between 10 and 40 feet wide. The exact distance should be based on fuel type, slope, aspect, and be environmentally feasible.

Other general recommendations include maintaining defensible space around the home. This is discussed in the “Reducing Structural Ignitability” section of the CWPP.

There are a variety of methods used to create a fuel break or shaded fuel break, however, the primary method is manual labor using chainsaws. Locally, many fuel reduction projects are completed by CAL FIRE inmate fire crews, residents, and private contractors. Although chainsaws are the primary vegetation removal tool, other methods may include livestock, mowing, or other mechanical means such as a masticator. Treatment of the removed vegetation can be accomplished by a variety of methods, listed below.

- Chipping – A variety of chippers available for use in both counties. The Santa Cruz County Fire Chiefs Association offers a chipping program, utilized through local agencies. In San Mateo County, chipping programs have been developed through Fire Safe San Mateo County. Independent contractors with chippers are available for hire in both counties. When a fuel reduction project requires use of a chipper, vegetation to be treated should be placed in a location easily accessible to a chipping crew arranged in a manner to allow for efficient chipping. Such specifications are determined in project planning according to the size of the chipper. Depending on the location and project goals, the chips will be either left on site, or be taken away for proper disposal.
- Pile burning – Vegetation is typically placed in manageable piles to be burned by qualified personnel at a later date. Though this is a very effective means of fuel treatment, vegetation piles can become an increased fire hazard if left untreated. Other factors to consider are the risk of escape and smoke management and air quality restrictions. The agency having jurisdictional authority should be contacted prior to burning for information on all applicable fire and air quality rules and regulations. In general, guidelines for pile burning include:
    - Burn only during daylight hours.
    - Have adequate fire tools and water onsite.
    - Always have an adult in attendance.
    - Piles shall be no larger than 4-feet x 4-feet and no taller than 4-feet.
    - 10-foot clearance around each pile

Additionally, burning can only occur on “burn days” set by:

- Santa Cruz County – Monterey Bay Area Unified Air Pollution Control Board 1-800-225-2876
- San Mateo and Santa Clara Counties – Bay Area Air Quality Management District 1-800-435-7247

- Lop and Scatter – This method of fuel treatment involves the cutting and spreading of cut material, so that it does not extend above a predetermined height above the ground. This can be

between 12 and 24 inches. Material is spread out to prevent continuous fuels and to allow for quicker decomposition. Care should be taken to not spread cut material in sensitive locations, as identified during the planning process. This method may be used in an area removed from roadways and homes, and in projects with low amounts of cut vegetation.

- Removal to off-site location – If there are no feasible on-site treatments, vegetation can be removed to an appropriate off-site location.

Masticators

Another option for reducing fuel involves the use of a masticator. Masticators are a mechanical means of vegetation removal, in which spinning blades “masticate” or “chew” vegetation. The masticator head can be attached to the end of an excavator arm or to the front of a tracked or wheeled vehicle such as a dozer or loader. They are primarily used in fuel break situations, rather than shaded fuel breaks, due in part, to the large swath of vegetation they remove. Masticators cut, as well as treat the vegetation they remove, pulverizing the vegetation into a loose “chip like” material, obviating the need for a chipper. Masticators are very effective in roadside and ridge top fuel breaks. Smaller masticators are now being used in some shaded fuel breaks.

Controlled / Broadcast / Prescribed Burns involves the burning of surface fuels in a predetermined area, under the supervision of trained fire personnel. Prescribed burns are planned in detail, occurring only when favorable conditions exist. A prescribed fire takes place under predetermined weather and fuel conditions. Other factors affecting prescribed burning include resource availability and atmospheric conditions favorable for adequate smoke dispersion. Prescribed burns have been implemented on State Parks, Peninsula Open Space Trust, Midpeninsula Regional Open Space District lands and several private ranches for the purpose of fuel reduction and habitat improvement. While prescribed fire is an effective means of reducing fuels in the wildland, it is not widely used as treatment locally for a variety of reasons including: limited resources available for burning, smoke management, negative public perception of burning, and the potential threat of escape. CAL FIRE will cooperate with interested landowners to determine opportunities for the appropriate use of controlled burning.

APPENDIX D – Landscape Level Needs (taken from CWPP)

Road data

Whether private, dirt, rock or paved, there is agreement between stakeholders that proper mapping and identification of road systems throughout the counties is a high priority. Complete and accurate road mapping is vital during a wildland fire incident. Proper mapping allows emergency responders to locate and manage an incident. In many instances, out of county emergency responders do not know the local road systems in the vicinity of the wildfire. The Counties of San Mateo and Santa Cruz both have Geographic Information Systems (GIS) personnel who maintain county data. Although the county roads data is accurate, there are large areas where data is lacking. These omissions primarily occur in the

more rural areas of the counties and on large private and public landholdings such as parks or preserves, and managed timberland. Over the past several years, CAL FIRE has begun compiling roads data, utilizing a variety of sources. These roads data were helpful during the large wildfires of 2008 and 2009.

- This process should continue into the future. Collaboration between stakeholders to prepare a comprehensive map and inter-operable system is a priority.

Road and Bridges and Water in the WUI – In terms of new construction within the WUI, there are many common standards in terms of access, road width, water supply, and bridge specifications. These standards take into consideration the risk of wildland fire and the needs of responding fire agencies. There was, however, considerable construction in the WUI prior to modern fire code. There are, throughout both counties, numerous residences accessed by narrow, unmaintained roads, sometimes by inadequate bridges. This coupled with a limited water supply can result in disaster during a wildfire. The following issues should be strategically addressed:

- Identifying inadequate bridges and plan for fixes.
- Identify existing water supplies in the wildland.
- Identify locations for additional wildland water supplies.
- Identify, prioritize, and mitigate high risk roads in the WUI

Truck Trails/Fire Roads

There are numerous “truck trails” or “fire roads” located throughout both counties, most of which are historic logging roads, referred to as truck trails for the purpose of this plan. The current conditions of truck trails are varied. Many are maintained at minimal levels, while others are neglected, often because of insufficient resources. Some have been abandoned due to poor initial location, improper construction, and failures due to landslides or washouts. Truck trails bisect a variety of properties of both public and private ownership. The importance of these roads in the event of a wildfire cannot be overstated. For example, the Warnella truck trail and shaded fuel break provided critical ingress and egress access to the Lockheed Fire in 2009. In northern Santa Cruz and most of San Mateo County, numerous truck trails provide access to the primarily roadless areas between the coast and Hwy 35. When a wildland fire affects these parts of San Mateo and Santa Cruz Counties, the truck trails will be of vital importance. Accurate mapping, appropriate maintenance, relocation of problem areas, and consideration of abandoning failed sections is needed on all truck trails.

Structure Protection Planning

One of the common difficulties during the wildfire season in California is when fire crews respond to regions they are unfamiliar with. This problem is compounded when responders have limited information on roads, number of structures, evacuation routes, water supply, and other hazards. The Santa Cruz County Fire Chiefs have begun a project identifying pre-determined protection planning zones. The

zones will be identified by local fire officials and will include pre-packaged information, which will be provided to first responders in the event of an emergency. This is an ongoing project.

Fuel Breaks, Shaded Fuel Breaks and Roadside Fuel Breaks have been previously discussed in the plan. This plan has identified areas where fuel reduction projects should take place. There is a need to further investigate environmentally and socially acceptable landscape level fuel breaks. Part of the benefit of bringing multiple parties to the table, is that priority areas and assets at risk have become identified. This allows planners to consider not only community or neighborhood specific projects but also landscape level projects.

Eucalyptus

Eucalyptus was introduced into California in the mid 1800's both as a windbreak and for fiber production. It has thrived in California's climate and has since spread throughout the state. Eucalyptus is responsible for the displacement of numerous native species. Because of its invasive nature and proclivity to burn rapidly and violently, eucalyptus has been identified as one of the highest priority tree species recommended for fuel modification or removal. Eucalyptus as a wildland fuel was observed in Santa Cruz County during the 2008 Trabing Fire and prior to that, the Oakland Hills Fire in 1991. Both fires resulted in losses of property and residential structures and in the case of Oakland, loss of life. Historically, there have been eucalyptus fires adjacent to the community of El Granada (Wicklow Property) which involved loss of life and property. Reports of embers observed falling 2 to five miles downwind illustrates the danger of a fully involved Eucalyptus stand.

Eucalyptus was imported into the local area in the early 1900's for several uses, including fuel for powering locomotives. Numerous windrows were planted in the area and this species was found to exhibit strong adaptation and rapid growth. What was planted over 100 years ago as single or double wide rows of trees, have expanded to extensive and dense forested areas. Recent estimates of expansion of Eucalyptus groves are 3 lineal feet per year. Eucalyptus is so successful in colonizing new ground to the exclusion of native species that a common comment during scoping sessions for this CWPP have been to request that the species be declared a noxious weed or an invasive pest, and be eradicated.

Eucalyptus stands frequently grow in excess of 80' tall and have a propensity to generate copious amounts of ground litter. Vertical ground litter accumulations of 3' or more of dry leaves, branches, bark are not uncommon. Because of peeling bark, small branches and sprouts, many eucalyptus stands exhibit fuels from the ground to canopy. Fire behavior in these stands can become extreme.

Flame length 1 and a half times the height of the stand is frequent in large stand replacement fires. Other examples of these conditions can be found in southern Australia in the frequent large catastrophic fires. This becomes a huge factor in fire control when residential and other structures are built within and adjacent to these stands.

There are several locations throughout the counties, where residents live in close proximity to large eucalyptus stands. Consideration should be given to addressing the potential risk to lives and property where this situation exists. Several projects have been completed as pilot projects to thin or remove stands in the San Mateo County. Projects such as the Wicklow Project by POST and Coral Reef project by the RCD, CALFIRE and Cabrillo Unified School District. There are current plans to thin and remove eucalyptus in the area of the Trabing Fire of 2008.

Potential projects needed across the landscape include:

- Identifying and mapping eucalyptus stands in both Counties.
- Identify risks to lives and property;
- Mitigate risk to lives and property through appropriate vegetation management projects (thinning, removal, and pruning).

EXHIBITS: MAPS

Figure A: Unit Map

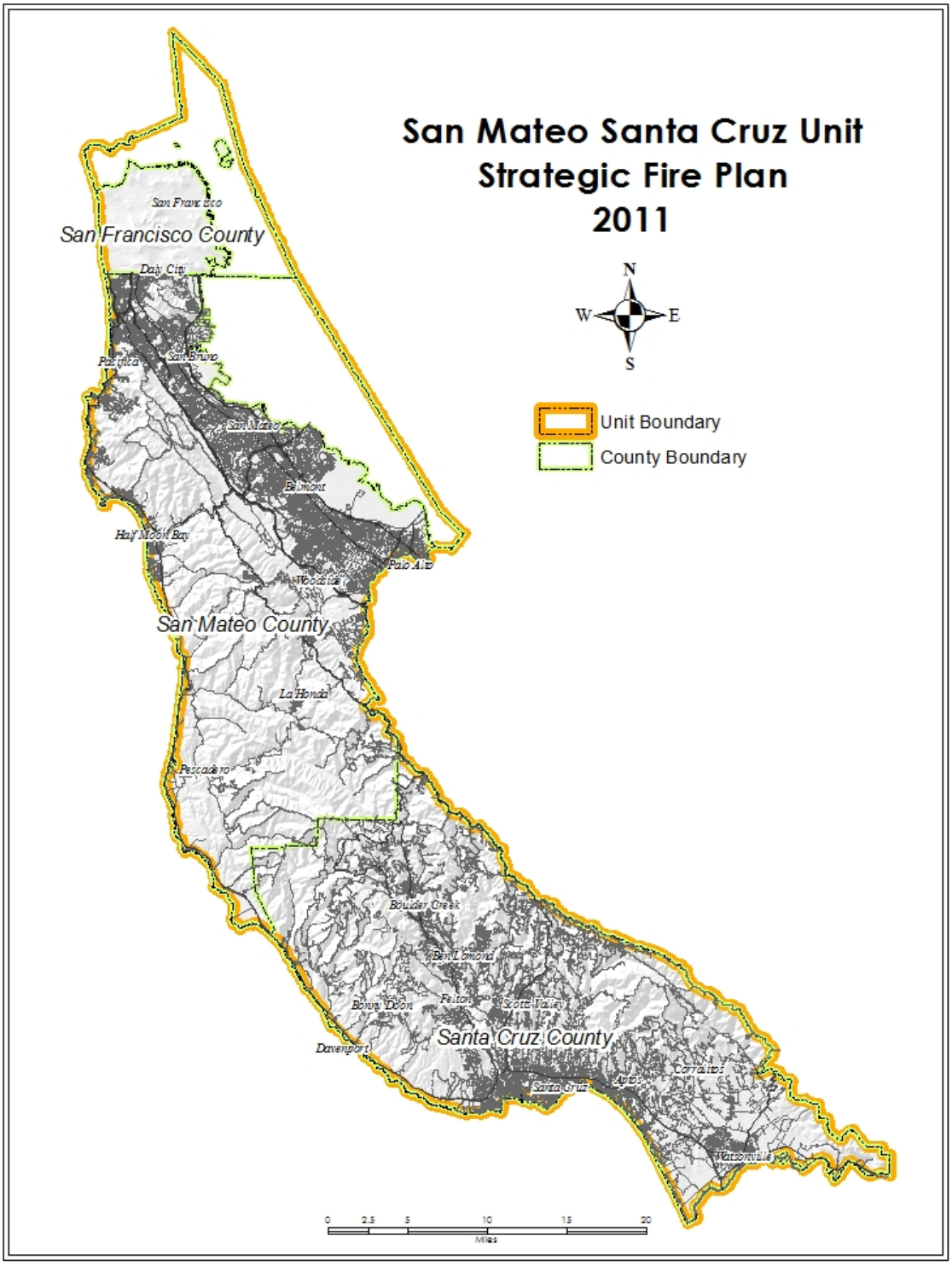


Figure B: Battalion Maps

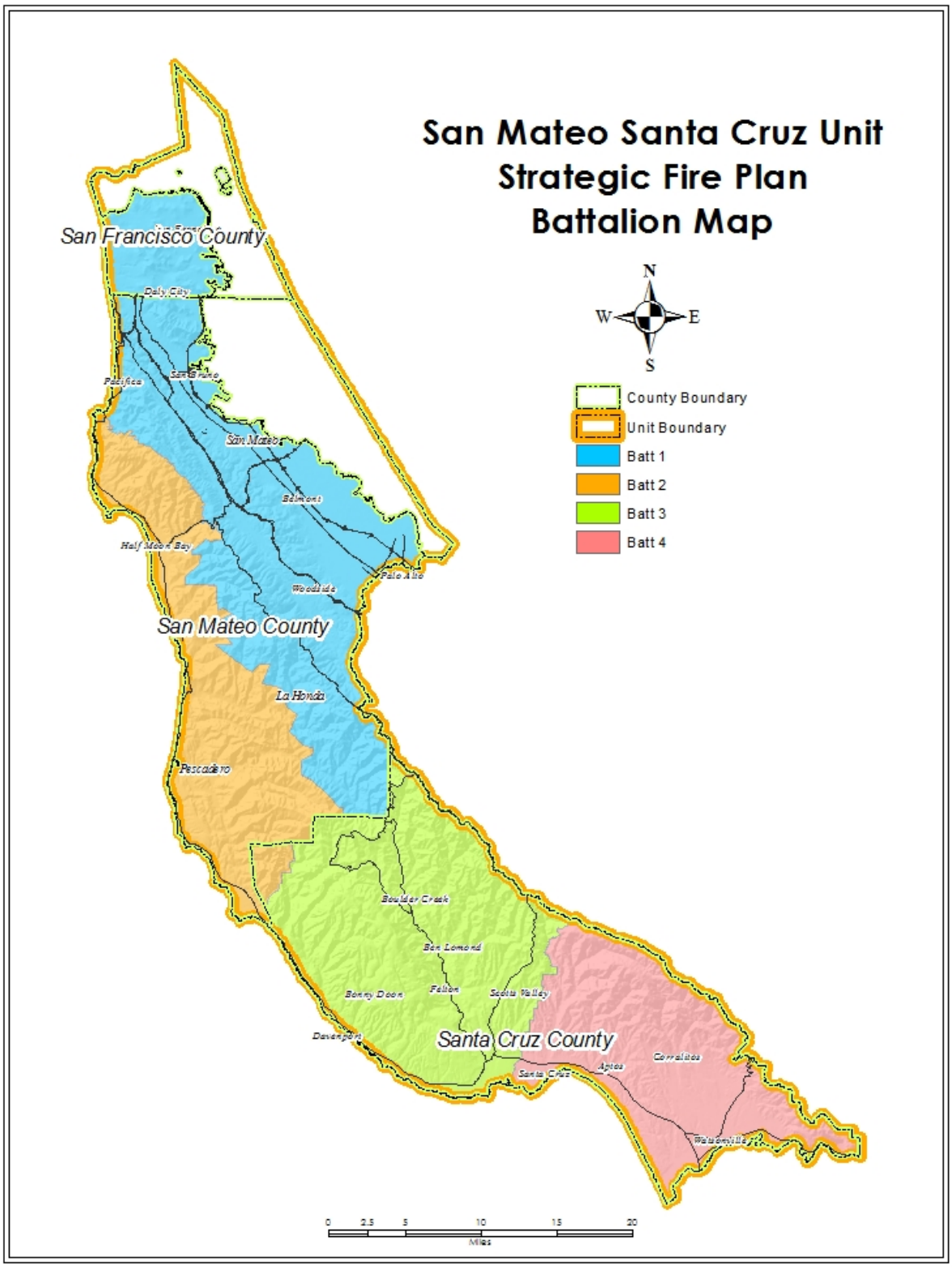


Figure C: Battalion 1 Map

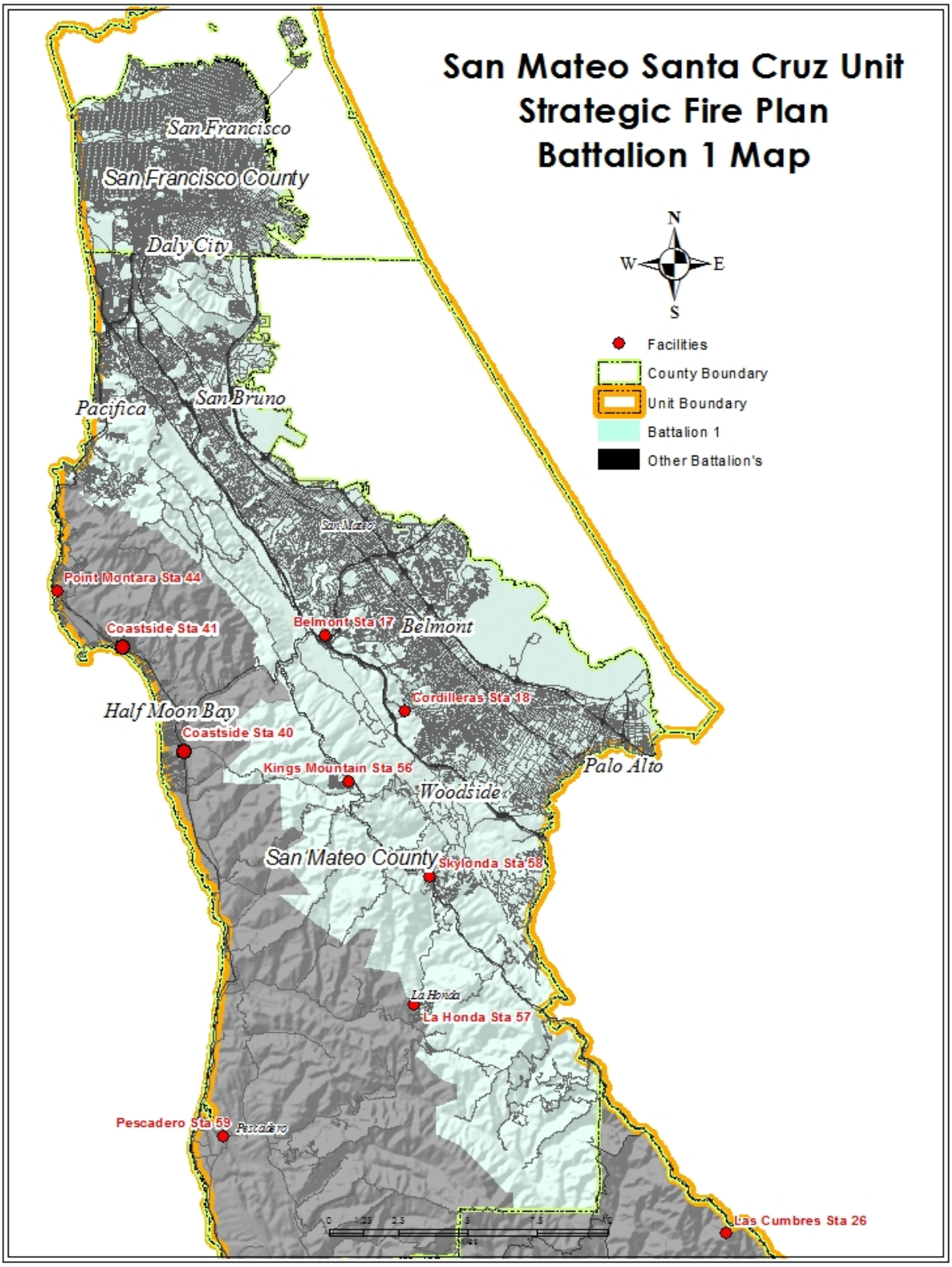


Figure D: Battalion 2 Map

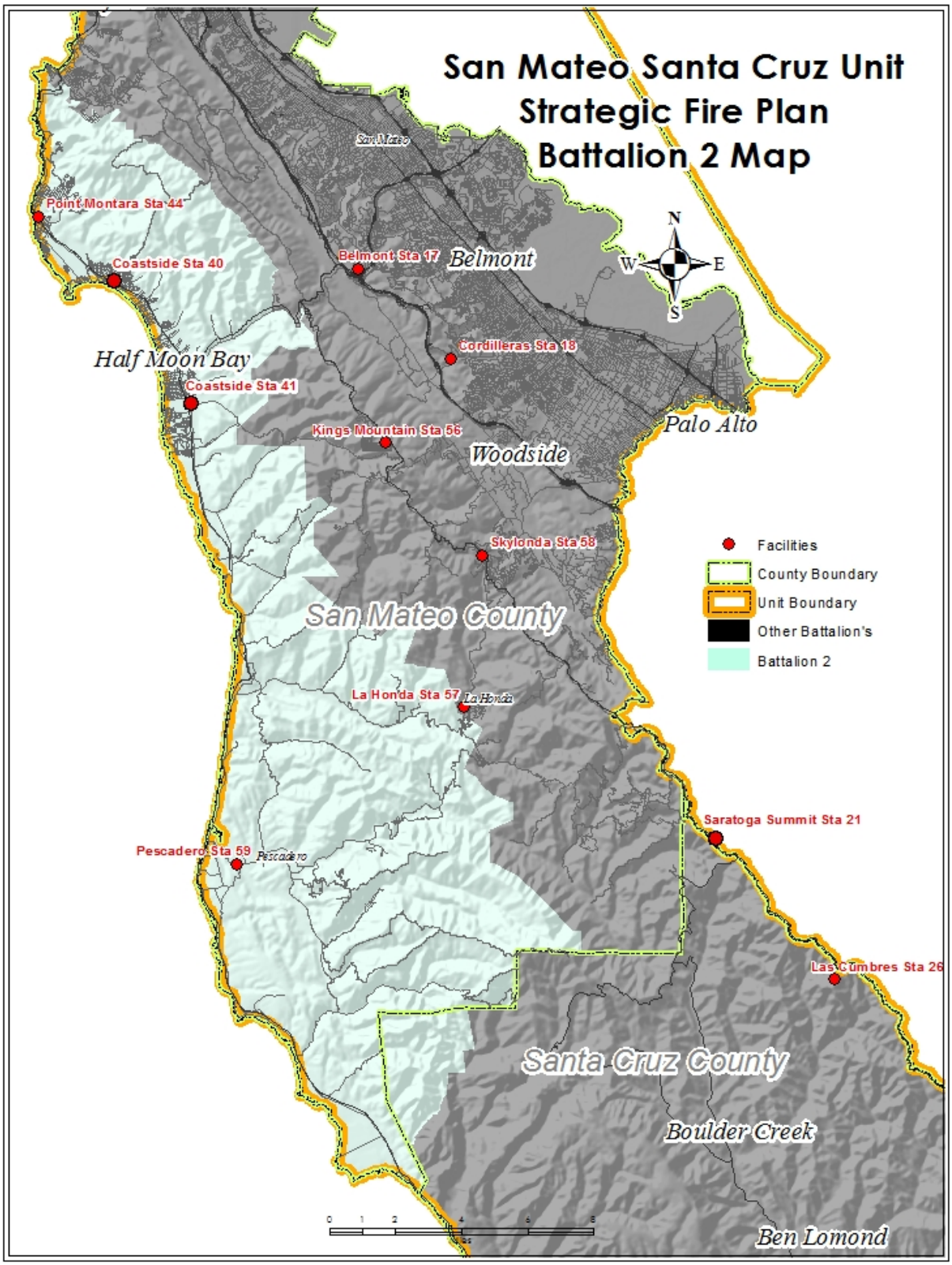


Figure E: Battalion 3 Map

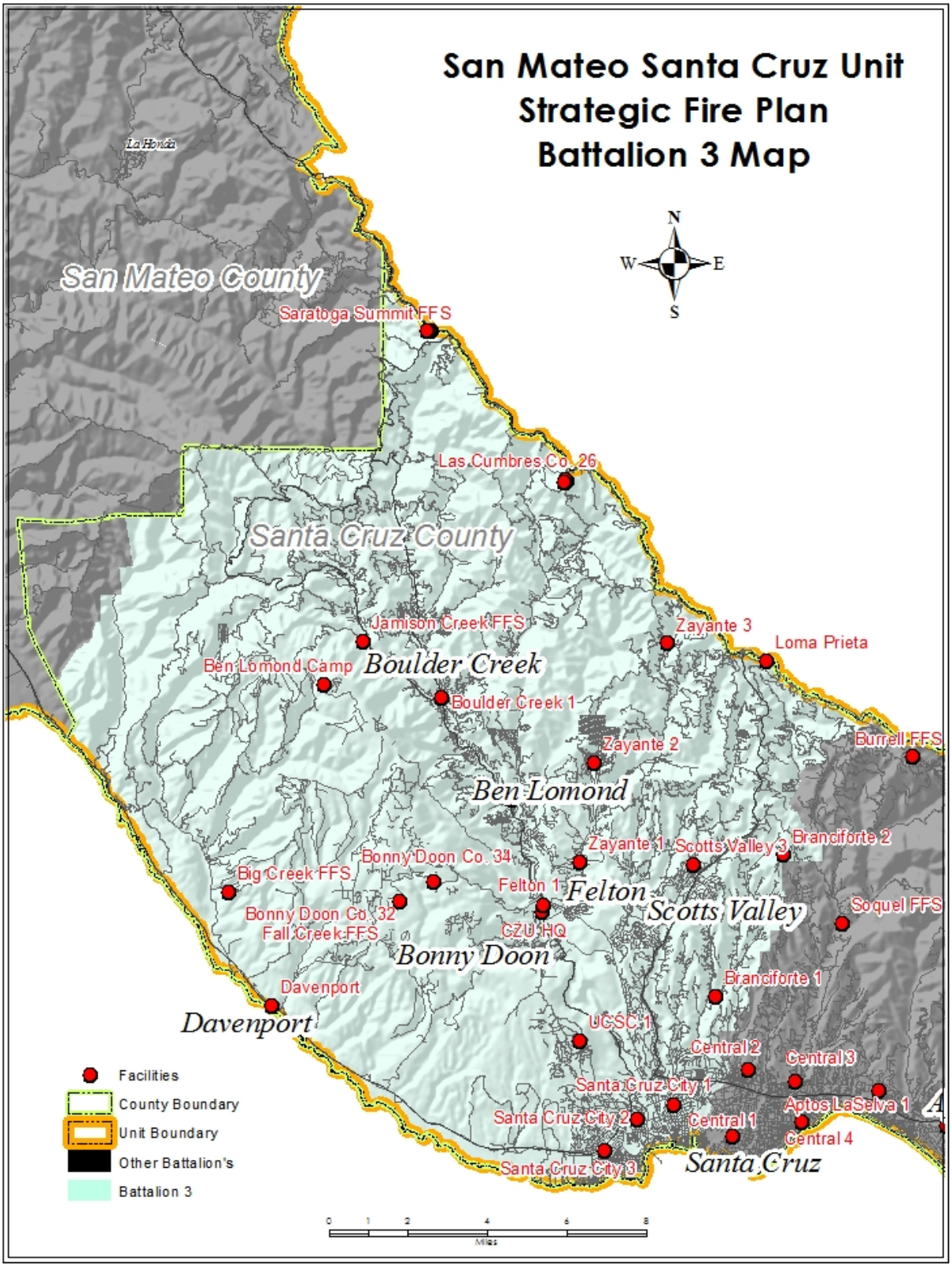


Figure F: Battalion 4 Map

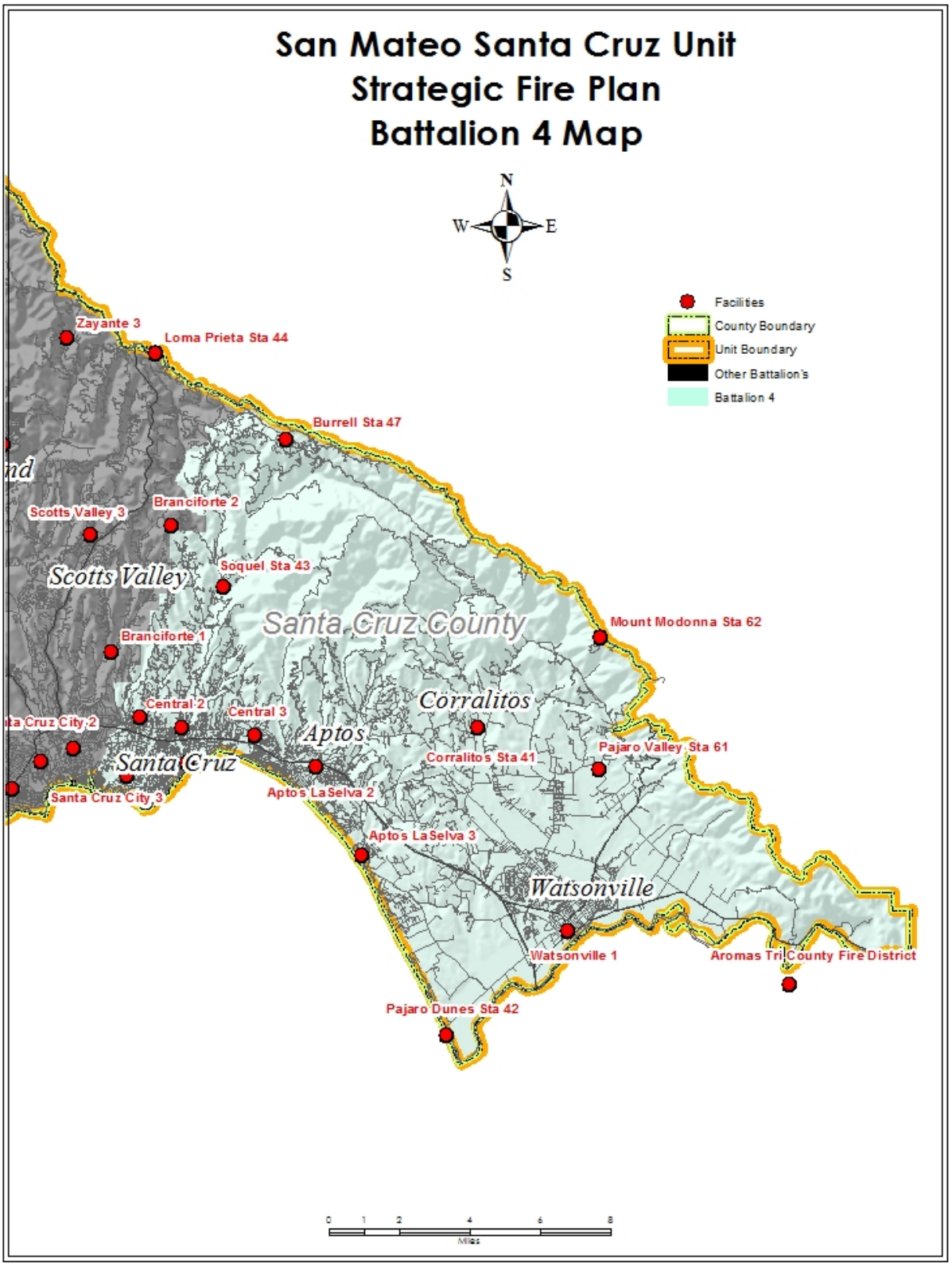
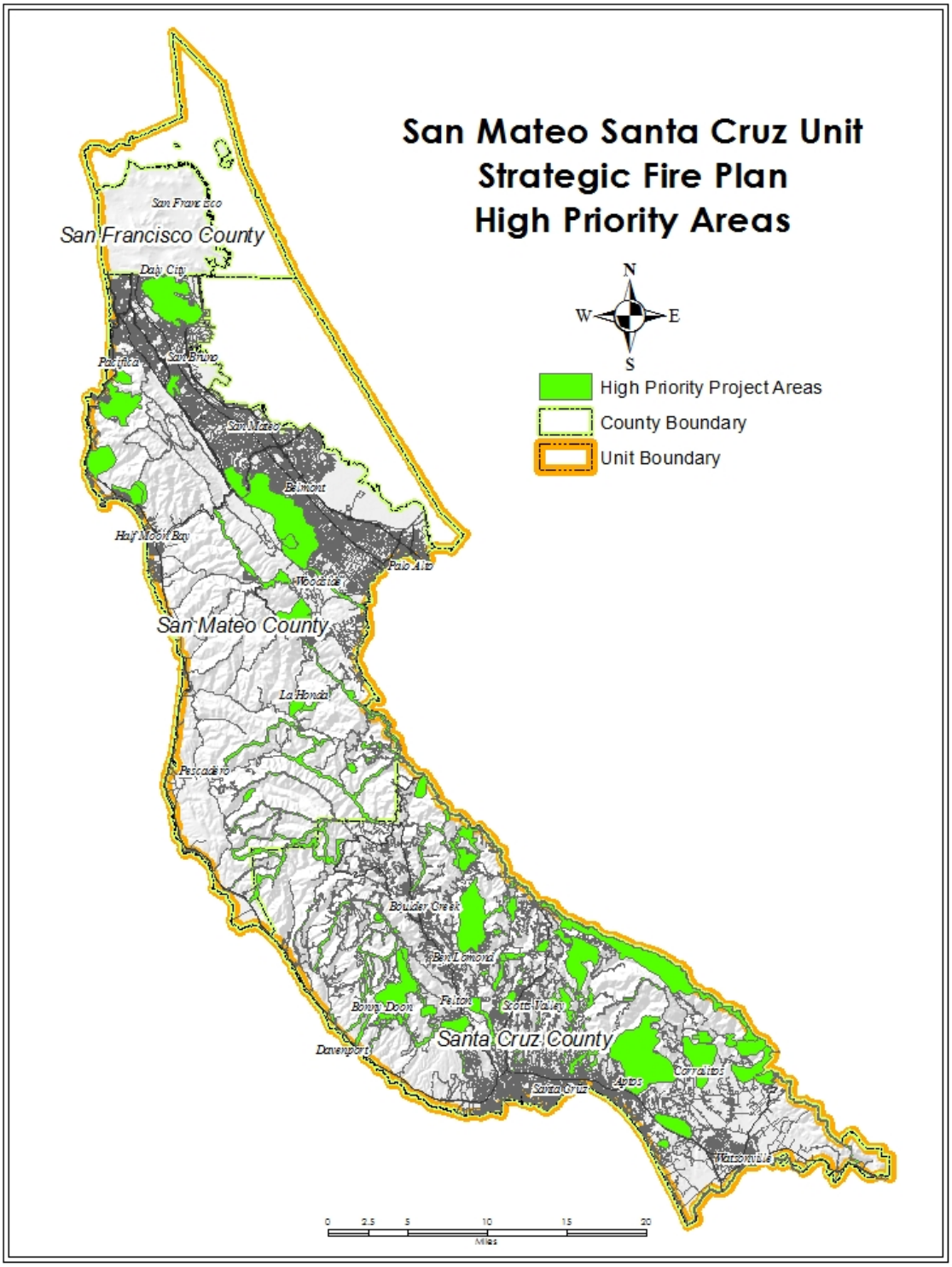


Figure G: High Priority Project Area Map


San Mateo Santa Cruz Unit
Strategic Fire Plan
High Priority Areas
N
W
E
S
High Priority Project Areas
County Boundary
Unit Boundary
San Francisco County
San Francisco
Daly City
Pacifica
San Bruno
San Mateo
Belmont
Half Moon Bay
Palo Alto
Woodside
San Mateo County
La Honda
Pescadero
Boulder Creek
Ben Lomond
Felton
Scotts Valley
Bonny Doon
Santa Cruz County
Davenport
Santa Cruz
Aptos
Corralitos
Watsonville
0
2.5
5
10
15
20
Miles

SUPPLEMENT: 2013

Annual Report of Unit Accomplishments

The Unit has continued working on a variety of projects throughout 2012. Unit Staff continues to work with cooperators assisting in the development, implementation, and oversight of numerous fuel reduction projects. In addition to fuel reduction work, the Unit has also dedicated time and resources to defensible space inspections (LE-100's) and community education and participation.

LE-100 Defensible Space Inspections

The Unit completed approximately two-thousand LE-100 inspections in 2012.

Education and Community Involvement

It is the goal of the San Mateo-Santa Cruz Unit to engage in a wide variety of community education opportunities. In a typical year, the Unit attends specific events such as the County Fair or Fourth of July parade. CAL FIRE's involvement in the community is not borne by any one CAL FIRE program, but rather all programs and staff. In 2012, the Unit participated in more than hundreds of hours of prevention work. The following is a summary of locations and events CZU participated in 2012:

Amesti School
Aptos Safety Fair
Belmont Parade
Belmont Touch a Truck Event for Special Needs Children
Big Creek Davenport Cinco de Mayo Celebration
Bonny Doon Elementary School
Burrell Community Picnic with Loma Prieta Volunteer Fire Department
Burrell Mt. Bible School Event
Camp Kennolyn
Capitola Mall Awareness Day
Community Preparedness Day San Mateo County
Corralitos Community Presentation
Felton Memorial Parade
Half Moon Bay Pumpkin Festival
Home Depot Safety Fair
Huddart Park Girl Scout Camp Event July
Jacob's Heart Sept Corralitos Station
July Fourth Boulder Creek Parade
July Fourth Half Moon Bay Parade
July Fourth Highlands Parade
July Fourth Parade Aptos
July Fourth Prevention/LE
July Fourth Scotts Valley Parade
Mountain National Night Out, Burrell Station August
National Night Out, with SO at Felton HQ, Summit, Pinto Lake & Live Oak
Pescadero Fun Festival
PV National Night Out August
San Mateo County Fair
Santa Cruz County Fair
Santa Cruz County Office of Education Event at Sheriff's Posse Grounds

San Mateo City Parade
SMO Emergency Preparedness Day
Scotts Valley Pancake Breakfast - E1768 & Smokey

Fuel Reduction Projects

CAL FIRE has been continually involved in the development and implementation of fire prevention projects. CAL FIRE crews at Ben Lomond Camp continue to be an important asset when it comes to putting boots on the ground and getting the work done. There are a variety of project proponents across the Unit, including 4 active Fire Safe Councils, homeowner groups, local and state government, and private companies. The following outlines Unit accomplishments:

San Mateo County

"Truck Trails" roadside fuel reduction work

Edgewood County Park Fuelbreak

Wunderlich County Park Fuelbreak

Huddart Park Fuelbreak

Santa Cruz County

Monte Toyon/Redwood Dr Escape Route

Bonny Doon Ecological Reserve – Hazard Tree Removal and Fuel Reduction

Las Cumbres – CFIP project

Hinckley Ridge (planning/coordination/grant writing)

Soquel High School – Fuel Reduction in cooperation with Central Fire

CFIP Assistance

DeLaRosa – Fuel Reduction with RCD Partnership Grant

RCD Partnership Grant

Empire Grade Fuel Reduction Project

Lockheed Fuel Reduction Project

Kings Creek Truck Trail fuel reduction project