

# Santa Cruz County San Mateo County

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## COMMUNITY WILDFIRE PROTECTION PLAN



Prepared by:

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The Resource Conservation District for San Mateo County  
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Funding provided by a National Fire Plan grant from the U.S. Fish  
and Wildlife Service through the California Fire Safe Council.

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MAY - 2010

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# **EXECUTIVE SUMMARY**

The risk of significant wildfire exists in both San Mateo and Santa Cruz Counties. The San Mateo - Santa Cruz County Community Wildfire Protection Plan (CWPP) attempts to identify those hazards, as seen across the landscape, and provide strategies to mitigate wildfire risk and restore healthier, more resilient ecosystems while protecting life and property. A CWPP also serves as a tool for the accrual of grant funding to aid in the implementation wildfire prevention projects. This is a living document that will adapt to a changing landscape with changing priorities. The development of this CWPP began in mid 2008 following the Summit Fire, which burned over 4,000 acres in Santa Cruz County. Over the past year and a half, CAL FIRE in association with the Santa Cruz and San Mateo Resource Conservation District's (RCD), has met with community and agency stakeholders in San Mateo and Santa Cruz Counties regarding their wildfire concerns. Through this process, community-identified hazards, assets at risk, and high priority areas in need of fuel reduction have been identified.

This CWPP is not a legal document and is not intended to be an all encompassing document in regards to fire planning and management in San Mateo and Santa Cruz Counties. Additionally, this CWPP does not satisfy any regulatory permitting process, including CEQA analysis for any project proposed within. This plan recommends both general and specific projects, all of which are subject to the appropriate permitting and environmental review for the county in which they are proposed. Any public projects identified or proposed in this CWPP will be done only as funding allows.

There is huge variation in vegetation, weather conditions, geography and access throughout San Mateo and Santa Cruz Counties. There are also numerous government jurisdictions, with differing interests. Because of this, the discussions and recommendations in this CWPP have remained general in nature, as to not conflict with stakeholder interests. Because this plan is a flexible planning tool, rather than a blueprint, general guidelines allow the project proponent to develop the most appropriate

site specific treatment. Finally, this CWPP should be utilized as the foundation for additional, detailed, site specific CWPP's to be prepared for communities throughout the region.

## **PURPOSE**

CWPP's are authorized and defined in Title 1 of the Healthy Forests Restoration Act (HRFA) of 2003. The HRFA expedites the preparation and implementation of hazardous fuels reduction projects within the wildland urban interface (WUI) and helps rural communities, states and landowners to restore healthy forests and watershed conditions on state private and tribal lands. It also authorizes large-scale silvicultural research, the acquisition of conservation easements and the establishment of monitoring and early warning systems for insects and disease outbreaks. The purpose of this plan is to identify the risks and hazards associated with wildland fires in the wildland urban interface (WUI) areas of San Mateo and Santa Cruz Counties. The plan also identifies recommendations aimed at preventing and reducing both infrastructure and ecosystem damage associated with wildland fires. The San Mateo and Santa Cruz Community Wildfire Protection Plan documents actions intended to reduce the risk to people, property and the environment. Fuel reduction projects identified in an approved CWPP receive priority for federal funds.

A CWPP must be developed collaboratively, must prioritize fuel reduction areas, and must provide recommendations to reduce the ignitability of structures. This benefits a community in a variety of ways:

- It allows the community to establish their own WUI boundary. Community-established WUI boundaries can improve and influence access to funding sources since federal agencies are required to give them high priority.
- It allows the community to conduct wildfire prevention planning over the landscape, recommending projects that benefit the community as a whole and the types and methods of treatment to be used.

## **BACKGROUND & COLLABORATION**

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, CWPPs can be very empowering tools, providing communities with the opportunity to influence where and how fuel reduction projects are implemented.

Communities with CWPPs in place are given priority for funding of hazardous fuels reduction projects. The 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 Firesafe councils and the RCD's regularly apply for grant funding on behalf of the community. This plan is the communities opportunity to participate in partnerships like these and suggest priority projects that should be addressed. Additionally, CWPPs can help motivate neighborhoods to work together on projects so that individual efforts aren't completed in isolation. By continually contributing unique local knowledge to a CWPP, citizens can help create a strong, living, collaborative community plan.

Early stages of development of the CWPP of 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 RCD (SMRCD)
- US Fish and Wildlife Service (USFWS)

Each time a CWPP is created in a given place, 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 began soliciting community input in order to create a draft CWPP in March 2009. 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.

- San Mateo County Meeting Tuesday June 2nd at 7:00 p.m. Coastside Fire Protection District Half Moon Bay, CA
- Santa Cruz County Meeting Tuesday June 9th at 7:00 p.m. Zayante Fire Protection District Felton, California

Participants in these meetings were asked to brainstorm in geographically representative breakout sessions about the following prompts:

- Identify critical assets in your community that need to be protected. Indicate preferred treatment method if relevant.
- What are your concerns about access? Can you provide any updates on conditions of access roads?
- Note anything about this map that is inaccurate or incomplete.
- Are there any special hazards in your community with respect to wildfire? Indicate preferred treatment method if relevant.
- Identify key players in your community that should be involved.

An additional pair of meetings targeting agencies and large landowners was scheduled for August of 2009. However, the Lockheed and Loma Fires redirected CAL FIRE staff to wildfire suppression activities, pushing back the CWPP schedule by a couple of months. Consequently, the agency meetings were rescheduled for mid-October 2009.

Throughout the process of public feed back, from May 2009 til 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>).

On February 15, 2010, the public was notified of the first draft of the CWPP. Comments will be received for thirty days before a draft is finalized for adoption by Counties. During this thirty day period, two additional public meetings will be held to solicit feedback from the community. Finally, the draft will be revised, and a final draft will be completed by the end of March 2010.

### **Maintaining a living plan in 2010 and beyond**

A plan becomes obsolete the moment a finished product is set on the shelf unless there is an established plan to review and update the plan. Soliciting future feedback to keep the

San Mateo-Santa Cruz CWPP updated and relevant will be an important part of maintaining a valuable, living document.

## **THE LANDSCAPE**

San Mateo and Santa Cruz Counties cover an area of approximately 894 square miles. Major landowners in the area include local and state government, private timberland, water districts and smaller private landowners. Lands are typically identified as State, Federal, or Local Responsibility areas (SRA, FRA, and LRA). In general, CAL FIRE has the responsibility for wildland fire protection on SRA lands, and in some instances FRA and LRA. In San Mateo and Santa Cruz Counties, lands outside the SRA are typically the responsibility of the local government having jurisdiction. In order to better facilitate fire management efforts in an environment where more and more people are living outside the urban area, CAL FIRE supports fire management efforts in the LRA and local government supports fire management efforts in the SRA.

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).

Due to compression from seismic action the Santa Cruz Mountains continue to be molded by the interplay of uplift and erosion which results in moderate to very steep slopes. Abundant rainfall and subsequent runoff on highly erodible soils creates deep canyon



streams and creeks. The area has numerous seismographic faults that run throughout the range including the San Andreas Fault.

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.

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.

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.

## **THE WILDFIRE PROBLEM**

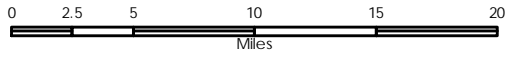
Due to local topography, fuels (forest, chaparral, grasslands) and certain weather conditions, San Mateo and Santa Cruz counties are conducive to periodic large wildfire events. Each year, State, local, and volunteer departments throughout the region respond to numerous wildfires. The vast majority of 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 favorable fuels and 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, in areas with poor access, fires can rapidly increase to an unmanageable size prior to fire crews arrival. In 2008 Santa Cruz County experienced three large wildfires resulting in approximately 5,400 acres burned and numerous homes destroyed. Again, in 2009, Santa Cruz County experienced two large wildfires resulting in approximately 8,500 acres damaging and destroying numerous homes and structures.







*Photo showing Trabing Fire taken from Capitola, Santa Cruz Co. 2008*

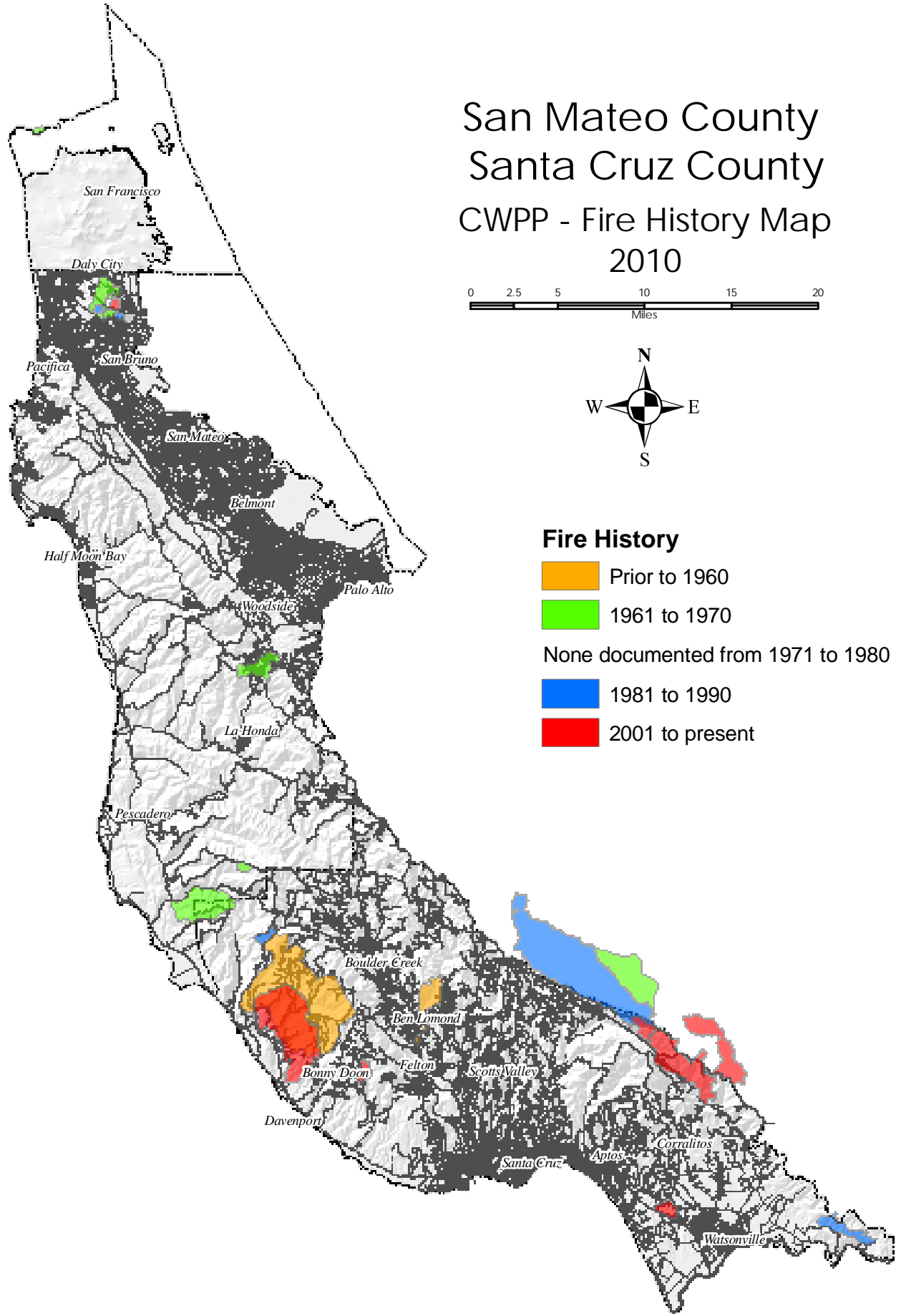
Since the 1970s, there has been increasing public pressure to preserve local natural features. This philosophy has influenced the management of parks, open space, and private land holding. There are also the pressures of subdivision and home development on rural lands prone to fire hazards. The result is an ever-increasing land base that is often void of disturbance, whether by wildfire or resource harvesting. In many instances, the resulting landscape is overgrown with a variety of species in a variety of different age classes. The increased number of homes and proximity to flammable landscapes can be a potentially dangerous situation in the event of a fire.

# San Mateo County Santa Cruz County CWPP - Fire History Map 2010



## Fire History

-  Prior to 1960
-  1961 to 1970
- None documented from 1971 to 1980
-  1981 to 1990
-  2001 to present



# **PRIORITIZING PROJECTS ACROSS THE LANDSCAPE**

One of the goals of this CWPP is to prioritize fuel reduction projects across the landscape. Due to the vast diversity of communities and landscapes within the two counties, this plan has divided the two counties into ten CWPP planning areas (discussed in more detail on page 24). Because of geographic and political differences between the counties and between the planning areas, prioritization was considered within each planning area, and not between them. There are, however, instances of interconnectivity between planning areas and between counties.



*Crystal Springs Southern Fuel Break in San Mateo County. 2008*

There are inherent difficulties in creating a CWPP for two counties, a process rendered more complex by the large number of autonomous fire departments in each county. Although departments work together within each county, efforts to design projects that consider the greater landscape across jurisdictional boundaries are sometimes lacking. Groups such as Fire Safe San Mateo County have brought state and local agencies, private concerns and homeowner groups to the table, aiding in the development of fire prevention projects. Although there is not a county wide Fire Safe group in Santa Cruz County, the County Fire Chiefs and other smaller groups have filled in the gap. These include the South Skyline Firesafe Council, Soquel FireSafe Council, Pineridge Firesafe Council and the Bonny Doon Firesafe Council. These groups work in conjunction with the community, as well as state and local government to address not only individual fire protection needs, but those affecting the greater landscape.

## **REDUCING STRUCTURAL IGNITABILITY**

Although the greatest concentration of development is found in the urban centers of San Mateo and Santa Cruz County, there is considerable development outside these areas. There are thousands of structures found throughout the wildland areas of San Mateo and Santa Cruz Counties with construction dating back to the 1800's and continuing today. These structures reflect a wide variety of building materials and construction type. Many homes were built prior to the development of fire resistant home construction techniques.

This area has always known the threat of wildfire. However, due to current fuel conditions, weather patterns, and increased human activity in wildland areas, its occurrence has become more of a danger in recent years. In the event of a large wildfire, we know there are not enough emergency responders and equipment to protect each and every home. In some cases, because of the size, speed, intensity of the fire, or home construction materials and surrounding vegetation, homes can ignite and potentially be destroyed before emergency responders can arrive. Often, there are more homes to

protect than there are firefighters to respond. Fire prevention efforts cannot be the responsibility of fire fighting professionals alone, homeowners must consider the possibility that their home may have to stand in the face of a wildland fire without immediate firefighter protection. In order for a home to survive such an emergency, it must be able to avoid ignition.

There are a variety of strategies to reduce the risk of structural ignition. Depending on the county and agency jurisdiction, these strategies may be requirements and/or recommendations:

1. Construction methods and materials
2. Education
3. Defensible Space including fire safe landscaping

### **1. Construction Methods**

While it is always recommended that homeowners build with fire resistant building materials, the State or Local Fire Marshal should be contacted to determine laws and regulations fire resistant construction.

In an effort to provide home owners, industries, designers, local fire and building officials a list of “Compliance WUI products”, the State Fire Marshal (SFM) has published a “WUI Products Handbook”.

<http://osfm.fire.ca.gov/strucfireengineer/pdf/bml/wuiproducts.pdf>

All products published in the handbook have been reviewed and verified for their compliance in accordance with the 2007 California Building Code (CBC) by SFM staff.

All products published in the book are “approved” by the SFM. They are not “listed” unless a SFM Listing number is attached. It should be noted that not all approved products are listed in the handbook, there may be other building materials that comply with the standards since it is not a requirement for a product to be in this handbook.

This handbook covers five main building product categories:

- Exterior Wall Siding and Sheathing
- Exterior Windows
- Under Eave
- Decking
- Ignition Resistant Material

Additional recommendations around the home

### **Roofs and Chimneys**

Wind can spread fire and embers from vegetation to the tops of homes. The large surface area of a roof is susceptible to fire embers and is considered the most vulnerable part of your home. A fire resistant roof can significantly reduce the chances of your home igniting during a wildfire. Additionally, dead leaves and needles should be removed from all roof surfaces and gutters as needed.



*Wood shingle roofs are more easily ignitable than fire resistant synthetic roofing materials.*



## **Decks and Balconies**

Decks and balconies are another conduit for fire to ignite your home. By reducing the chances for decks and balconies to ignite, you can reduce the chances of your home igniting. By boxing in the undersides of decks and balconies, especially with fire resistant materials, the chances of ignition are reduced. You can further reduce chances of ignition by removing flammable materials from balconies and decks.

## **2. Education – to reduce structural ignitability**

State and local fire agencies having jurisdiction within the WUI continually provide wildland fire prevention education to those living in the WUI, including recommendations to reduce the chances of structure ignition. This is accomplished through face to face contact involving home inspections, representation at public events such as county fairs, visits to the fire station. Additional outreach is accomplished through mailers. CAL FIRE began sending a tri-fold mailer titled “Are You Prepared” in 2008, mailing over 2,500 documents to county residents. Another publication supported by local fire officials is “Living with Fire – A guide for Homeowners”. This publication is typically provided to residents and provides numerous recommendations on improving the defensibility of one’s home, including a six-step process on creating defensible space. Also included in the publication is a list of fire-safe plants recommended for use in landscaping. The following is a list of recommendations that can be implemented by the community to reduce structural ignitability:

- **Addressing** – Prominent and visible addressing aids firefighters in locating your home. Maintain adequate and visible address numbers on structures and driveways. Typically, 3 inch, contrasting lettering on a lighted surface is required by fire code.
- **Defensible space** - Maintain a minimum 100 foot “defensible space” around your home. Clear dead leaves and branches and leave widely spaced ornamental

shrubby and trees. Single specimens of fire resistant plants used as ground cover are exempt, provided they do not form a means of rapidly transmitting fire to any structure.

- **Decking** - Clear combustible vegetation and materials out from under decks. Enclose undersides of elevated decks and eaves with fire resistive materials.
- **Roofs** - Clean all leaves and needles from roofs, eaves, and gutters.
- **Limbs** - Trim tree limbs that are within 10 feet of chimneys and/or stove pipes and trim and remove all dead limbs hanging over the house.
- **Chimneys** - Chimney outlets or flues should be protected with 1/2” mesh screen and chimneys should be cleaned by a chimney sweep once a year.
- **Ladder fuels** - “Limb up” your trees and maintain a clearance of 3 times the height of the lower fuel layer from the ground to the bottom.
- **Fire Spread** - Clear flammable vegetation and “limb up” trees within 10 feet of the road to reduce fire spread and provide a safer escape route.
- **Other** - Locate woodpiles and Liquid Petroleum Gas (LPG) tanks or other flammable materials at least 30 feet from structures, fences, and other combustible materials

### **Defensible Space**

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. However, coordination with adjacent landowners to achieve maximum defensible space

is encouraged. Similar constraints have been developed for areas outside the SRA, within and adjacent to the WUI.



*Photo showing home with good defensible space. Immediately after the Summit Fire, 2008.*

Wildland fires can spread out of control and destroy everything in their path, especially when structures and roadways are overgrown with vegetation. This can cause homes to ignite and prevent access by firefighters and fire protection equipment. Overgrown roads delay response time and obstruct efforts to extinguish the fire and create unsafe conditions for firefighters and evacuating residents. Many homes can be saved during a wildland fire provided there is adequate defensible space near the structure and roads.

Throughout the WUI, state and local fire departments are available to conduct home defensible space inspections. Depending on the policy of the individual department, these inspections are made automatically, when requested, or by complaint. When making an inspection, fire officers evaluate at a variety of factors including surrounding vegetation, topography, aspect and location of the structure, type of structure, and roadway access. Recommendations are then provided to the homeowner to reduce the

potential of structural ignition and allow improved ability for firefighters to successfully defend a home or structure. A summary of common practices for creating and maintaining defensible space are provided below. Because this CWPP covers a large and varied landscape, it is beyond the scope of this plan to provide in-depth discussion of possible modifications that should be made to these general guidelines according to site-specific conditions (fuel type, terrain, access, weather patterns, etc). Additionally, this summary is not intended to supersede any state, county, or local codes or regulations in regards to defensible space and vegetation removal. Homeowners are advised to seek guidance in making appropriate, site-specific modifications that conform to all applicable rules and regulations.

- Maintain a firebreak by removing and clearing away all flammable vegetation within 30 feet of each structure. Single specimens of trees or other vegetation may be retained provided they are well-spaced and well-pruned, in order to avoid spread of fire to other vegetation or to the structure.
- In the area from 30 to 100 feet from the structure, dead and dying woody surface fuels and aerial fuels should be removed. Downed logs, when embedded in the soil may be retained. In the area from 30 to 100 feet, create clearance between fuels both horizontally and vertically.

Residents may consider the removal of large trees when addressing the defensibility of their homes. Before a large tree is removed, the appropriate professionals should be contacted to evaluate the feasibility of removing the tree. Generally speaking, local native trees include, redwood, Douglas-fir, tanoak, live oak and some pine species. CAL FIRE receives numerous timber harvest permits for thinning of redwood and Douglas-fir for fire hazard reduction. Many consider the retention of large trees as a good defense against wildfire, considering the fire resistant nature of local large conifers. Although there is no such thing as a fire resistant forest, a good defense against wildfire is a healthy and resilient one. There are instances where management of the surrounding forest

(thinning, removal, pruning) is appropriate. There are also situations where retention of larger trees, while managing the ground fuels is the best option.

Closed canopy forests void of a large build up of dead fuel, reduces the amount light hitting the forest floor, maintain ground moisture and limit growth of understory species which may reduce the risk of a surface fire transitioning to the canopy. However, when a fire enters and becomes established in the canopy, control is very difficult. This was seen in stands of closed canopy forests during the Summit, Martin, Trabing and Lockheed fires.

### **Pertinent websites related to recommendations to reduce structural ignitibility**

[www.fire.ca.gov](http://www.fire.ca.gov)

<http://www.firesafecouncil.org/>

### **3. Fire Safe Landscaping**

The presence of flammable vegetation surrounding a residence can be the cause of structural ignition. Complete removal of all vegetation is typically not an option or desirable. Appropriate plant selection, placement, and maintenance can reduce the threat of wildfire near homes. In order to maintain vegetation around the home, while reducing vulnerability to wildfire, fire resistant landscaping is recommended. Native plants that are both drought tolerant and fire resistant are preferred over non-native species, and of course invasives. There are many native plants naturally drought tolerant and fire resistant available for fire safe landscaping. Information on which native plants are best suited for a particular region can be found through a variety of sources. The Resource Conservation District of Santa Cruz has prepared a list of drought tolerant and fire resistant trees and shrubs to be used in fire safe landscaping. This information can be found through the following link:

<http://www.rcdsantacruz.org/pages/resources/fire-prevention-in-santa-cruz-county.php>

Additionally, through a collaborative effort led by Fire Safe San Mateo, the document “Living with Fire in San Mateo County” provides a list of native shrubs and trees suited to fire safe landscaping. This document is currently unavailable online, but can be obtained through San Mateo County Fire. Another valuable internet resource on native plants is the California Native Plant Society (CNPS). The CNPS website can be found through the following link:

<http://cnps.org/>

The goal of any fire safe landscaping is to reduce the risk of losing your home to wildfire, while maintaining as much as much of the surrounding vegetative landscape as possible.

## **GENERAL RECOMMENDATIONS**

One of the goals of the CWPP is to prioritize fuel reduction projects. This 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.



*Before and after photograph showing fuel reduction next to the road.*



# Santa Cruz County CWPP

Santa Cruz County

Potential Fuel Reduction Project Areas

2010



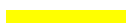
CWPP Planning Area



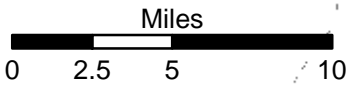
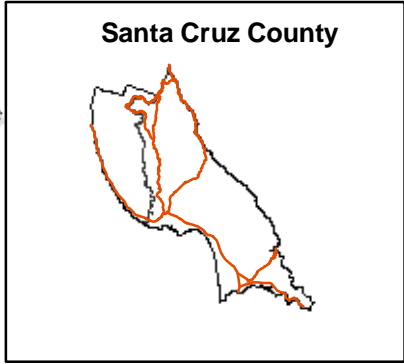
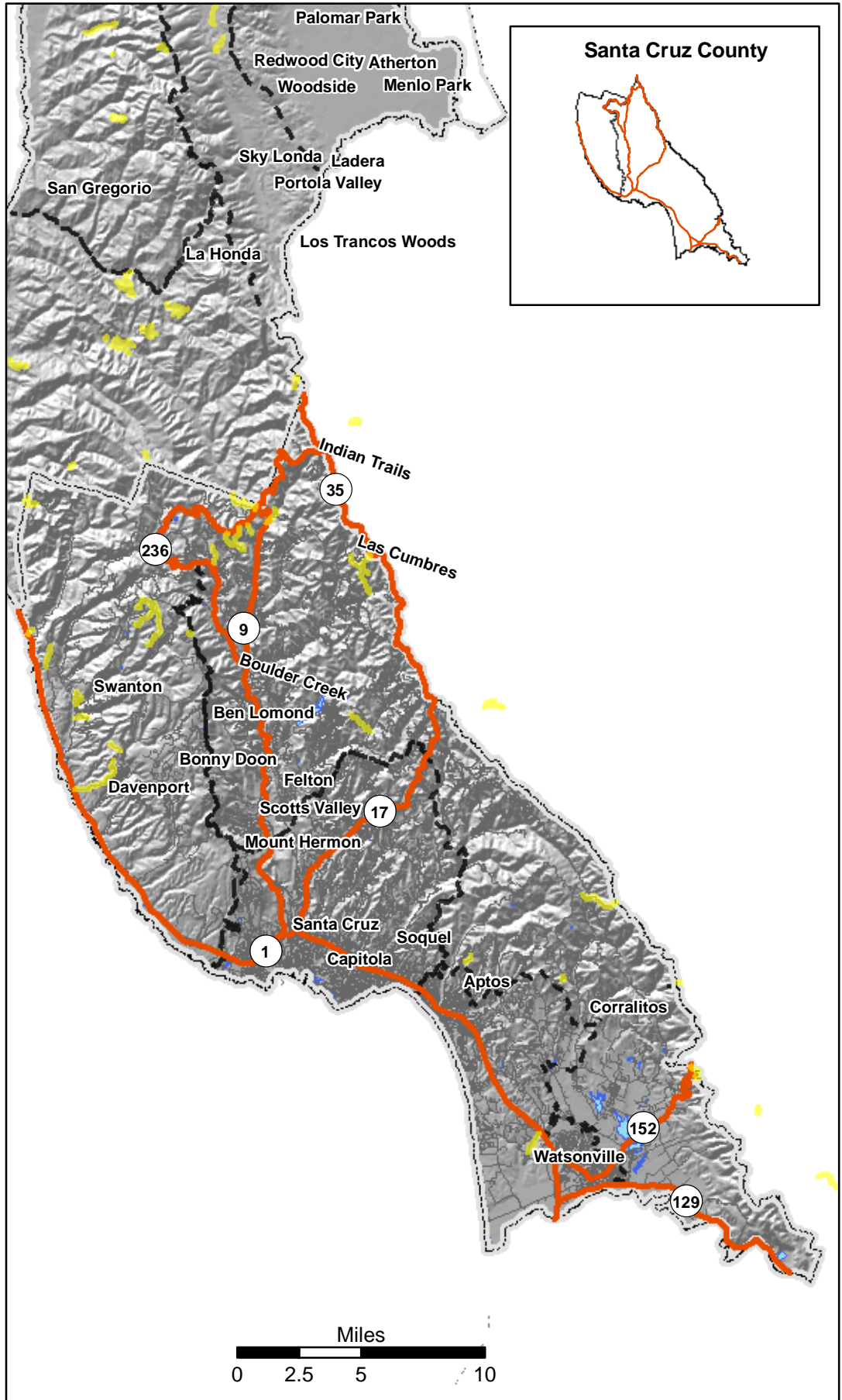
Roads



Potential Shaded Fuel Break Areas



County Boundary





# San Mateo County CWPP

San Mateo County  
Potential Shaded Fuel Break Areas  
2010



CWPP Planning Area

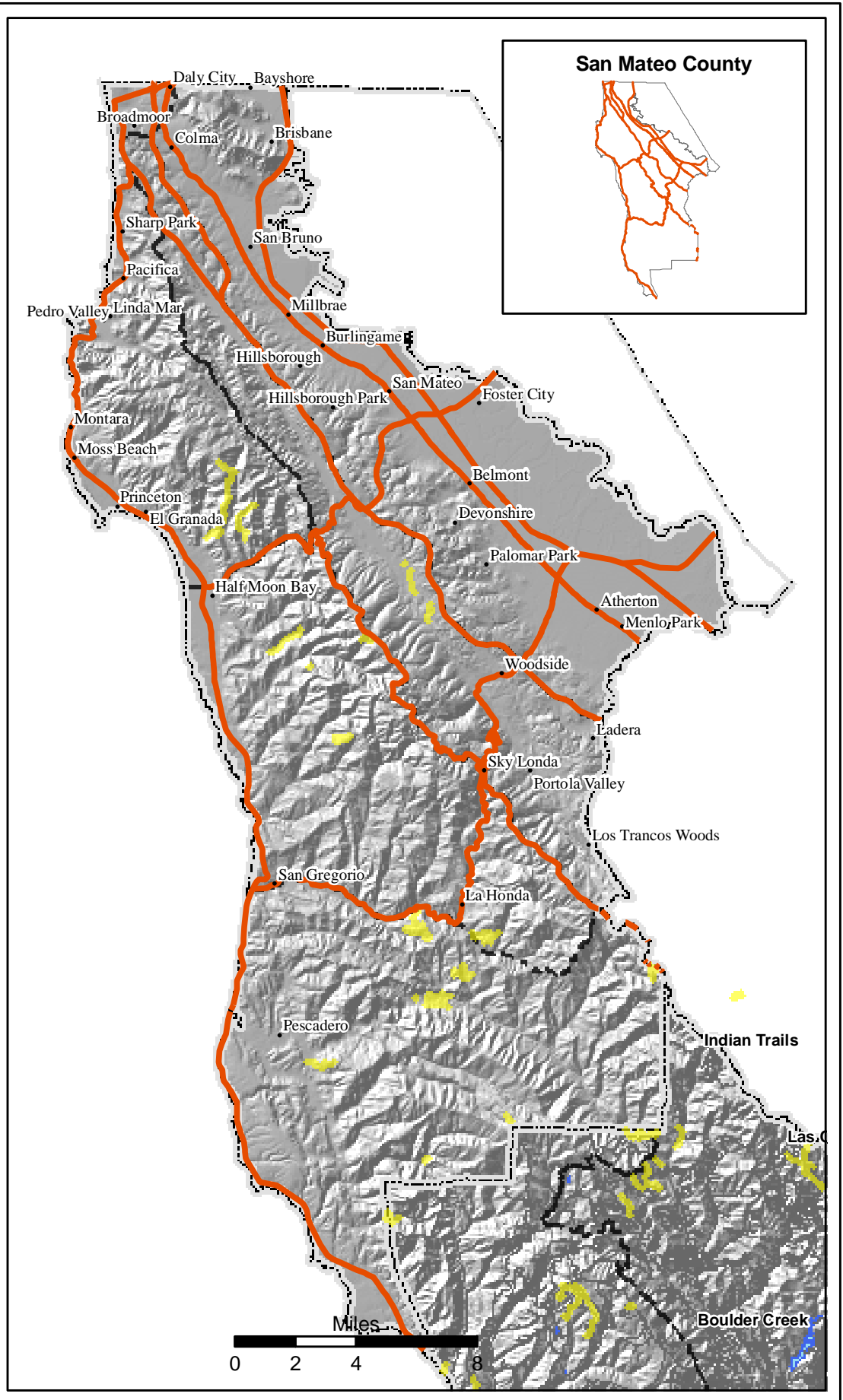


Roads



County Boundary

Potential Shaded Fuel Break Areas



### **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.



*Photo showing strategically placed shaded fuel break used as an anchor point for backfiring operations. Butte County, 2008.*

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.



*Fuel break on midslope road in Las Cumbres, Santa Cruz County*

### **Roadside - fuel break**

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 this plan.

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 Firesafe 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 treatment options, 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 ridgetop 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.

## LANDSCAPE LEVEL NEEDS

**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 fuelbreak 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.





*Example of truck trail overgrown with vegetation, Butano Truck Trail.*

**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 tree rows have expanded to large extended stands. 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, pruning).



*Fuel reduction project Eucalyptus stand, San Mateo County, 2008*

### **Water Sources**

Access to and availability of adequate amounts of water is critical during a wildland fire. Water is obtained through a variety of sources including; hydrants, springs, ponds, streams, lakes, rivers, pools, reservoirs and even the Pacific Ocean. The problem is that there are not enough water sources or water supplies, especially in the rural wildland areas. Water to fight fires in these areas must be either stored onsite or trucked into the area.

Water is trucked into a fire on Fire Engines (usually 500 gallons at a time) or with water tenders (1,500 to 3,000 gallons at a time). The unit is constantly re-evaluating the number of water tenders needed in the fire suppression fleet. Additional water tenders are desirable but expensive.

During the 1970's and 1980's a program by CALFIRE was successful in installing "Initial Attack Water Tanks" in strategic locations in the remote portions of the county. The intent was to pre-stage approximately 5,000 gallons of water in areas that would experience trucking delay's. The presence of these storage tanks would likely allow initial attack units access to large amounts of water during the critical initial stages of a fire suppression action. This would allow the unit to keep fires small instead of facing larger fires due to lack of water.

Projects to increase the amount of both onsite water and locally staffed water tenders available to suppress wildland fires are a high priority of this plan.

## **SENSITIVE HABITATS AND PERMITTING**

It's widely recognized that wildfires are a natural and vital force in maintaining biological diversity, including species, habitats, watersheds, nutrient cycles, and landscape patterns. However, high severity wildfires, like those experienced recently on the Central Coast, can result in loss of habitat and cause significant direct wildlife mortality. Thus, the state mandated defensible space guidelines have become increasingly important to implement not only for public safety, but for environmental protection as well. However, it is important to recognize that balance between habitat protection and degradation. This chapter aims to provide guidance on natural resource protection in conjunction with fuel load management.

### **Natural Resources**

From the shoreline of the beautiful Monterey Bay National Marine Sanctuary to the interior redwoods, San Mateo and Santa Cruz Counties are rich in terms of biological diversity and uniqueness. Hundreds of miles of waterways – creeks, streams, and rivers – thread themselves through both counties. Sensitive habitats host a variety of threatened and endangered species. Scattered wetlands provide vital ecosystem services. Many of

our communities in areas that are prone to wildfire have been built adjacent to these valuable natural resources. We can work to increase human safety while also maintaining biological diversity on a landscape prone to wildfire by considering the natural resources surrounding homes and other structures and modifying fuel load management activities accordingly.

### **Santa Cruz Long-toed Salamander**

If you are within one mile to the ocean side or three miles to the mountain side of Highway 1, between Rio Del Mar and Buena Vista Drive in Santa Cruz County, you are probably in Santa Cruz Long-toed Salamander (*Ambystoma macrodactylum croceum*) habitat. The salamander inhabits upland scrub and woodland areas (particularly coast live oak (*Quercus agrifolia*) and Monterey Pine (*Pinus radiata*) during the nonbreeding season (early November to April).

This State and federally protected species was historically found in montane regions from Santa Cruz County to Baja California, Mexico. Today, only seven populations are known within Santa Cruz and Monterey Counties. The entire extent of this species has been proposed as critical habitat (specific areas that have been found to be essential to the conservation of the species and which may require special management considerations or protection). The loss of native vegetation, and invasion of exotic plant species, is one of the primary reasons for decline of the species. To minimize your impact, while achieving fuel reduction, follow these few guidelines.

- Leave as much native vegetation on your property as possible.
- Control invasion and spread of non-native plants, which can colonize disturbed areas, particularly French broom (*Genista monspessulana*), eucalyptus (*Eucalyptus* spp.), and ice plant.
- Avoid soil disturbance, as salamanders spend much of their life underground
- Try to maintain a 12 to 18 inch tall understory of native vegetation and separate it from the canopy by limbing trees 10 feet above ground level.



- Leave damp logs with plenty of soil contact.

### **San Francisco Garter Snake**

If you live within the following area: the northern boundary of San Mateo County south along the eastern and western bases of the [Santa Cruz Mountains](#), to the Upper [Crystal Springs Reservoir](#), and along the [Pacific](#) coast south to Waddell Creek, your activities may impact the San Francisco Garter Snake (*Thamnophis sirtalis tetrataenia*).

There are only six known significant populations of the San Francisco garter snake remaining, and at least four of these populations have declined in recent decades. This State and federally protected species' preferred habitat is a densely vegetated pond near grassy uplands with brushy cover. They are threatened by loss and adverse modification of wetland and adjacent upland habitat, as well as loss of prey, particularly the California red-legged frog. To minimize your impact, while achieving fuel reduction, follow these few guidelines.

- Leave as much native vegetation on your property as possible.
- Control invasion and spread of non-native plants, which can colonize disturbed areas, particularly French broom (*Genista monspessulana*), eucalyptus (*Eucalyptus* spp.), and ice plant.
- Avoid soil disturbance and maintain leaf litter
- Try to maintain a 12 to 18 inch tall understory of native vegetation and separate it from the canopy by limbing trees 10 feet above ground level.

### **California Red-legged Frog**

The California red-legged frog can commonly be found in both aquatic and upland habitats. If you live adjacent to a riparian corridor or a pond, your activities may impact the frog. During the winter season, the species may travel a few miles to return to a breeding pond. Extirpated from 24 of the 46 counties once occupied, the species is threatened by loss and adverse modification of wetland and riparian habitat.

To minimize your impacts, follow the guidance measures provided for the Santa Cruz Long-toed Salamanders and for work near a riparian corridor and wetlands.

### **Marbled Murrelet**

If you live in certain stands of redwood and Douglas-fir forests, your activities may impact the marbled murrelet, a species which is generally restricted to old-growth redwood forests, although murrelets have been found in mature and second-growth forests in areas where residual older trees remain.

The major cause of decline for the marbled murrelets has been the destruction and fragmentation of the coastal old growth conifer forest. Remnant murrelet populations are dependent on this habitat for reproduction. To minimize your impact to this federally and State-protected species, while achieving fuel reduction, follow these few guidelines.

- Avoid critical habitat, if possible.
- Maintain old growth trees for murrelet habitat.
- Limit limbing to the lower 10 feet of old growth trees, as the birds nest on the limbs.
- Perform activities after September 15<sup>th</sup> to avoid the nesting season (late March to September).

### **San Francisco Dusky-footed Woodrat**

The San Francisco dusky-footed wood rat, which inhabits scrub, chaparral, woodlands, open forest, and riparian woodlands, could be affected by your activities. Fuel load reduction activities (destruction of nests or stick houses) could cause impacts to this species unless conducted in the appropriate (non nesting) season. There may be other mitigation measures necessary for this species, including avoidance of disturbance altogether.

### **Coastal Zone**



If you live within the Coastal Zone, which is roughly designated as west of Highway 1 south of the city of Santa Cruz and west of the summit of the Santa Cruz mountains north of the city of Santa Cruz, there may be limitations and restriction for vegetation removal. In Santa Cruz County, large, significant and heritage trees are protected by the Santa Cruz Significant Trees Protection Ordinance. The San Mateo County Heritage Tree Ordinance protects significant trees throughout the county, not just in the Coastal Zone.

Vegetation removal along the coast may also impact Coastal Terrace Prairie habitat, which has a number of rare and endangered plants. If you live in the coastal fog zone (approximately 700-1000 ft elevation) and have tall grassy vegetation, limit your activities in this area.

### **Sandhills Habitat**

If you live in Bonny Doon, Ben Lomond, or anywhere in the hills west of Soquel-San Jose Road and the soils look like beach sand, you could be in the rare sandhills habitat, a unique community of plants and animals found only on outcrops of Zayante sand soil. The sandhills support two endemic [communities](#); 1) [Sand chaparral](#), dominated by shrub species including manzanita, and 2) [Sand parkland](#), characterized by sparse stands of towering [ponderosa pines](#) with a dense and diverse understory of native wildflowers. The habitat also hosts the Zayante Band-winged Grasshopper and Mount Hermon June Beetle, two federally endangered species.

With fewer than 4,000 acres of sandhills left, it is important to protect the four (4) plant and three (3) animal species, which are found nowhere else in the world. The greatest cause of extirpation of populations is the [loss](#), [fragmentation](#), and [degradation](#) of habitat. To minimize your impact, while achieving fuel reduction, follow these guidelines.

- Leave as much native vegetation on your property as possible.
- Control invasion and spread of non-native plants on newly disturbed areas, which may be fire hazards, such as French broom (*Genista monspessulana*).

- Revegetate, if applicable with native Sandhills plants obtained from local seed sources.
- If the project involves removing woody vegetation (e.g, non-native shrubs or trees), material should not be chipped and distributed on Zayante sand soils as it may smother existing native plants or inhibit germination of natives which require bare soils.
- Never use sod-forming grasses (i.e. turf) or thick ground cover (i.e. mulch), as it may smother existing native plants or inhibit germination of natives which require bare soils.
- Avoid clearing, burying, or trampling herbaceous material and avoid soil disturbance to protect larva which live underground.
- Leave the roots of removed vegetation, in place, to protect larva which live underground.
- Avoid clearing around dusk in the summer months (May 15 to August 15) to avoid the flight season of sensitive species.
- Avoid stockpiling of vegetation (tree and shrub cuttings, etc.), as it might bury larva.

### **Maritime Chaparral**

While large areas of California's central coast were covered with dense chaparral at the end of the nineteenth century, today, only small, isolated fragments of northern and central maritime chaparral can be found along ridgelines and on coastal terraces between Sonoma and Santa Barbara counties (Holland 1986). Maritime chaparral, which is dominated by manzanita (*Arctostaphylos* ssp.), is considered a threatened habitat type, and is protected by many agencies along the coast of California.

A number of rare Manzanita species can be found in this habitat, as well as other rare plant and animal species. Most maritime chaparral species benefit from 'renewal' of the

habitat by fire. Deviation from the natural fire frequency may alter the relative proportions of shrubs in the chaparral canopy by favoring seeding *Arctostaphylos* species over crown sprouters (Keeley and Zedler 1978). To minimize your impact, while achieving fuel reduction, follow these guidelines.

- Leave as much native vegetation on your property as possible.
- Control invasion and spread of non-native plants, which can colonize disturbed areas, particularly jubata grass (*Cortaderia jubata*), iceplant (*Carpobrotus edulis* and *C. chilense*), French broom (*Genista monspessulana*), and blue gum eucalyptus (*Eucalyptus globulus*).
- If you are altering manzanitas, (first ensure that it is not rare or protected), allow the manzanita to seed before trimming or leave the first few branches if there is no burl at the ground level of the stem.

### **Oak Woodlands**

Oak Woodlands are dominated by [Coast Live Oak](#) (*Quercus agrifolia*), but also include [Valley Oak](#) (*Q. lobata*), [California Black Oak](#) (*Q. kelloggii*), [Canyon live oak](#) (*Q. chrysolepis*), and other California oaks. The understory may consist of black berry ([Rubus ursinus](#)), hedge-nettle ([Stachys bullata](#)), snowberry ([Symphoricarpos mollis](#)), and poison oak ([Toxicodendron diversilobum](#)) Many areas of this plant community have been removed or degraded due to exotic species. To minimize your impact, while achieving fuel reduction, follow these few guidelines. Retain as many healthy trees as possible.

- Retain as much native understory as you can.
- Separate the canopy from the understory by limbing up branches.
- Leave island of shrubs where it won't form a fuel ladder to trees, when possible.

### **Riparian Corridors and Wetlands**

A wetland is an area of land whose [soil](#) is [saturated](#) with [moisture](#) either permanently or seasonally. Wetlands are considered the most [biologically diverse](#) of all [ecosystems](#),

comparable to rain forests and coral reefs. They provide habitat for many different [amphibians](#), [reptiles](#), [birds](#), and mammals.

A riparian corridor is a unique plant community consisting of the vegetation growing near a river, stream, lake, lagoon or other natural body of water. It serves a variety of functions including protecting stream banks from erosion, providing food and habitat for fish and wildlife, and providing protection from flooding. Clearing of riparian vegetation can adversely impact federally threatened Steelhead and federally endangered Coho salmon by increasing water temperature, reducing food supply, and increasing predation. All work should be avoided in these areas, if possible. If it is vital for safety to modify vegetation, follow these guidelines:

- Leave all the mature vegetation within 100 feet of standing water, 50 feet of a year-round stream, and 20-30 feet of a stream that goes dry regularly.
- Retain as many trees as possible.
- Retain as much native understory as you can.
- Separate the canopy from the understory by limbing up branches.
- Leave island of shrubs where it won't form a fuel ladder, when possible.
- Minimize your noise and plan your activities around sensitive life stages of aquatic species.

### **Sudden Oak Death (SOD)**

Santa Cruz and San Mateo Counties are within the zone of infestation of Sudden Oak Death (*Phytophthora ramorum*). Host plants for SOD occur in many of the vegetation types within our counties. Movement of SOD infected material or host plants is regulated by the county Agricultural Commissioners, the California Department of Food and Agriculture (CDFA) and the Animal and Plant Health Inspection Service (APHIS). The California Oak Mortality Task Force Website contains all the most up-to-date information regarding the status of the disease, treatment and management guidance,

current regulations, current events and monthly newsletters. Visit the website at <http://www.suddenoakdeath.org/index.html> to read and download information.

### **Permitting/Ordinances**

According to the State Guidelines regarding defensible space, homeowners engaging in fuel load reduction activities are required to comply with all federal, state, and local laws and ordinances. To ensure compliance, contact the appropriate agencies for guidance. The following provides a few general items to assist in regulation compliance.

- Maintain some vegetative cover or apply appropriate mulch, such as rice straw. Clearing to bare soils may result in erosion and hillside destabilization
  - Santa Cruz Erosion Control Ordinance 16.22
  - Santa Cruz County Water Quality Control 16.24
  
- Minimize clearing mature vegetation
  - Santa Cruz Riparian Corridor and Wetland Protection Ordinance 16.30
  - Santa Cruz Sensitive Habitat Ordinance 16.32
  - California Department of Fish and Game
  - Regional Water Quality Control Board
  - United States Fish and Wildlife Service
  - National Marine Fisheries Service
  
- Retain significant and heritage trees.
  - Santa Cruz Significant Trees Protection Ordinance 16.34
  - Santa Cruz Land Clearing Permit
  - Santa Cruz Coastal Development Permit (if you are in the Coastal Zone)
  - San Mateo County Ordinance 2427
  - Santa Cruz Sensitive Habitat Ordinance 16.32

- Avoid impact to rare habitat and protected species

US Fish and Wildlife Service

California Department of Fish and Game

National Marine Fisheries Service

If you need additional assistance to determine the impacts of fuel load management, please contact your local RCD office or the Natural Resource Conservation Service.

RCD of Santa Cruz County & NRCS Service Center

820 Bay Avenue, Suite 128

Capitola, CA 95010

(831) 464-2950

San Mateo County RCD & NRCS Service Center

625 Miramontes Street, Suite 103

Half Moon Bay, CA 94019

(650) 712-7765

## **PLANNING AREAS**

During the initial phases of CWPP development, it was determined that due to the large geographic area included in the plan, there needed to be smaller planning areas to account for the wide variety of agencies, fuels, etc. For planning purposes, CAL FIRE planners broke San Mateo and Santa Cruz Counties into ten separate CWPP planning areas. These smaller planning areas will allow more efficient local planning, the idea being San Mateo County projects should not be compared or compete with those in Santa Cruz County.

Keep in mind the planning areas were roughly based on the following factors. Planning area boundaries may change based upon stakeholder input:

- Geographic Location
- Agency Jurisdiction
- Dominant Fuel Types
- Practical/Common Boundary (County Line / Major Roadway)

This CWPP encompasses all planning areas; however the plan will be broken into ten different sections, each focusing on the individual planning areas, listed below.

- San Mateo County
  - San Mateo North – Coastal
  - San Mateo Bayside
  - San Mateo Central – Coastal
  - San Mateo Interior
  - San Mateo South
  
- Santa Cruz County
  - Santa Cruz North – Interior
  - Santa Cruz North – Coastal
  - Santa Cruz South – Interior
  - Santa Cruz Central
  - Santa Cruz South – Coastal

The following section contains a brief description of each planning area followed by a map showing each planning area boundary and WUI boundary. Additionally, a list of fire protection agencies, volunteer companies, and other agencies with jurisdictional influence are included. Each section then identifies assets at risk, as determined through stakeholder meetings. These are separated into three sections including communities/neighborhoods, environmental, and non-environmental. The assets at risk determined to be priority project areas were then identified on a map, shown as highlighted green. Of the areas highlighted, fuel reduction projects most in need include:

- Roadside fuel reduction
  - Improved ingress/egress for emergency responders
  - Improved ingress/egress for citizens
  - Strategic fuel breaks for fire fighting
- Shaded fuel breaks
  - Defensible space for communities
  - Strategic placement for wildland fire operations
- Fuel reduction around homes
  - Creation/Improvement/Maintenance of defensible space

Finally, In an effort to show hazard areas from a technical standpoint, the plan includes a Fuel Rank Hazard Assessment, created from data prepared by the CALFIRE Fire and Resource Assessment Program ( FRAP).

### **Hazard Assessments**

The California Department of Forestry and Fire Protection's Fire and Resource Assessment Program (FRAP) provide a variety of products including extensive technical and public information for statewide fire threat and fire hazard. Much of this information

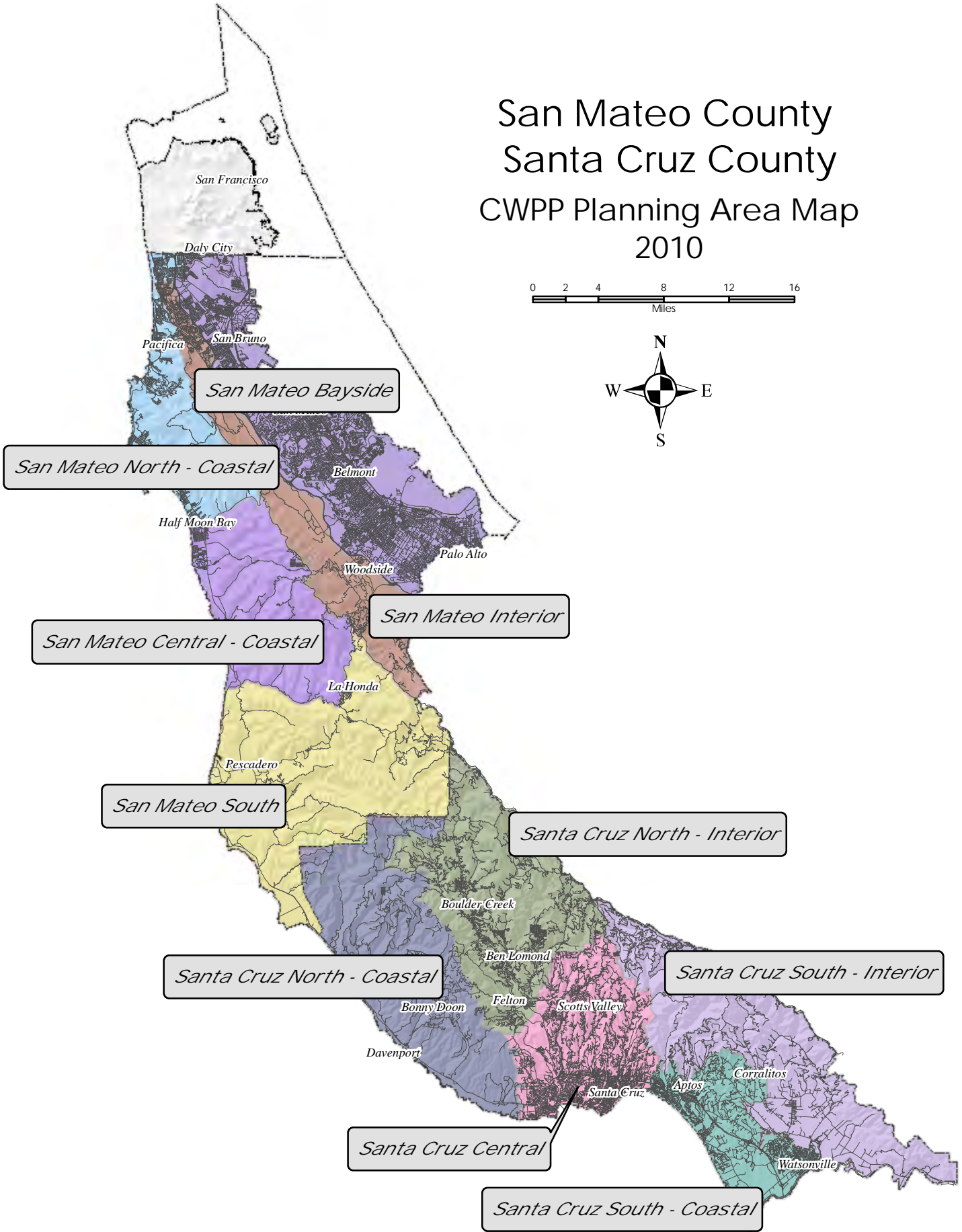
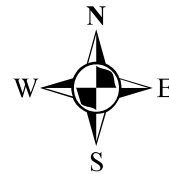
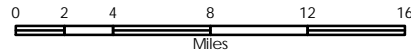


involves Geographic Information System (GIS) analysis, tables, maps, data and calculation tools that are available on this website. For more information about FRAP, please visit the [About FRAP webpage](#).

For the purpose of this report, the following hazard map showing each CWPP planning areas has been provided.

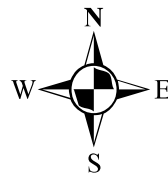
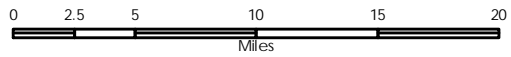
Fuel Rank – This map indicates moderate, high, and very high fuel rankings based on inputs such as fuel, slope, brush density and tree density. CALFIRE has developed a Fuel Rank assessment methodology for the [California Fire Plan](#) to identify and prioritize pre-fire projects that reduce the potential for large catastrophic fire. The fuel ranking methodology assigns ranks based on expected fire behavior for unique combinations of topography and vegetative fuels under a given severe weather condition (wind speed, humidity, and temperature). The procedure makes an initial assessment of rank based on an assigned fuel model and slope.





# San Mateo County Santa Cruz County CWPP Planning Area Map 2010

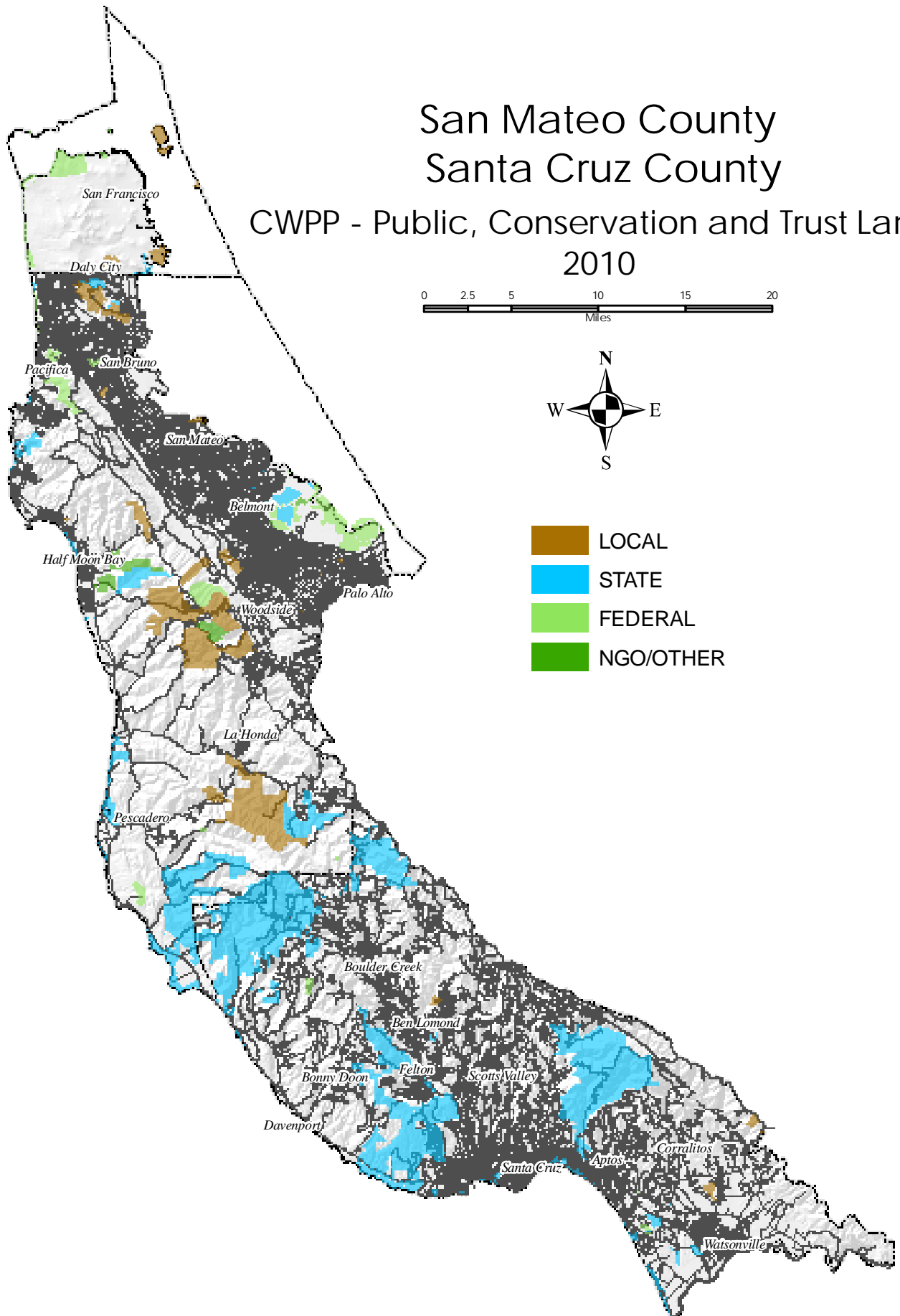


# San Mateo County Santa Cruz County

## CWPP - Public, Conservation and Trust Lands 2010



-  LOCAL
-  STATE
-  FEDERAL
-  NGO/OTHER



# San Mateo North - Coastal

The San Mateo North Coastal planning area covers the northwest portion of San Mateo County outside the City of Half Moon Bay and unincorporated communities of El Granada, Moss Beach, Princeton, and Montara. The eastern boundary of this planning area is the major ridgeline between the coast and the San Francisco Bay as the southern boundary of this planning area only goes to Highway 92, not the Santa Cruz County line. The western boundary of the planning area is the coast and the east boundary is Hwy 35.

There are no major urban centers within this planning area, however there are communities as well as numerous residences and infrastructure found throughout. With the exception of portions of Broadmoor, Pacifica, and El Granada, the entire planning area is classified as WUI. Major roadways include Hwy 1 on the coast and Hwy 35 and 92 near the boundaries. There are few roads bisecting the interior of the planning area, primarily truck trails. There is no recent fire history within the planning area. Fuel types within the planning area are primarily composed of hardwoods, grasslands, and mixed chaparral species.

# San Mateo County CWPP

San Mateo North - Coastal  
Wildland Urban Interface Area  
2010



San Mateo North Coastal CWPP Planning Area



Adjacent Planning Areas



Roads

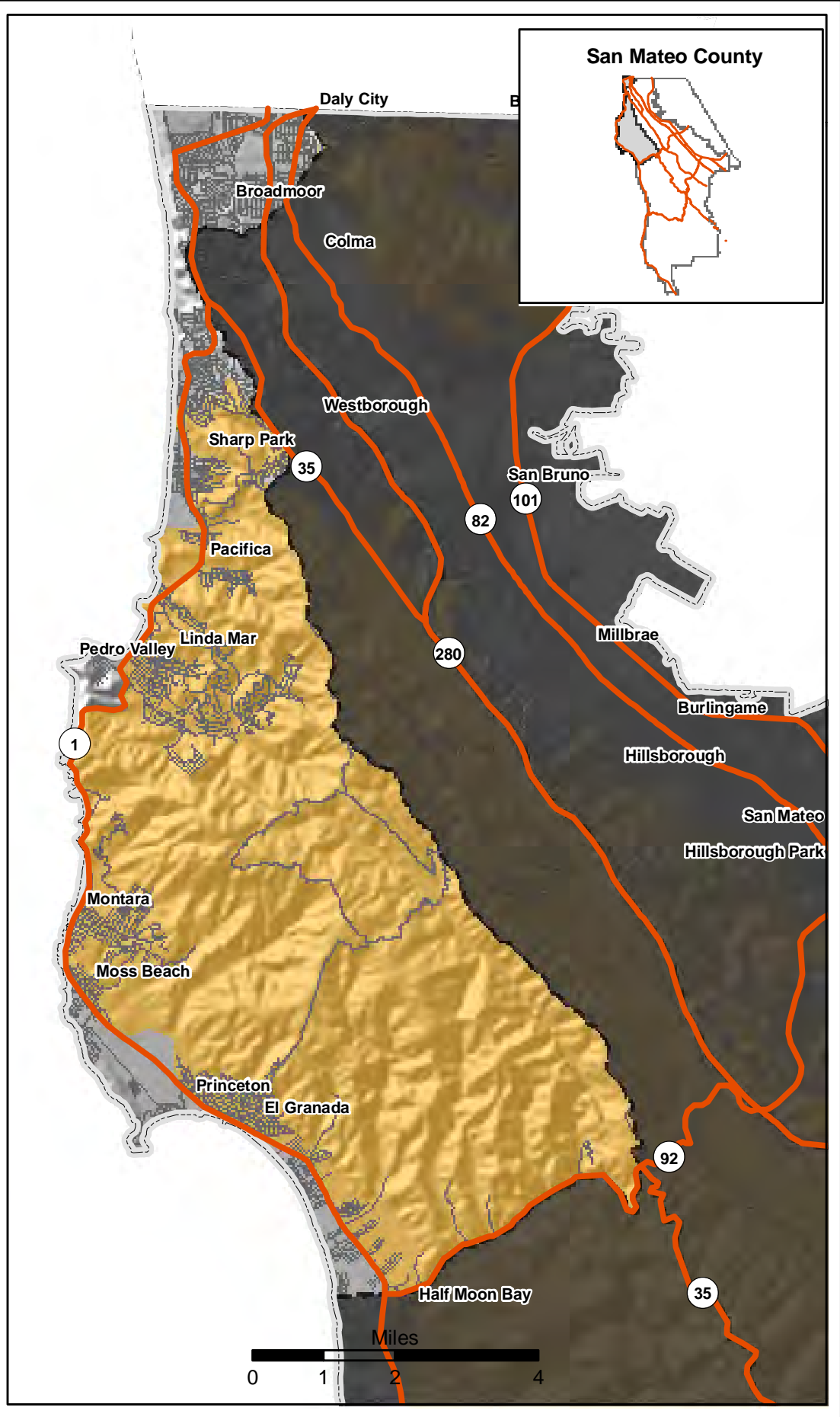
Wildland Urban Interface



Non-WUI



County Boundary



The following fire protection agencies have jurisdiction within the planning area:

- Santa Mateo County Fire / CAL FIRE
- Coastside Fire Protection District
- North County Fire Authority
- Colma Fire Protection District
- Daly City Fire Department

The following volunteer companies respond to emergencies within the planning area:

- Coastside Fire Protection District Volunteer Division

Other agencies with large properties within the planning area include:

- California Department of Parks and Recreation
- San Mateo County Parks
- National Park Service
- North Coast County Water District
- City/County Lands
- San Francisco Water Department
- Midpeninsula Regional Open Space District
- Peninsula Open Space Trust

Additional landowners within the planning area include:

- Private residences
- Undeveloped private ownerships
- Ranchland
- Agriculture
- Ox Mountain Dump
- Pilarcitos Quarry
- Skylawn Cemetary

## **Assets at Risk – As identified through stakeholder meetings**

### Communities/Neighborhoods

- Life and property are always considered the dominant asset at risk.
- The areas outside of Half Moon Bay, El Granada, Princeton, Miramar, Moss Beach, and Montara.

### Other – Non-environmental

- Equestrian Facilities
- Communications Facility
- PG&E transmission lines

### Environmental

- Protection of Open Space and Parkland (all agencies)
- Watershed Protection
- Wildlife

## **Project Priority**

In addition to those areas identified above, more specific HIGH priority areas were identified at public and agency meetings. Those areas have been highlighted in “Green” on the following map. Those areas not currently identified as HIGH priority on the map should still be considered priority areas in terms of recommendations proposed by this plan. The Highlighted areas are those areas stakeholders consider the priority areas for fuel reduction projects.

## **The following agency/group/person has submitted a project proposal for this planning area:**

The San Mateo County Coastside Large Animal Evac Unit (CLAEvac).

# San Mateo County CWPP

San Mateo North - Coastal

Project Priority Area Map

2010



San Mateo North Coastal CWPP Planning Area



Adjacent Planning Areas



Roads

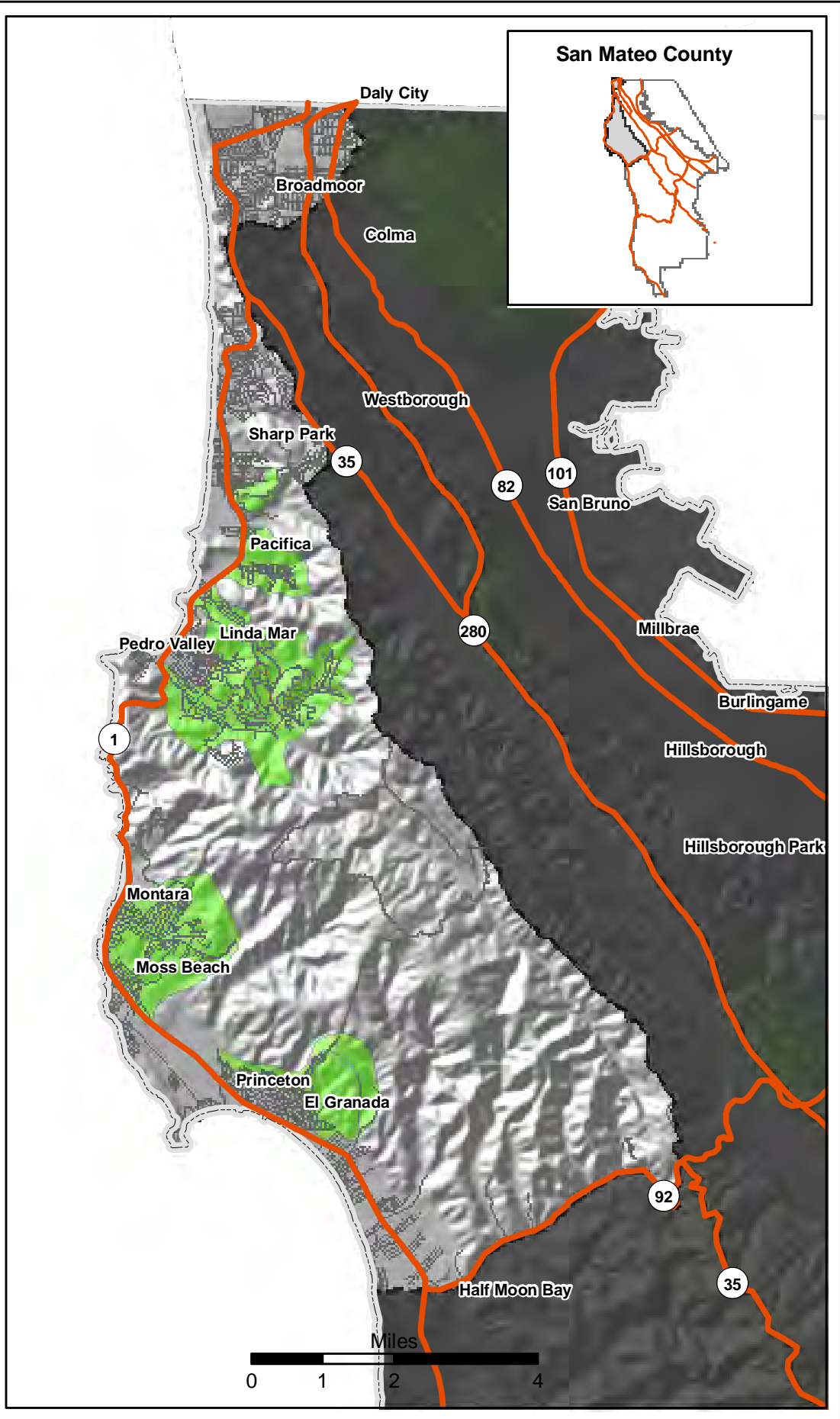
High Priority Area



Lower Priority



County Boundary





# San Mateo County CWPP

San Mateo North - Coastal

Fuel Rank Hazard

2010



San Mateo North Coastal CWPP Planning Area



Adjacent Planning Areas

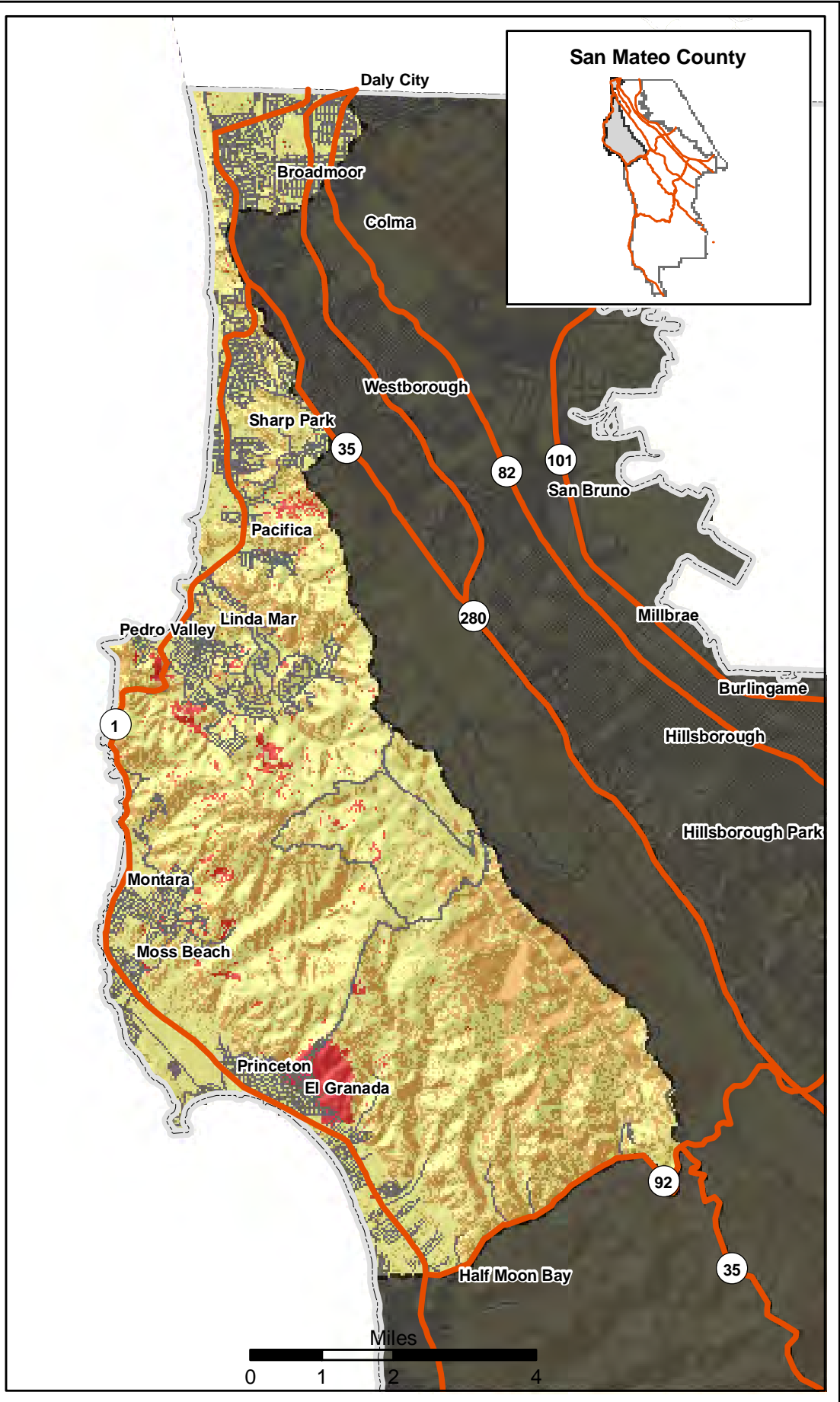


Roads

County Boundary

**Fuel Rank Hazard**

- Moderate
- High
- Very High



# San Mateo Bayside

The San Mateo Bayside planning area covers all areas in San Mateo County east of the Hwy 280 corridor. The communities east of the hwy 280 corridor are moderately to heavily developed. The WUI extends east from Hwy 280 in the hills, but then becomes increasingly more urban near Hwy 82 (El Camino Real). With the exception of the San Bruno Mountain, most of the area east of Hwy 82 is urbanized and not considered WUI. There are no documented major wildfires in the majority of the Bayside planning area. San Bruno Mountain has a history of 100 plus acre wildfire activity, the most recent in 2008.

# San Mateo County CWPP

San Mateo Bayside  
Wildland Urban Interface Area  
2010



San Mateo Bayside  
CWPP Planning Area



Adjacent Planning Areas



Roads

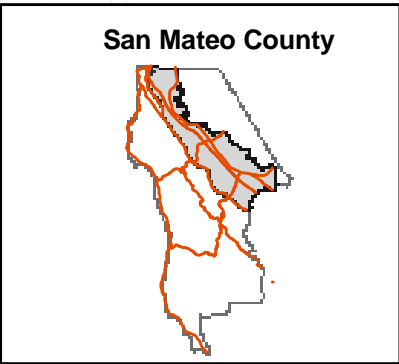
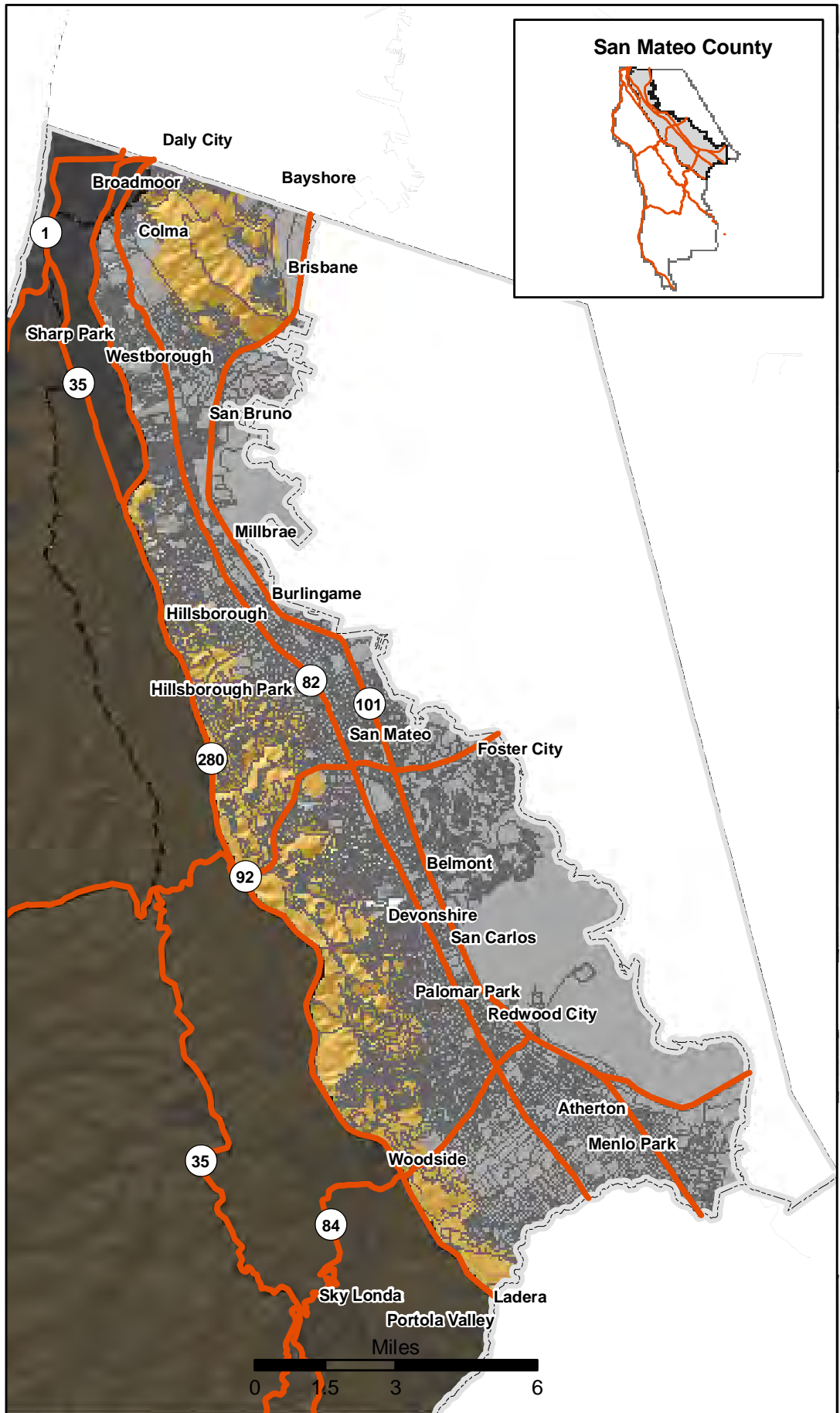
Wildland Urban Interface



Non-WUI



County Boundary



The following fire protection agencies have jurisdiction within the planning area:

- Santa Mateo County Fire / CAL FIRE
- Redwood City Fire Department
- North County Fire Authority
- San Bruno Fire Department
- Central County Fire Protection District
- Daly City Fire Department
- San Mateo City Fire Department
- Belmont – San Carlos Fire Department
- Menlo Park Fire Department

The following volunteer companies respond to emergencies within the planning area:

- Unknown

Other agencies with large properties within the planning area include:

- California Department of Parks and Recreation
- San Mateo County Parks
- Department of Defense
- National Park Service
- San Francisco Water Department
- Midpeninsula Regional Open Space District
- City/County Lands

Additional landowners within the planning area include:

- Private residences
- Undeveloped private ownerships

**Assets at Risk – As identified through stakeholder meetings**

#### Communities/Neighborhoods/Cities/Towns

- Life and property are always considered the dominant asset at risk.
- Hillsborough
- Eaton Park
- Devonshire Canyon
- Emerald Hills
- Big Canyon Open Space Park
- Water Dog Lake in Belmont
- San Juan Canyon in Belmont
- Palomar Park

#### Environmental

- Watershed Protection
- Protection of Openspace Parkland (all agencies)

#### **Project Priority**

In addition to those areas identified above, more specific HIGH priority areas were identified at public and agency meetings. Those areas have been highlighted in “Green” on the following map. Those areas not currently identified as HIGH priority on the map should still be considered priority areas in terms of recommendations proposed by this plan. The Highlighted areas are those areas stakeholders consider the priority areas for fuel reduction projects.

**The following agency/group/person has submitted a project proposal for this planning area:**

Highlands Recreation District

# San Mateo County CWPP

San Mateo Bayside  
Project Priority Area Map  
2010



San Mateo Bayside  
CWPP Planning Area



Adjacent Planning Areas



Roads

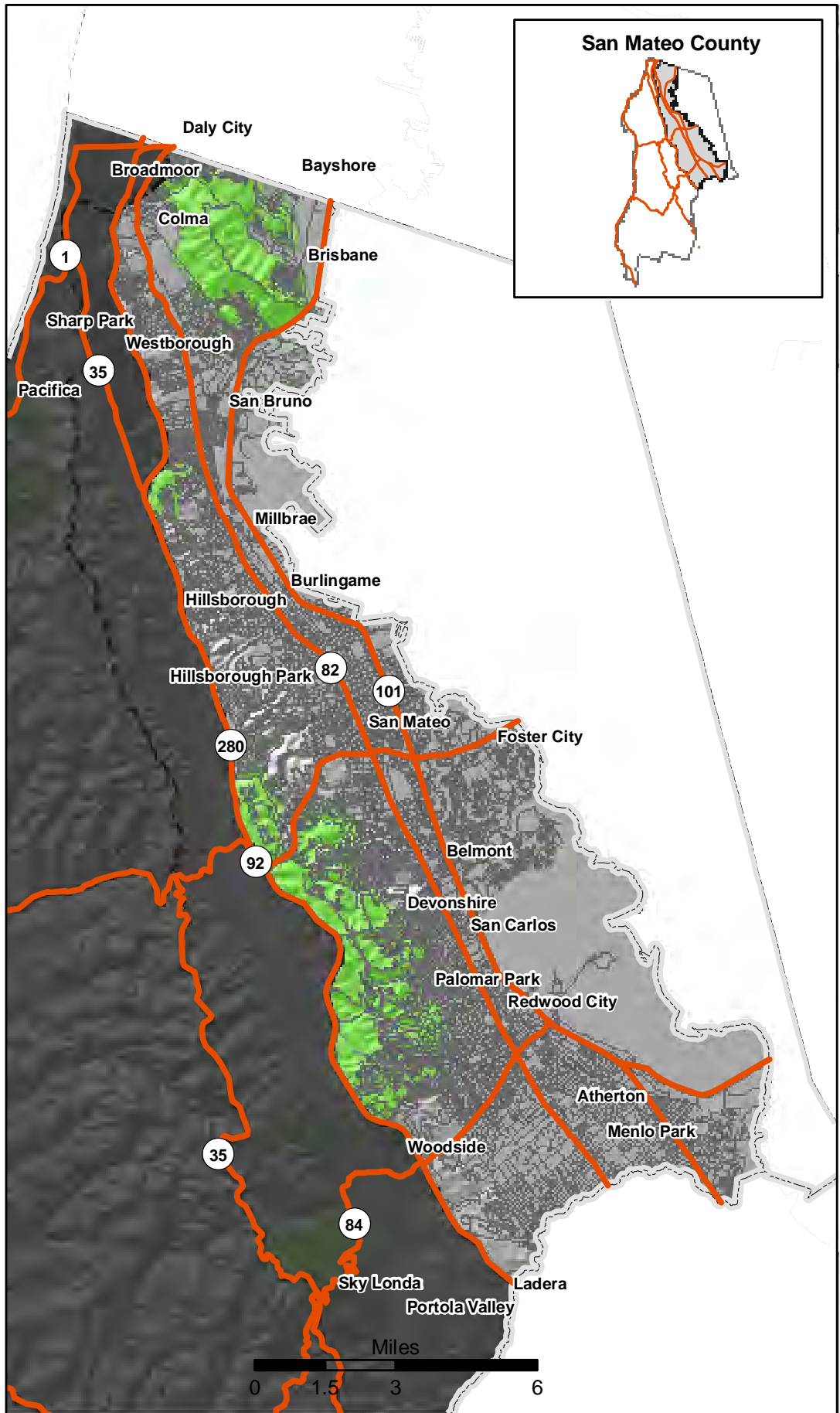
High Priority Area



Lower Priority



County Boundary



# Santa Mateo County CWPP

San Mateo Bayside

Fuel Rank Hazard

2010



San Mateo Bayside  
CWPP Planning Area



Adjacent Planning Areas



Roads

County Boundary

### Fuel Rank Hazard

Moderate

High

Very High



# San Mateo Central - Coastal

The San Mateo Central – Coastal planning area covers the central portion of San Mateo County from Highway 84 and La Honda north to Highway 92. The western boundary of the planning area is the coast and the east boundary is Hwy 35.

With the exception of the City of Half Moon Bay area, this planning area is primarily undeveloped wildland. The vast majority of the area is considered WUI. There are small enclaves such as La Honda as well as individual residences throughout the planning area. The only large scale development occurs in Half Moon Bay. Much of this planning area is parkland, timberland and undeveloped wildland. Major roadways include Hwy 1 on the coast, Hwy 84 and 92 connecting the interior with the coast, and Hwy 35 on the summit. The interior is bisected by private and county maintained roads, including truck trails. Fuel types within the planning area are primarily composed of conifer forests, coastal chaparral, hardwoods, and grasslands.

With the exception of an approximately 1,300 acre fire in the Skylonda area in 1962, there is no significant documented recent fire history within this planning area. There have been reports of large wildland fires occurring prior to 1960, however, accurate locations have not been identified.

High priority areas identified through stakeholder and public meetings include the community of La Honda and Hwy 35 corridor.



# San Mateo County CWPP

San Mateo Central - Coastal  
Wildland Urban Interface Area  
2010



San Mateo Central  
Coastal  
CWPP Planning Area



Adjacent Planning Areas



Roads

Wildland Urban Interface



Non-WUI



County Boundary



The following fire protection agencies have jurisdiction within the planning area:

- San Mateo County Fire / CAL FIRE
- Coastside Fire Protection District

The following volunteer companies respond to emergencies within the planning area:

- La Honda Volunteer Fire Brigade
- Kings Mountain Volunteer Fire Brigade

Other agencies with large properties within this planning area include:

- California Department of Parks and Recreation
- San Mateo County Parks
- Midpeninsula Regional Open Space District
- Peninsula Open Space Trust
- San Francisco Water Department

Additional landowners within the planning area include:

- Private residences
- Managed Timberland
- Undeveloped private ownerships
- Ranchland
- Agriculture

### **Assets at Risk – As identified through stakeholder meetings**

#### Communities/Neighborhoods

- Life and property are always considered the dominant asset at risk.
- Half Moon Bay
- San Gregorio
- La Honda

- Skylonda
- Rapley Ranch – Langley Hill Quarry Roads

#### Other – Non-environmental

- Rural Schools
- Medical Facilities
- Water Supply
- Communications Facilities
  - FAA
  - CHP
  - County
- Equestrian Facilities

#### Environmental

- Protection of Open Space and Parkland (all agencies)
- Protection of Watershed

#### **Project Priority**

In addition to those areas identified above, more specific HIGH priority areas were identified at public and agency meetings. Those areas have been highlighted in “Green” on the following map. Those areas not currently identified as HIGH priority on the map should still be considered priority areas in terms of recommendations proposed by this plan. The Highlighted areas are those areas stakeholders consider the priority areas for fuel reduction projects.

# San Mateo County CWPP

San Mateo Central - Coastal

Project Priority Area Map

2010



San Mateo Central Coastal CWPP Planning Area



Adjacent Planning Areas



Roads



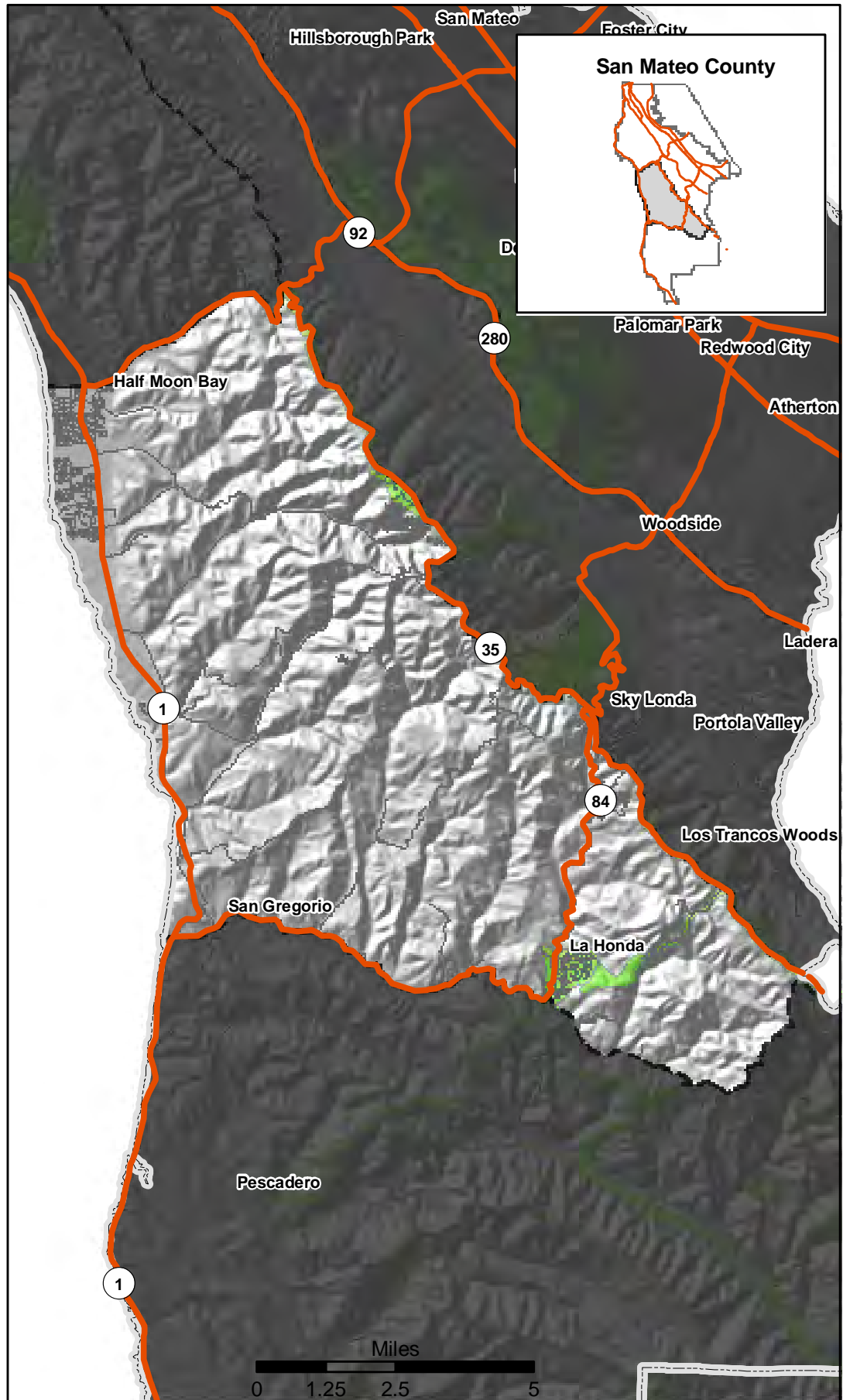
High Priority Area



Lower Priority



County Boundary



# San Mateo County CWPP

San Mateo Central - Coastal

Fuel Rank Hazard

2010



San Mateo Central Coastal  
CWPP Planning Area



Adjacent Planning Areas



Roads

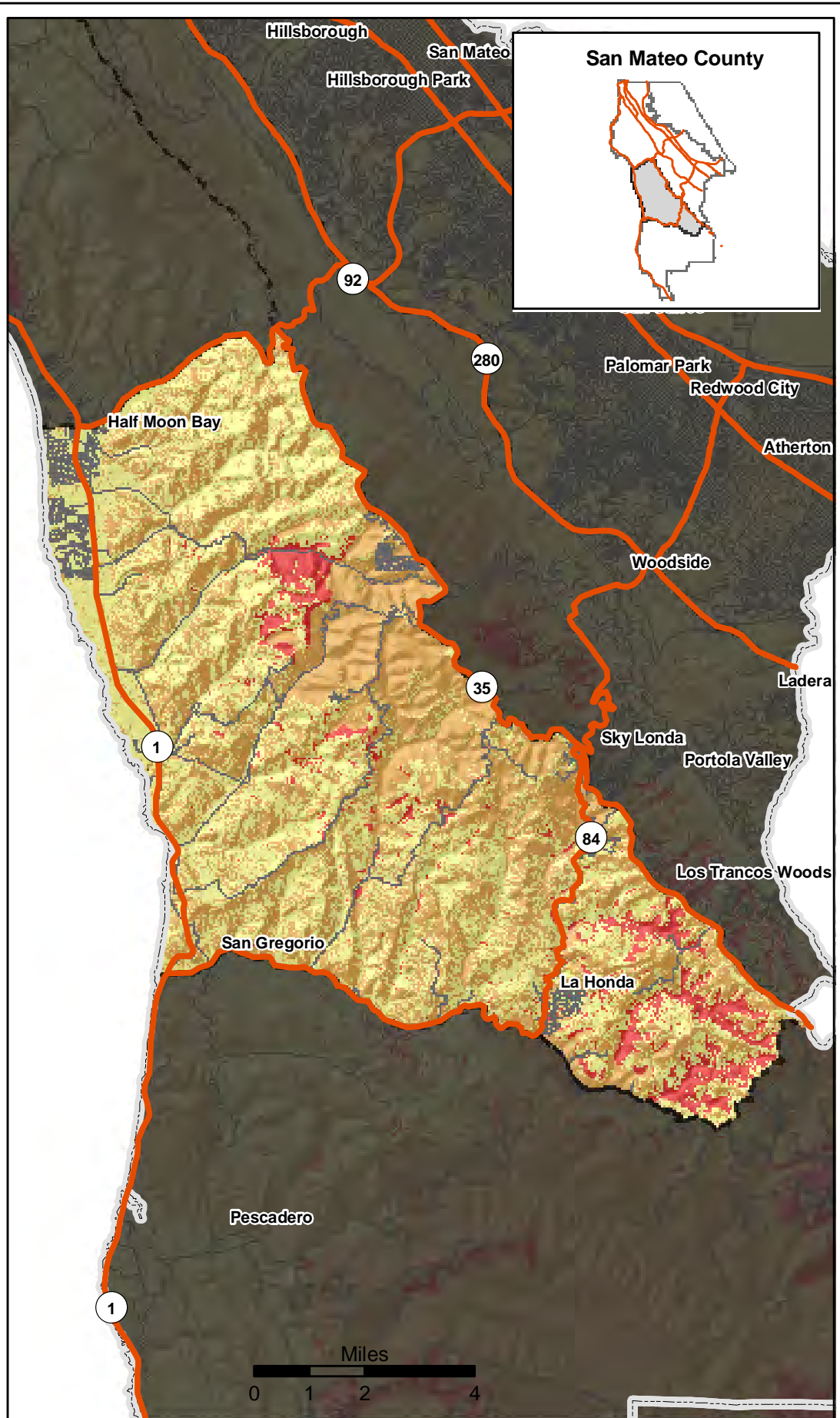
County Boundary

### Fuel Rank Hazard

Moderate

High

Very High



# San Mateo Interior

The San Mateo Interior planning area covers the interior section of San Mateo County between Hwy 35 and Hwy 280. The southern boundary of this planning area is south of Hwy 84, near the community of Los Trancos. The northern boundary reaches the Broadmoor area.

There are no major urban cities within this planning area; however there are larger communities well within the WUI. These are mostly found in the southern part of the planning area.

The most recent major fire documented is the Leib Fire in 1962. This fire burned approximately 1300 acres in the Skylonda area.

# San Mateo County CWPP

San Mateo Interior  
Wildland Urban Interface Area  
2010



San Mateo Interior  
CWPP Planning Area



Adjacent Planning Areas



Roads

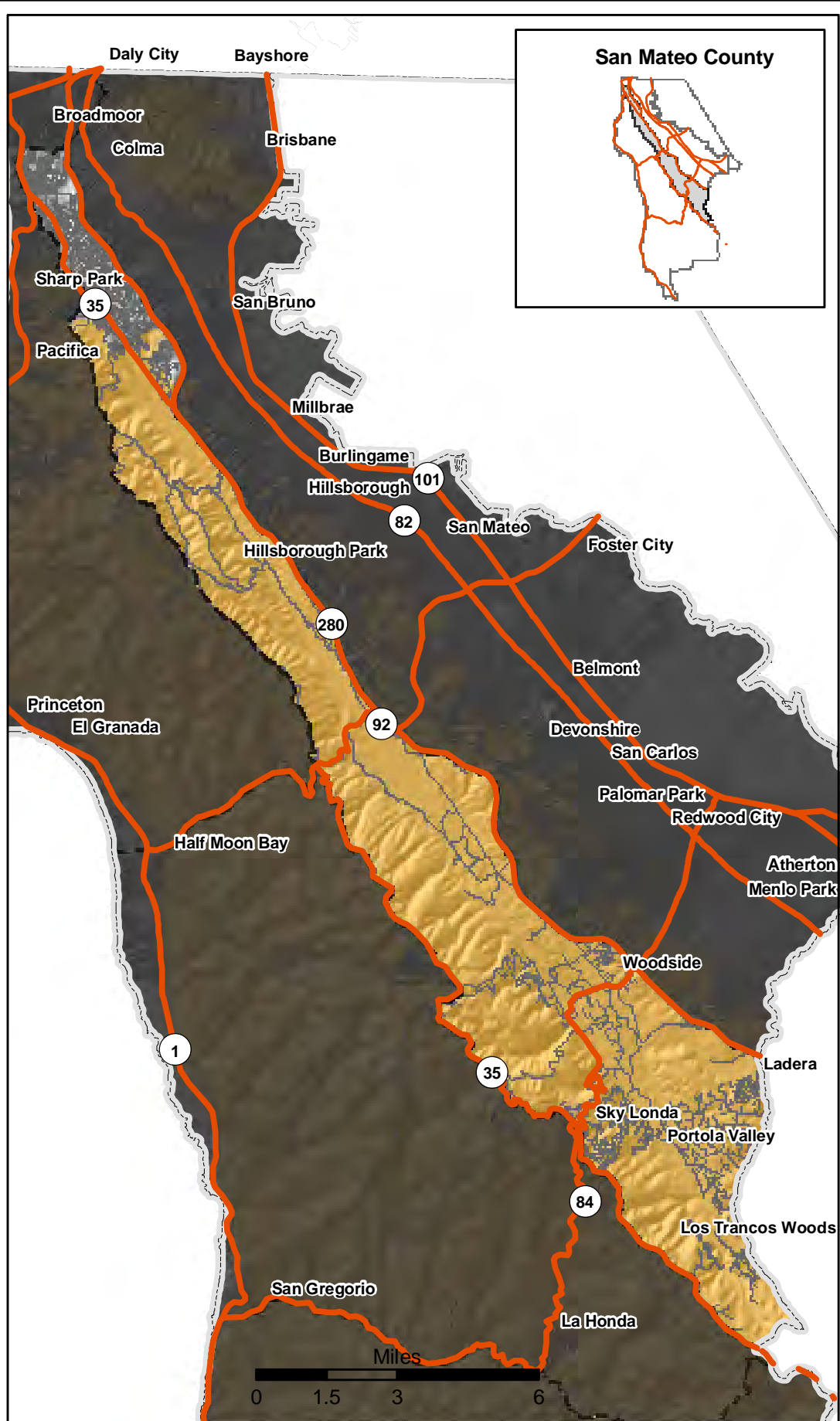
Wildland Urban Interface



Non-WUI



County Boundary



The following fire protection agencies have jurisdiction within the planning area:

- Santa Mateo County Fire / CAL FIRE
- Woodside Fire Protection District
- North County Fire Authority
- San Bruno Fire Department

The following volunteer companies respond to emergencies within the planning area:

- Kings Mountain Volunteer Fire Brigade

Other agencies with large properties within the planning area include:

- California Department of Parks and Recreation
- San Mateo County Parks
- National Park Service
- San Francisco Water Department
- California Water Service
- Midpeninsula Regional Open Space District
- City/County Lands –
- Golden Gate National Recreational Area – Filoli Center

Additional landowners within the planning area include:

- Private residences
- Undeveloped private ownerships
- Timberland

### **Assets at Risk – As identified through stakeholder meetings**

Communities/Neighborhoods

- Life and property are always considered the dominant asset at risk.
- Woodside



- Portola Valley
- Skylonda
- Ladera
- Los Trancos Woods
- Vista Verde
- Rocky Creek – Heacocks – Crazy Pete’s Roads Community

Other – Non-environmental

- Equestrian Facilities
- Vineyards/wineries

Environmental

- Watershed Protection
- Protection of Openspace and Parkland (all agencies)
- Jasper Ridge Biological Preserve
- Wildlife

**Project Priority**

In addition to those areas identified above, more specific HIGH priority areas were identified at public and agency meetings. Those areas have been highlighted in “Green” on the following map. Those areas not currently identified as HIGH priority on the map should still be considered priority areas in terms of recommendations proposed by this plan. The Highlighted areas are those areas stakeholders consider the priority areas for fuel reduction projects.

# San Mateo County CWPP

San Mateo Interior  
Project Priority Area Map  
2010



San Mateo Interior  
CWPP Planning Area



Adjacent Planning Areas



Roads

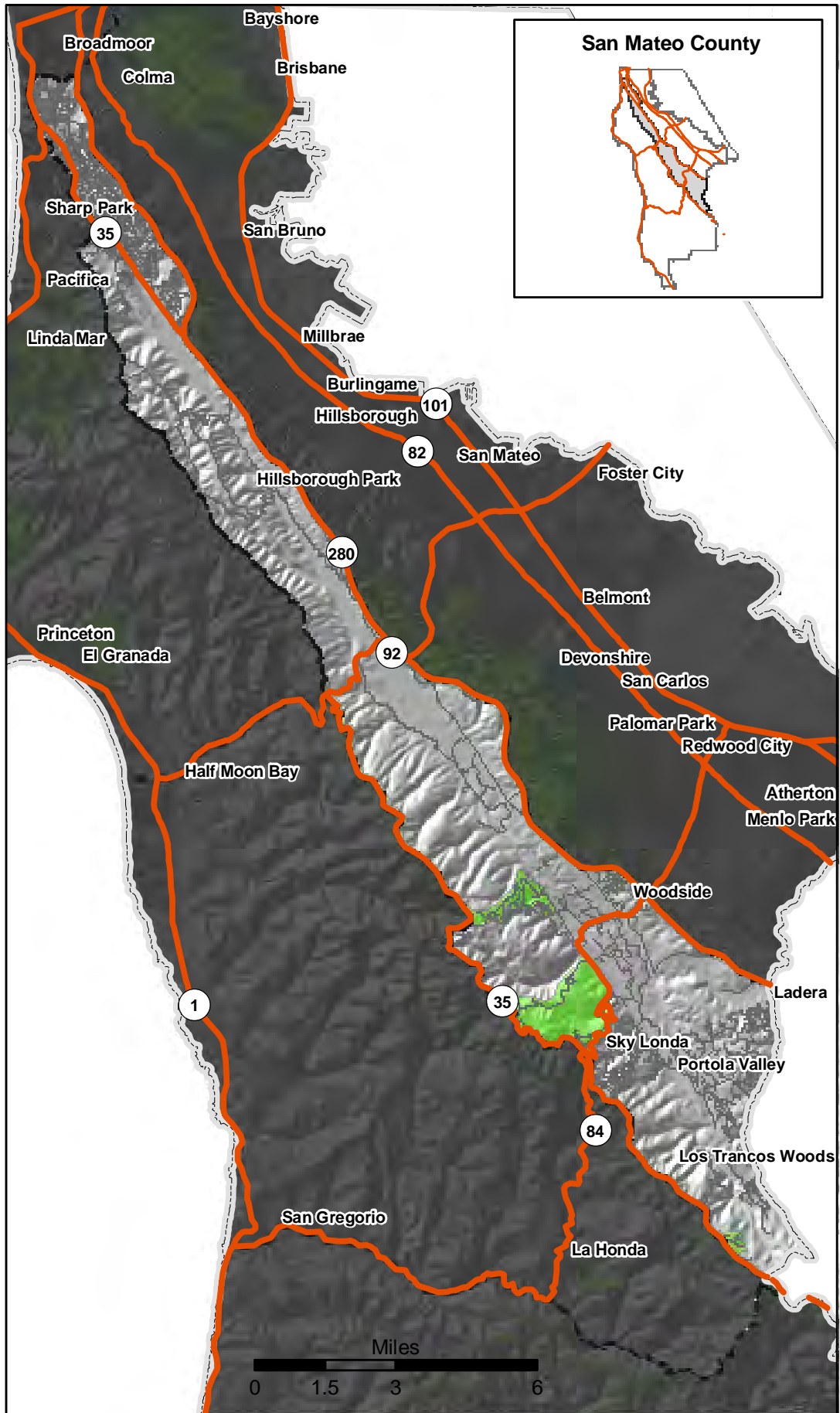
High Priority Area



Lower Priority



County Boundary



# Santa Mateo County CWPP

San Mateo Interior  
Fuel Rank Hazard

2010



San Mateo Interior  
CWPP Planning Area



Adjacent Planning Areas

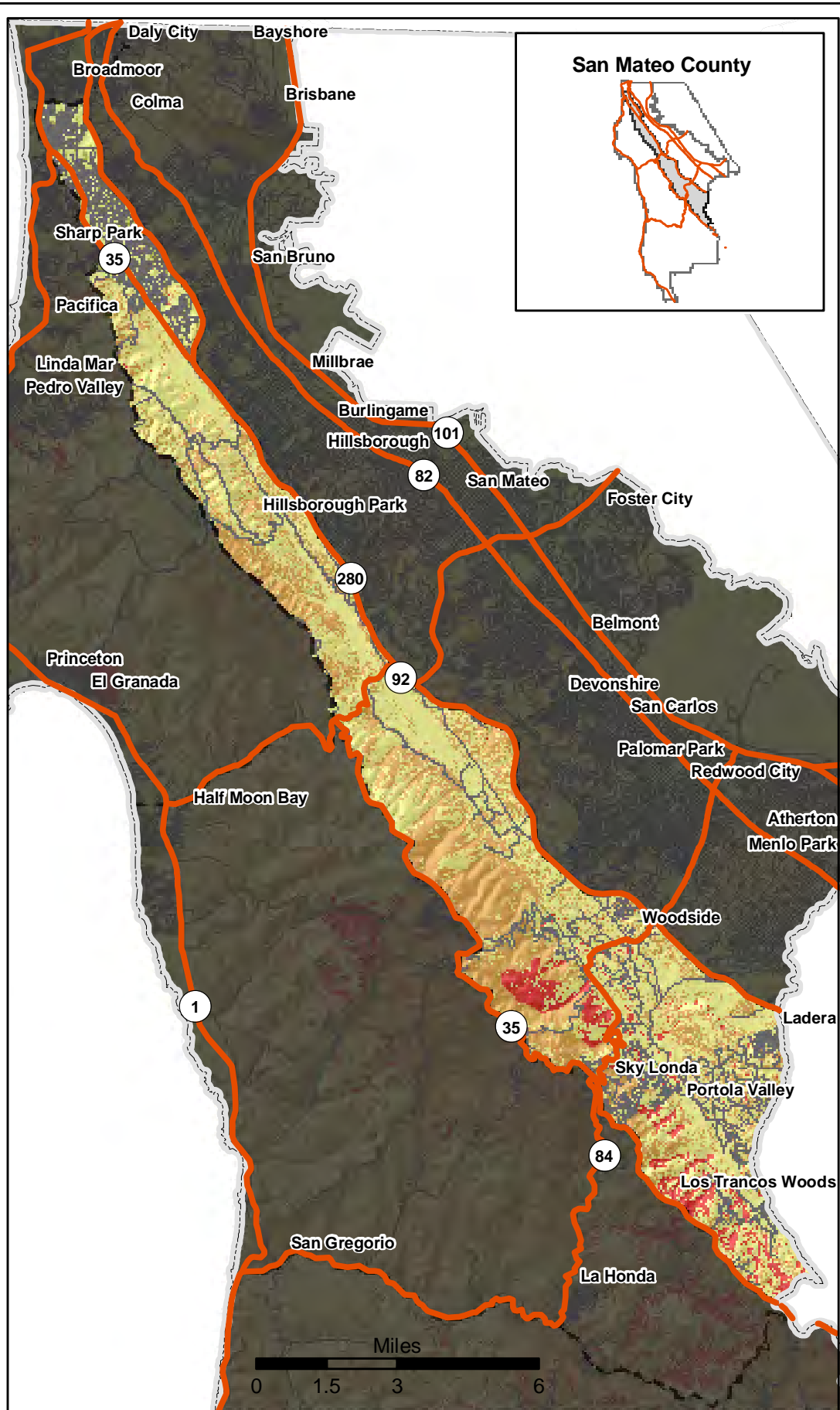


Roads

County Boundary

### Fuel Rank Hazard

- Moderate
- High
- Very High



# San Mateo South

The Mateo South planning area covers the southern portion of San Mateo County from the Santa Cruz County line north to Hwy 84. The western boundary of the planning area is the coast and the east boundary is Hwy 35.

There are no major urban centers within this planning area, however there are communities as well as numerous residences and infrastructure found throughout. The entire planning area is classified as WUI, except for the areas west of Hwy 1. The greatest amount of development occurs in the communities of La Honda , Pescadero, Loma Mar, and adjacent the Hwy 35 Corridor. Much of this planning area is parkland, timberland and undeveloped wildland. Major roadways include Hwy 1 on the coast and Hwy 35 on the summit, Hwy 84 and Pescadero Road. The interior is bisected by county maintained roads and historic truck trails.

The most recent significant fire history was in 1962 when two fires totaling 3,200 and 240 acres occurred near the southern county line.

Fuel types within the planning area primarily composed of conifer forests in the interior. The western, coastal areas have more grasslands and hardwoods.

# San Mateo County CWPP

San Mateo South  
Wildland Urban Interface Area  
2010



San Mateo South  
CWPP Planning Area



Adjacent Planning Areas



Roads

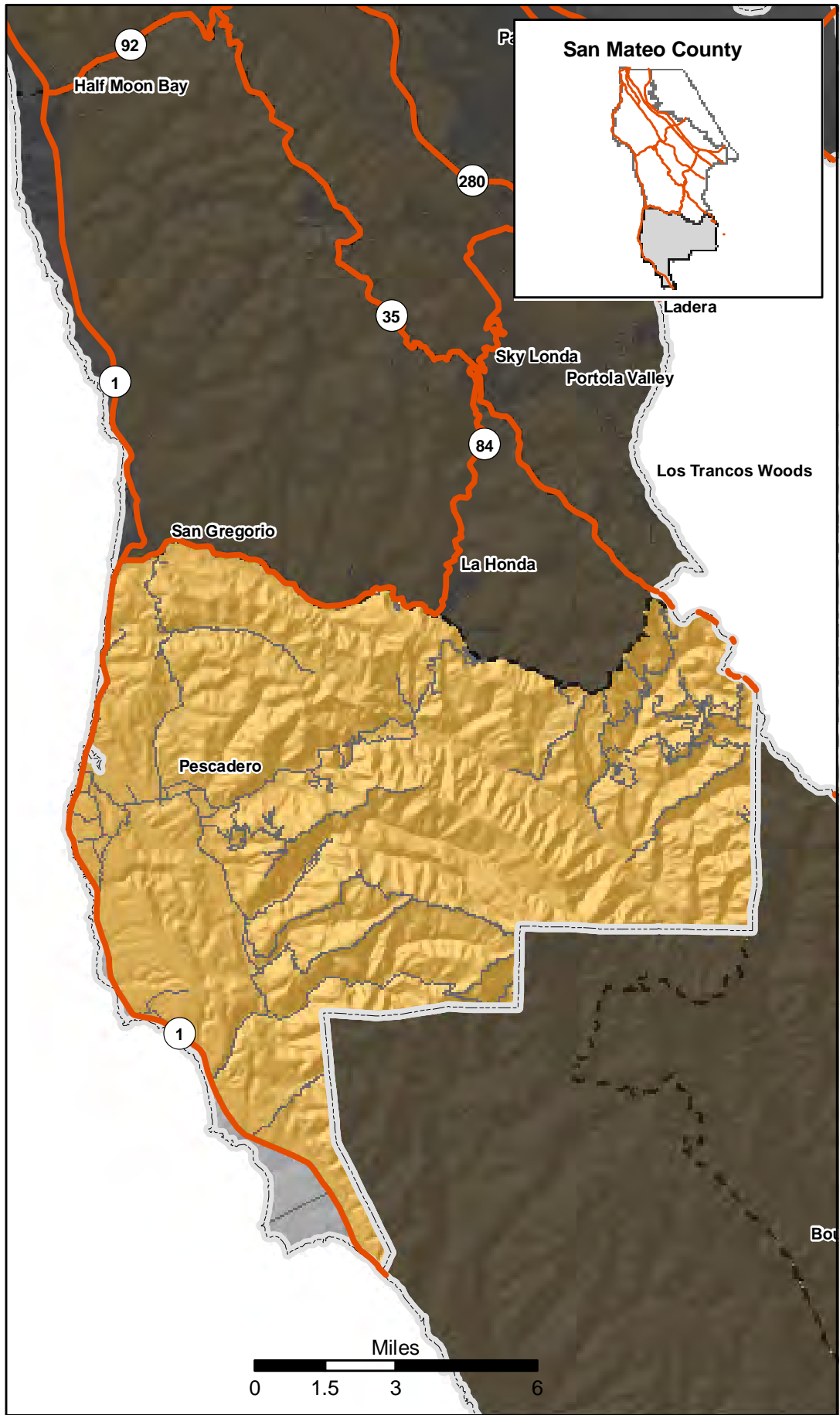
Wildland Urban Interface



Non-WUI



County Boundary



The following fire protection agencies have jurisdiction within the planning area:

- Santa Mateo County Fire / CAL FIRE

The following volunteer companies respond to emergencies within the planning area:

- La Honda Fire Brigade
- Loma Mar Fire Brigade

Other agencies with large properties within the planning area include:

- California Department of Parks and Recreation
- San Mateo County Parks
- Department of Defense
- Bureau of Land Management
- Midpeninsula Regional Open Space District
- Peninsula Open Space Trust
- National Audubon Society
- YMCA – San Francisco/Oakland
- San Francisco Bay Youth Authority
- Cuesta La Honda Guild
- Sempervirens Fund

Additional landowners within the planning area include:

- Private residences
- Managed Timberland
- Undeveloped private ownerships
- Ranchland
- Agriculture
- Vineyards/wineries

**Assets at Risk – As identified through stakeholder meetings**

### Communities/Neighborhoods

- Life and property are always considered the dominant asset at risk.
- Whitehouse Canyon
- Ranch Road
- Butano Canyon
- Ranch Road
- Middleton Tract
- Portola Heights
- Cuesta Subdivision
- Dearborn Park
- Portola Heights
- Redwood Terrace
- Alpine Creek Tract
- La Honda/Redwood Properties
- Guthrie Subdivision

### Other – Non-environmental

- Girls and Boy Scout Camps
- YMCA
- San Mateo County Honor Farm
- Juvenile Correctional Facilities
- Communications

### Environmental

- Protection of Parkland (all agencies)
- Watershed Protection
- Managed timberland
- Wildlife

**Project Priority**

In addition to those areas identified above, more specific HIGH priority areas were identified at public and agency meetings. Those areas have been highlighted in “Green” on the following map. Those areas not currently identified as HIGH priority on the map should still be considered priority areas in terms of recommendations proposed by this plan. The Highlighted areas are those areas stakeholders consider the priority areas for fuel reduction projects.

**The following agency/group/person has submitted a project proposal for this planning area:**

- Steve Nichols



# San Mateo County CWPP

San Mateo South  
Project Priority Area Map  
2010



San Mateo South  
CWPP Planning Area



Adjacent Planning Areas



Roads

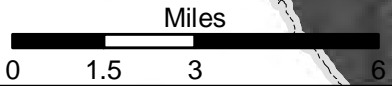
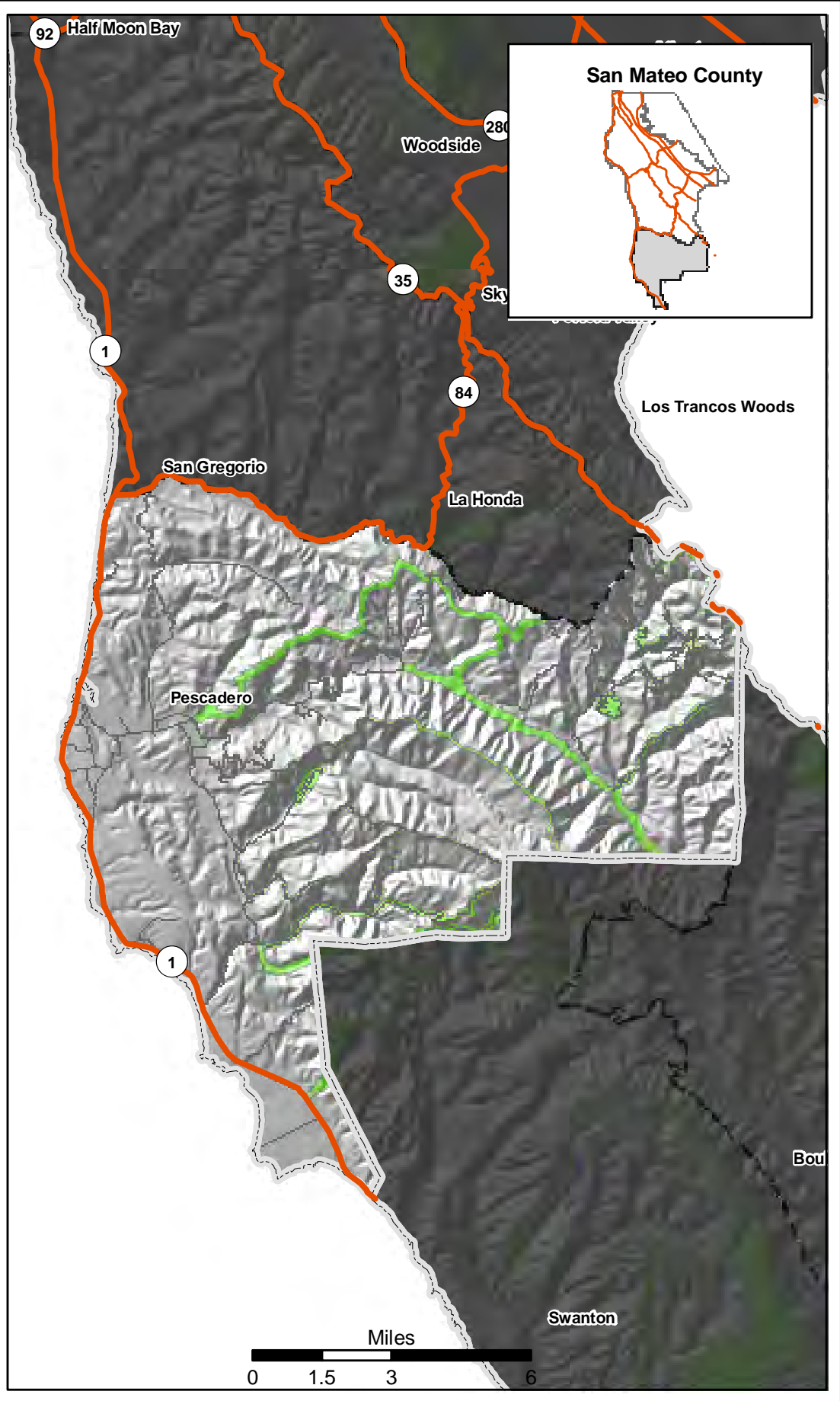
High Priority Area



Lower Priority



County Boundary



# Santa Mateo County CWPP

San Mateo South  
Fuel Rank Hazard  
2010



San Mateo South  
CWPP Planning Area



Adjacent Planning Areas

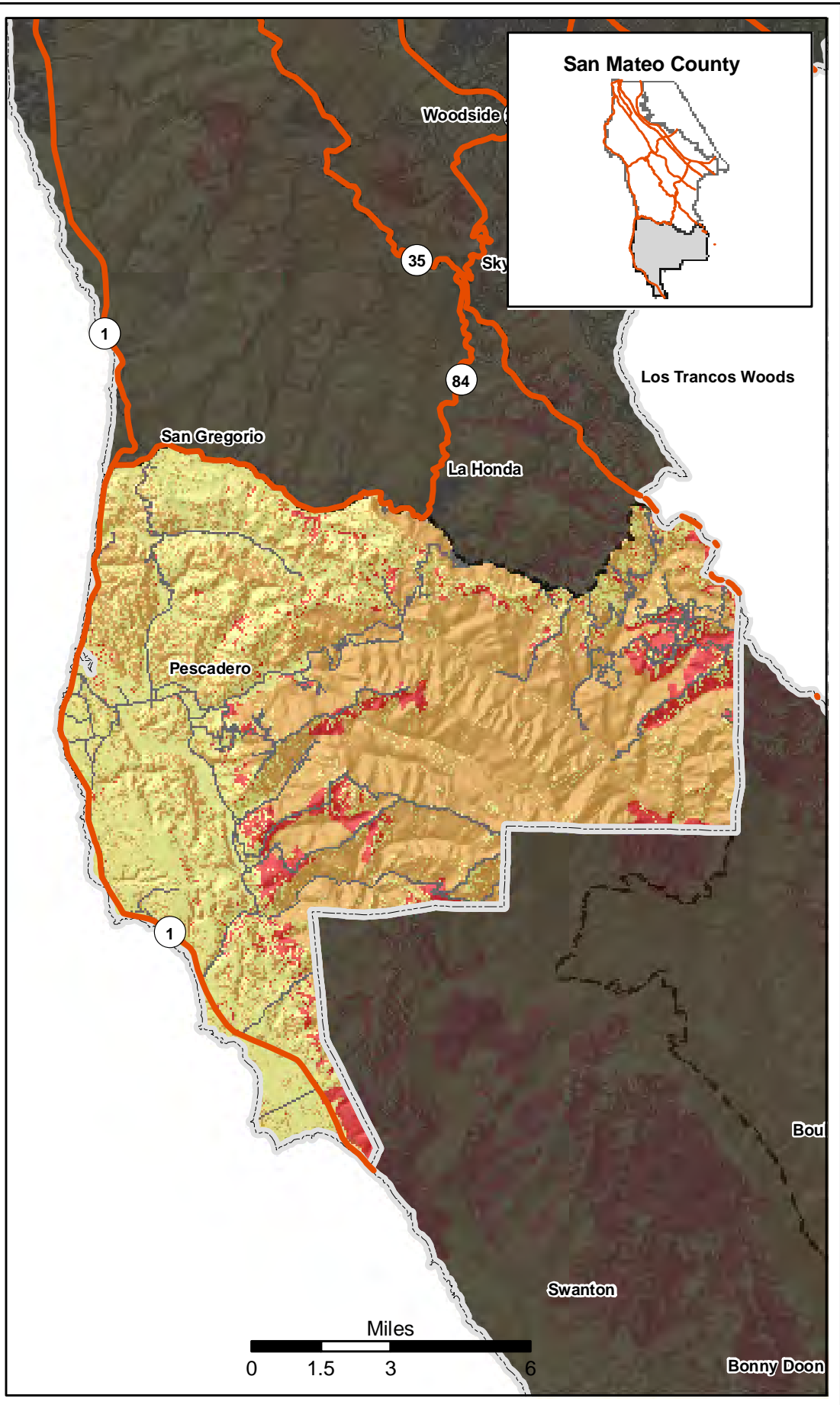


Roads

County Boundary

### Fuel Rank Hazard

- Moderate
- High
- Very High



# **Santa Cruz North – Interior**

The Santa Cruz North – Interior planning area includes the area commonly referred to as the San Lorenzo Valley. The greatest amount of development occurs in the communities of Boulder Creek, Ben Lomond and Felton. There is also considerable development in the communities of Zayante and Lompico. Outside of the urbanized areas, there are a considerable amount of homes within the WUI. Indian Trails, Las Cumbres, Deer Creek and homes along the Hwy 35 corridor also account for a large number of homes in the WUI. Major roadways found in the planning areas include Hwy 9, bisecting the planning area, Hwy 236 in the northwest, and Hwy 35, separating the planning area with Santa Clara County.

There were fires in the Newell Creek watershed during the 1950's and 1960's burning more than 1400 acres. In 2008 a 20 acre, difficult to access fire, occurred within the Castle Rock State Park.

# Santa Cruz County CWPP

Santa Cruz North Interior  
Wildland Urban Interface Area  
2010



Santa Cruz North Interior  
CWPP Planning Area



Adjacent Planning Areas



Roads

Wildland Urban Interface



Non-WUI



County Boundary



The following fire protection agencies have jurisdiction within the planning area:

- Santa Cruz County Fire
- CAL FIRE
- Ben Lomond Fire Protection District
- Boulder Creek Fire Protection District
- Felton Fire Protection District
- Zayante Fire Protection District

The following volunteer companies respond to emergencies within the planning area:

- South Skyline

Other agencies with large properties within this planning area include:

- California Department of Parks and Recreation
- City of Santa Cruz Water Department
- San Lorenzo Valley Water Department
- Big Basin Water Department

Additional landowners within the planning area include:

- Private residences
- Managed Timberland
- Undeveloped private ownerships

### **Assets at Risk – As identified through stakeholder meetings**

Communities/Neighborhoods

- Life and property are always considered the dominant asset at risk.
- Braemoor

- Indian Trails
- Las Cumbres
- Boulder Creek
- Ben Lomond
- Zayante
- Lompico Canyon
- Empire Grade Corridor
- Deer Creek
- Bear Creek Canyon
- Whalebone Gulch
- Harmon Gulch
- Mt. Hermon
- Oak Ridge

Other – Non-environmental

- Communication Facilities
- Corporate Retreat Centers
- Religious Retreat Centers
- Schools
- Transmission Lines
- Fire Stations
- Agricultural businesses
- Youth Camps

Environmental

- Protection of Open space and Parkland (all agencies)
- Watershed Protection
  - Lexington Dam

- Managed timberland
- Wildlife

### **Project Priority**

In addition to those areas identified above, more specific HIGH priority areas were identified at public and agency meetings. Those areas have been highlighted in “Green” on the following map. Those areas not currently identified as HIGH priority on the map should still be considered priority areas in terms of recommendations proposed by this plan. The Highlighted areas are those areas stakeholders consider the priority areas for fuel reduction projects.

# Santa Cruz County CWPP

Santa Cruz North - Interior  
Priority Project Area Map  
2010



Santa Cruz North  
Interior  
CWPP Planning Area



Adjacent Planning Areas



Roads

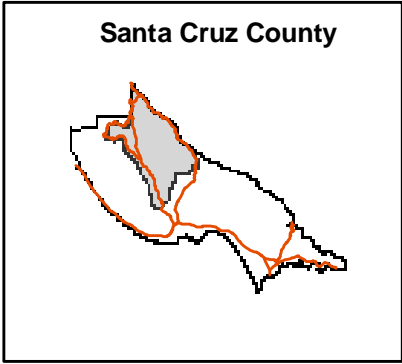
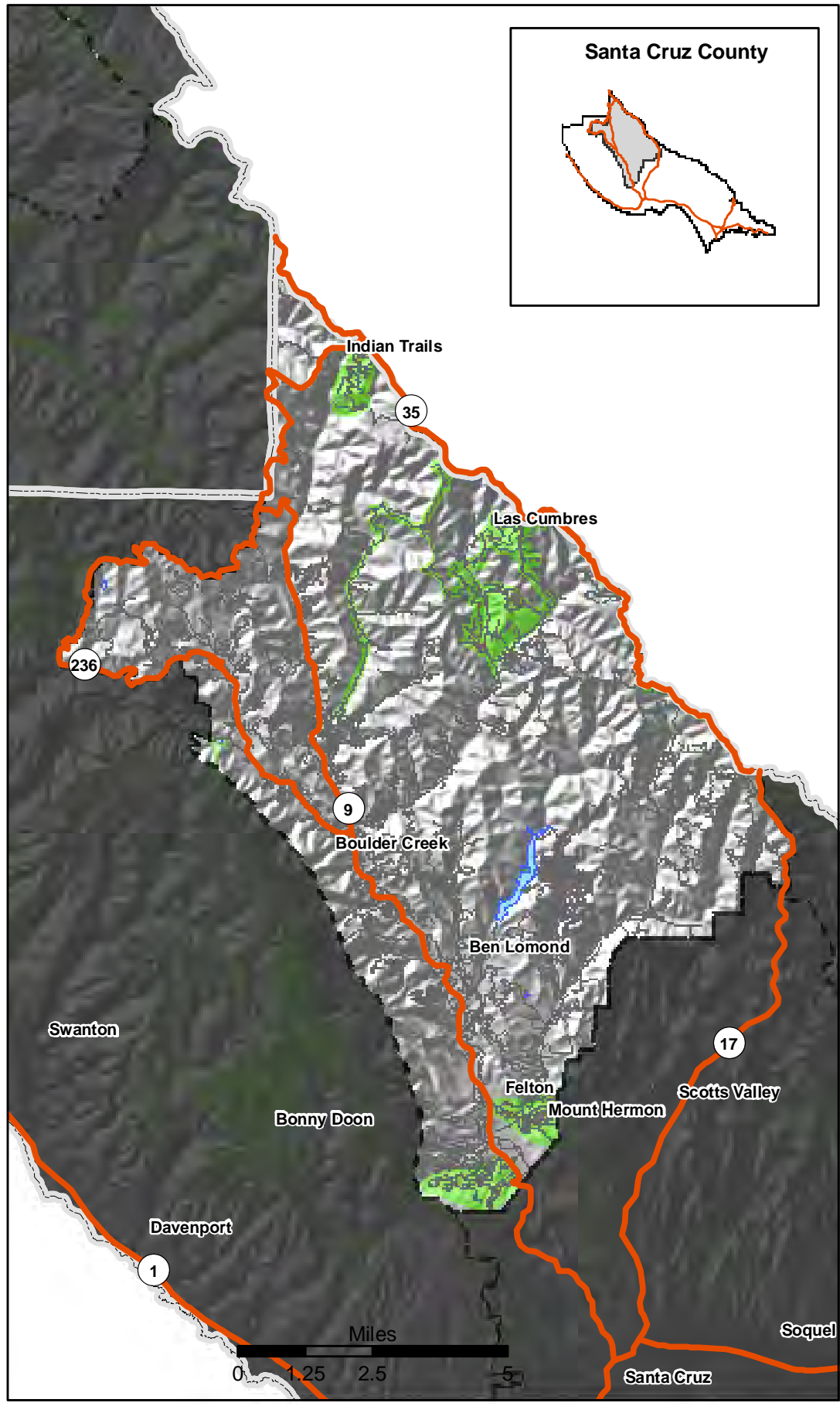
High Priority Area



Lower Priority



County Boundary





# Santa Cruz County CWPP

Santa Cruz North - Interior

Fuel Rank Hazard

2010



Santa Cruz North Interior  
CWPP Planning Area



Adjacent Planning Areas



Roads

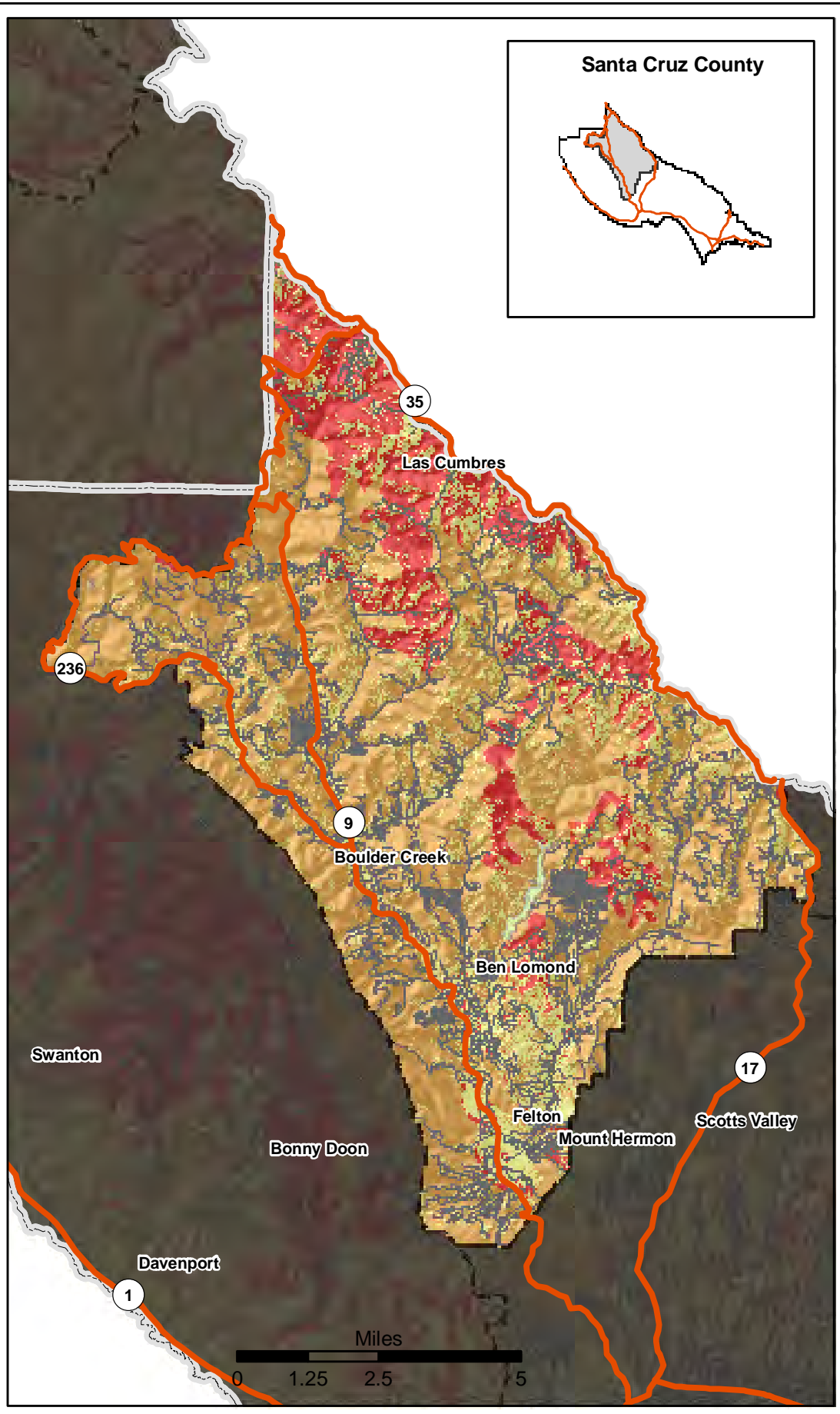
County Boundary

**Fuel Rank Hazard**

Moderate

High

Very High



# Santa Cruz North - Coastal

## **Planning Area Description**

The Santa Cruz North – Coastal planning area covers the area north from the Santa Cruz City limits to the San Mateo County line. The southeast border of the planning area follows the major ridgeline separating the San Lorenzo Valley with the coast. Although there are no major urban centers in this planning area, there are numerous homes found throughout. The greatest amount of development occurs in the communities of Bonny Doon, Davenport, and Swanton. Major roadways found in the planning areas include Hwy 1, North and South along the coast.

Recent significant fire history in this planning area includes the Martin Fire in 2008 and the Lockheed Fire in 2009. Prior to these fires, the only other fire of significance was the Pine Mountain Fire in 1948. State Parks have successfully completed prescribed burns in both Big Basin and Wilder Ranch State Parks.

# Santa Cruz County CWPP

Santa Cruz North Coastal  
Wildland Urban Interface Area  
2010



Santa Cruz North Coastal  
CWPP Planning Area



Adjacent Planning Areas



Roads

Wildland Urban Interface



Non-WUI



County Boundary



The following fire protection agencies have jurisdiction within the planning area:

- Santa Cruz County Fire
- CAL FIRE

The following volunteer fire companies respond to emergency incidents in the planning area:

- Bonny Doon Volunteers
- Davenport Volunteers

Other agencies with large properties within this planning area include:

- California Department of Parks and Recreation
- Santa Cruz County Parks
- Bureau of Land Management
- California Department of Fish and Game

Additional landowners within the planning area include:

- Private residences
- Managed Timberland
- Industrial Facilities
- Undeveloped private ownerships
- Ranchland
- Agriculture

### **Assets at Risk – As identified through stakeholder meetings**

Communities/Neighborhoods

- Life and property are always considered the dominant asset at risk.

- Bonny Doon
- Pine Ridge
- Ben Lomond Camp
- Davenport
- Swanton
- Lockheed area

Other – Non-environmental

- Transmission Lines
- PG&E substation
- Communications
- Religious/Spiritual
  - Bonny Doon Church
  - Lehi Mormon Camp
- Schools
  - Bonny Doon Elementary School
  - Waldorf School
  - Bosch Baha'i School
- Fire Stations
- Lockheed Martin Missile and Space Company Facilities
- Lost Weekend Tasting Room
- Summit Camp

Environmental

- Protection of Openspace and Parkland (all agencies)
  - State Parks
  - Bonny Doon Ecological Preserve
  - Coast Dairies Open Space Lands
- Watershed Protection

- City of Santa Cruz Water Supply
- Davenport Water Supply
- Big Basin Water Supply
- San Lorenzo Valley Water Supply
- Managed timberland
- Farmland/Agriculture
  - Granite Creek
  - Molino Creek Farm
  - Crest Christmas Tree Farm
  - Bonny Doon Farm
  -
- Wildlife
  - Big Creek Fish Hatchery

### **Project Priority**

In addition to those areas identified above, more specific HIGH priority areas were identified at public and agency meetings. Those areas have been highlighted in “Green” on the following map. Those areas not currently identified as HIGH priority on the map should still be considered priority areas in terms of recommendations proposed by this plan. The Highlighted areas are those areas stakeholders consider the priority areas for fuel reduction projects.

**The following agency/group/person has submitted a project proposal for this planning area:**

- Bonny Doon Fire Safe Council
- Big Creek Lumber Company
- Bonny Doon Community
- BLM

# Santa Cruz County CWPP

Santa Cruz North Coastal  
Priority Project Area Map  
2010



Santa Cruz North Coastal  
CWPP Planning Area



Adjacent Planning Areas



Roads

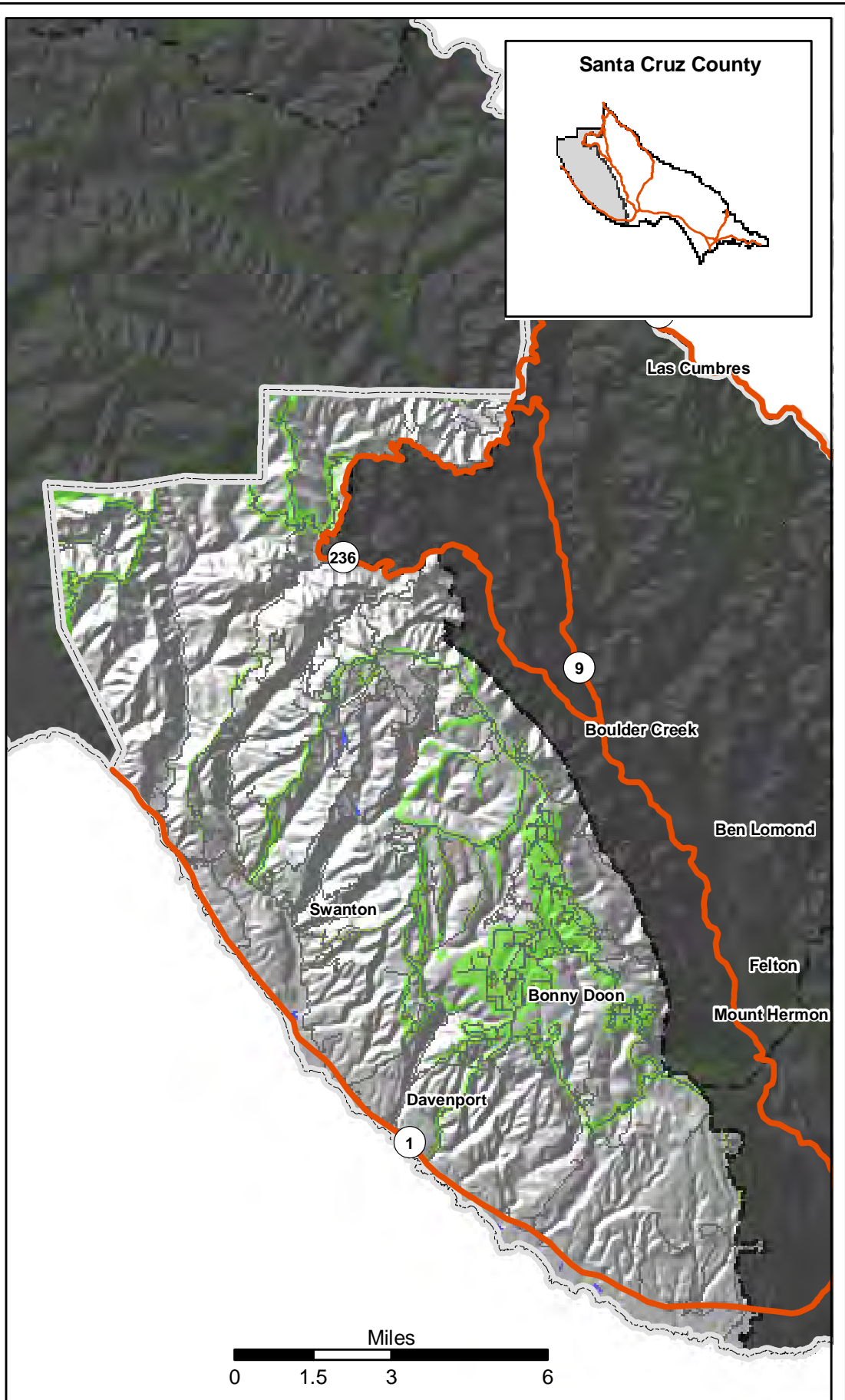
High Priority Area



Lower Priority



County Boundary



# Santa Cruz County CWPP

Santa Cruz North - Coastal

Fuel Rank Hazard

2010



Santa Cruz North Coastal CWPP Planning Area



Adjacent Planning Areas



Roads

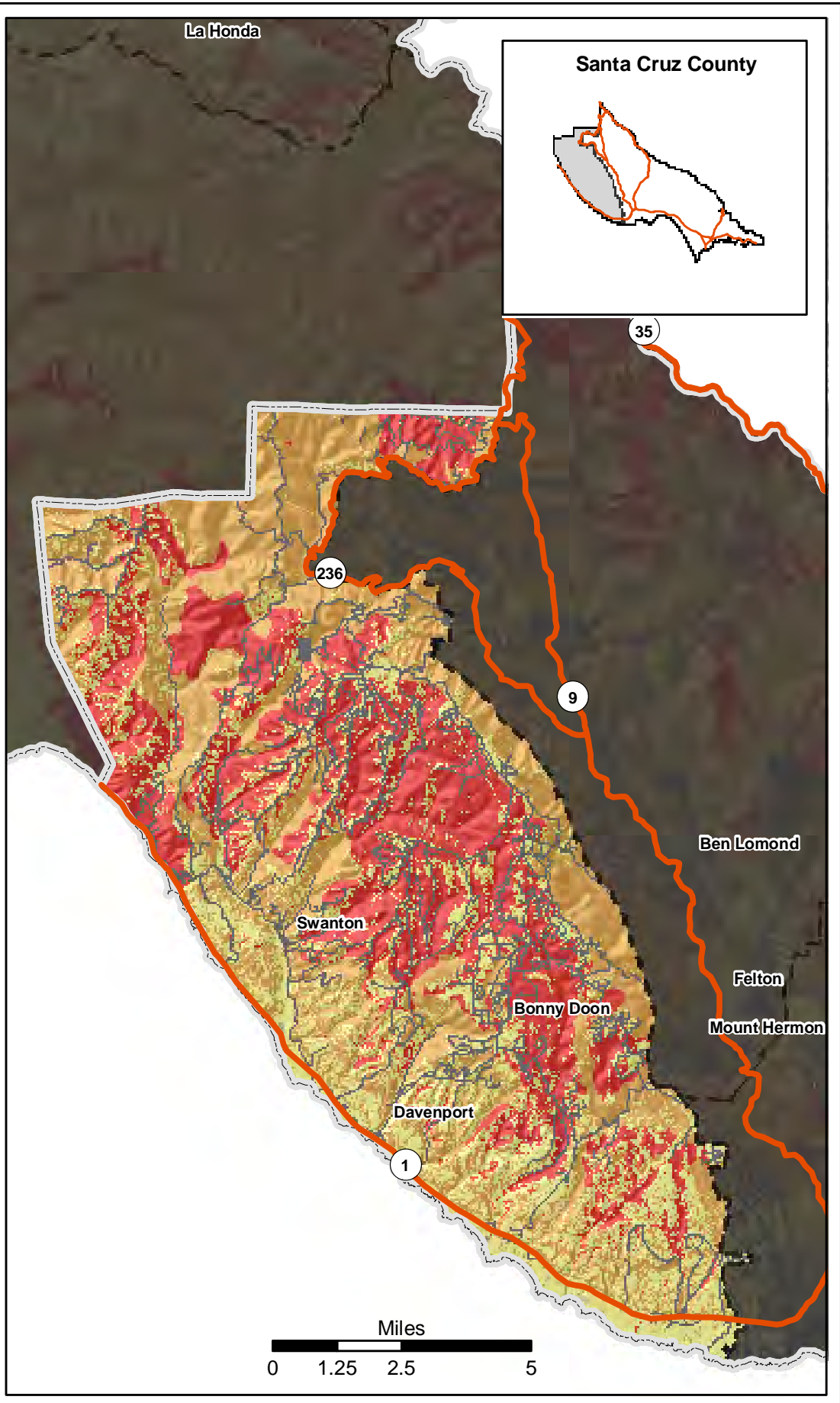
County Boundary

### Fuel Rank Hazard

Moderate

High

Very High





# Santa Cruz South - Interior

The Santa Cruz South – Interior planning area covers the south the southern interior section of Santa Cruz County, from the Santa Clara County line at Hwy 17 southeast to the southern boundary of the county line where it meets with Monterey County. This planning area borders Santa Clara County to the north. Although most of the planning area has seen residential development, higher population densities are found in communities such as Corralitos and Pajaro Valley. However there are also many people residing in homes located along major intersecting roadways such as Soquel-San Jose Road, Freedom Blvd, and Eureka Canyon Road.

Recent significant fire history in this planning area includes the Summit Fire in 2008 and the Loma Fire in 2009. Prior to these fires, the Summit Road corridor, running between Santa Cruz and Santa Clara Counties was impacted by the Lexington Fire in 1985 and the Croy in 2002. Because of this, the Summit Road corridor is, and continues to be a high priority area for fuel reduction projects.

Fuels within the planning area differ throughout the landscape. In the northern portion of the planning area, fuels are composed of primarily mixed conifer, with a brush component near the ridges. In the southern portion of the planning area, the dominant fuels are hardwood and grasses, with a smaller mixed conifer component.

# Santa Cruz County CWPP

Santa Cruz South - Interior  
Wildland Urban Interface Area  
2010



Santa Cruz South Interior  
CWPP Planning Area



Adjacent Planning Areas



Roads

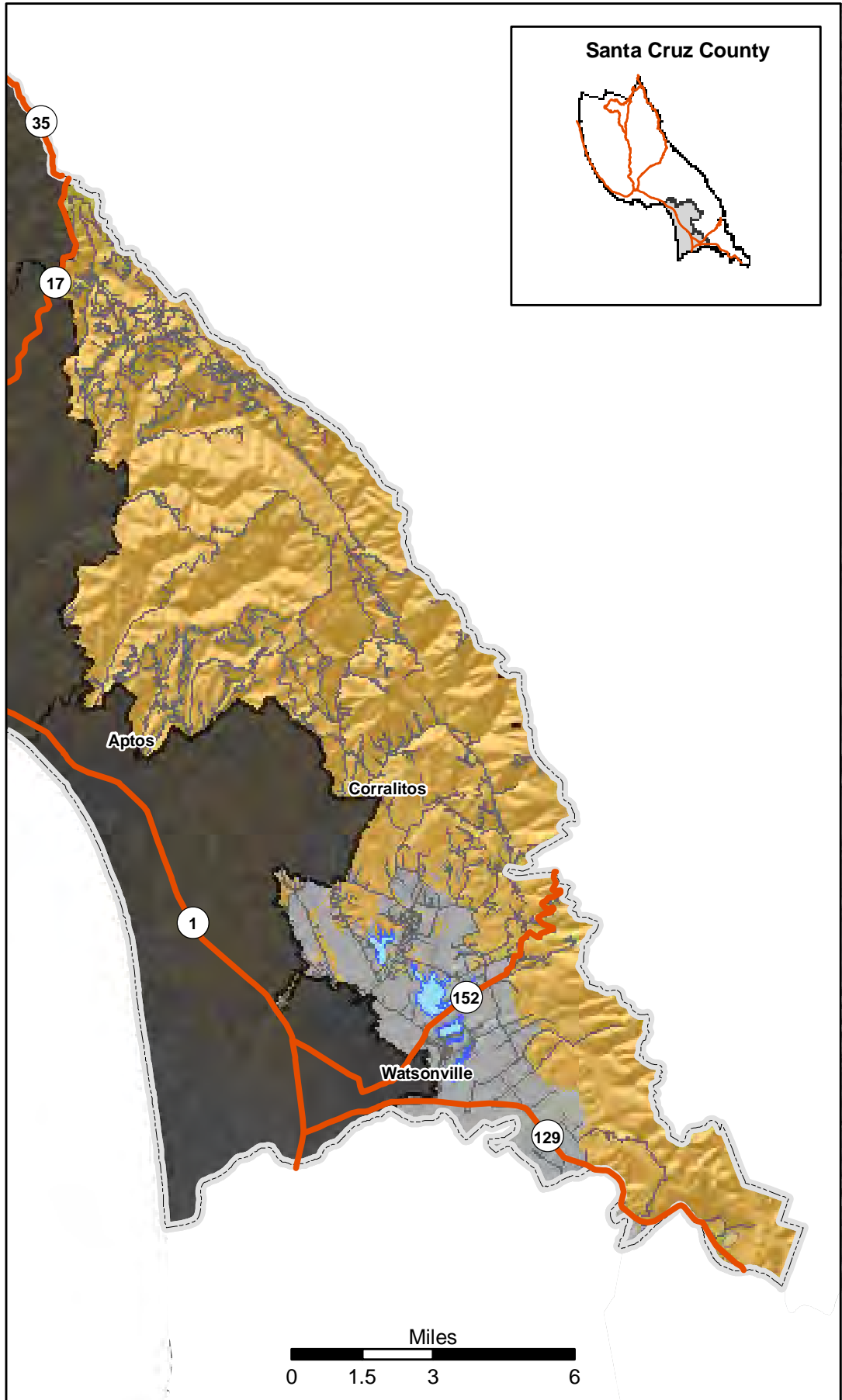
Wildland Urban Interface



Non-WUI



County Boundary



The following fire protection agencies have jurisdiction within the planning area:

- Santa Cruz County Fire
- CAL FIRE
- Pajaro Valley Fire Protection District
- Aromas Fire Protection District

The following volunteer companies respond to emergencies within the planning area:

- Ormsby Fire Brigade
- Corralitos Volunteers
- Loma Prieta Volunteer Fire and Rescue
- South Skyline Fire and Rescue

Other agencies with large properties within this planning area include:

- California Department of Parks and Recreation
- CAL FIRE – Demonstration State Forest
- Santa Cruz County Parks

Additional landowners within the planning area include:

- Private residences
- Managed Timberland
- Undeveloped private ownerships
- Ranchland
- Agriculture

### **Assets at Risk – As identified through stakeholder meetings**

Communities/Neighborhoods

- Life and property are always considered the dominant asset at risk.
- Corralitos
- Loma Prieta
- Mt. Modonna
- Trout Gulch
- Fern Flat
- Summit Road Corridor
- Smith Road Corridor
- Redwood Drive
- Olive Springs

Other – Non-environmental

- Religious Retreat Centers
- Schools

Environmental

- Protection of Openspace and Parkland (all agencies)
- Watershed Protection
- Managed timberland
- Wildlife

**Project Priority**

In addition to those areas identified above, more specific HIGH priority areas were identified at public and agency meetings. Those areas have been highlighted in “Green” on the following map. Those areas not currently identified as HIGH priority on the map should still be considered priority areas in terms of recommendations proposed by this plan. The Highlighted areas are those areas stakeholders consider the priority areas for fuel reduction projects.

**The following agency/group/person has submitted a project proposal for this planning area:**

- Land Trust of Santa Cruz County
- South Skyline Firesafe Council
- Deer Creek Landowner's Inc.
- Las Cumbres Community

# *Santa Cruz County CWPP*

Santa Cruz South Interior

Project Priority Area Map

2010



Santa Cruz South Interior  
CWPP Planning Area



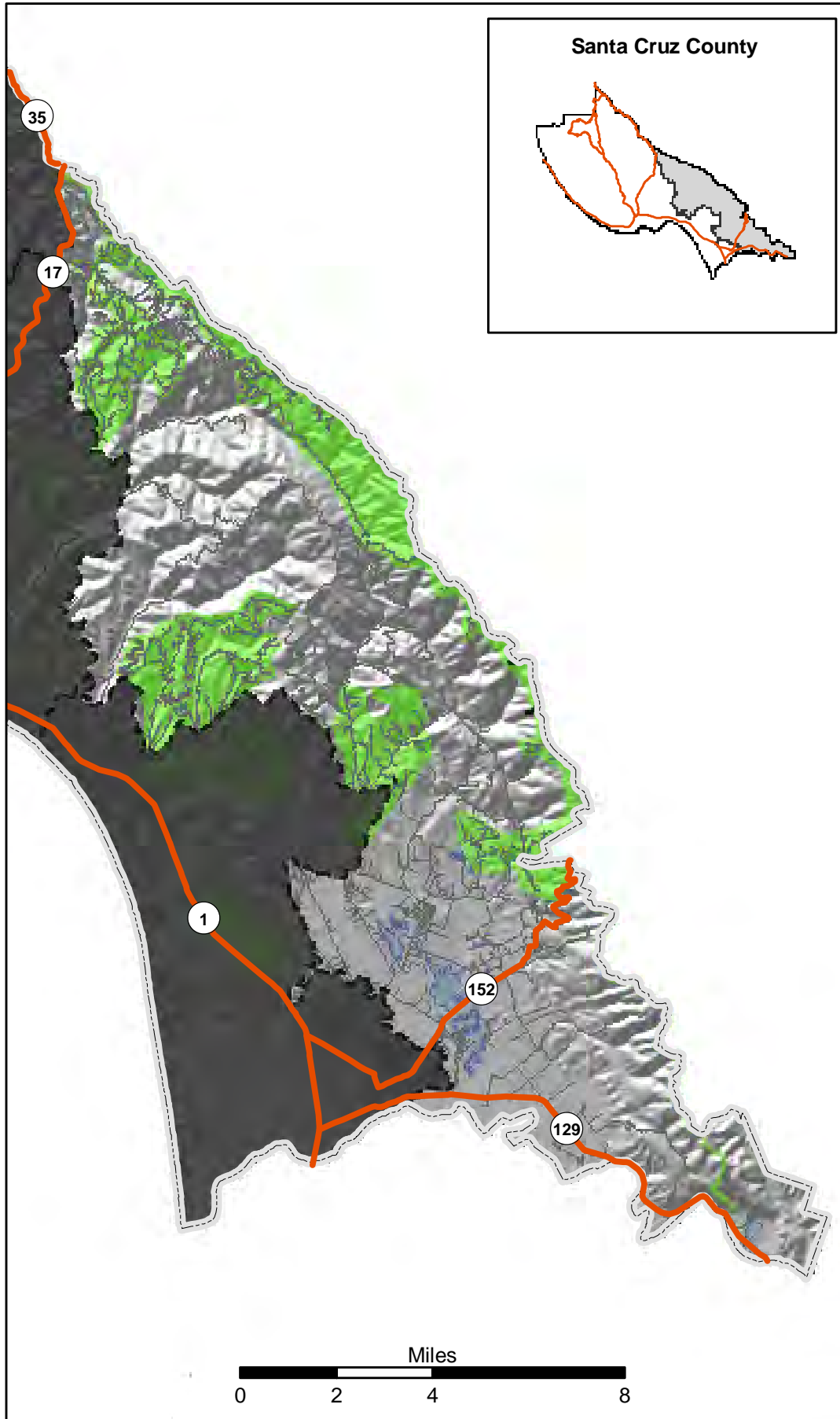
Adjacent Planning Areas



Priority Project Area



Roads



# Santa Cruz County CWPP

Santa Cruz South Interior

Fuel Rank Hazard

2010



Santa Cruz South Interior  
CWPP Planning Area



Adjacent Planning Areas



Roads

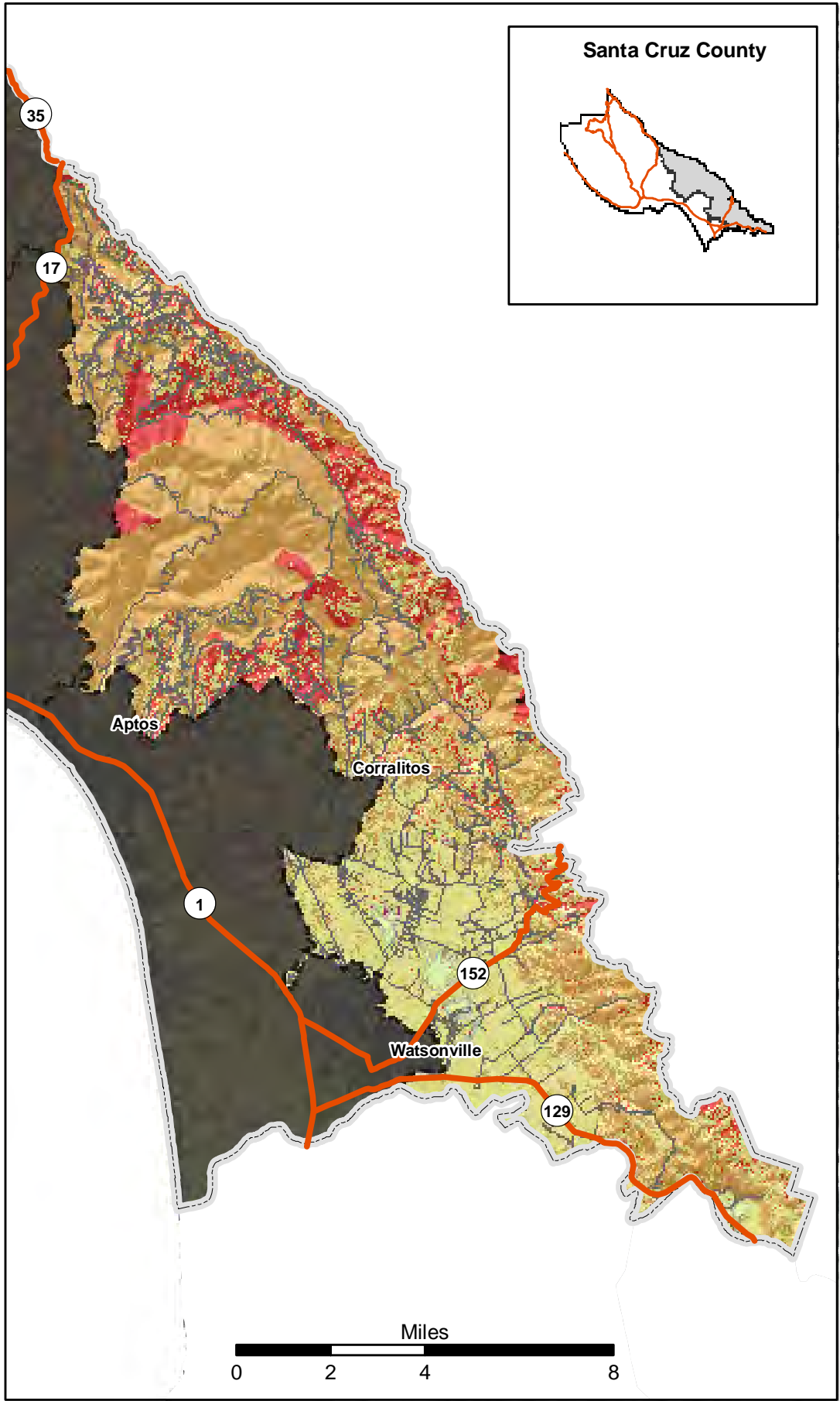
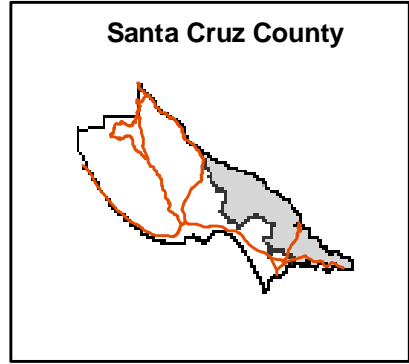
County Boundary

### Fuel Rank Hazard

Moderate

High

Very High



# Santa Cruz Central

The Santa Cruz Central planning area covers the south the southern interior section of Santa Cruz County, encompassing both incorporated and unincorporated areas of Santa Cruz, Scotts Valley, Branciforte, and Soquel. The planning area extends north to the Santa Cruz city limits, and south to Aptos.

Within this planning area the more developed areas of Santa Cruz City are not considered WUI, however, once you leave the city limits, the remainder of the planning area is the WUI. With the exception of Henry Cowell State Park, residential homes are found intermixed throughout the WUI. The three major highways that interconnect are found in this planning area include Hwy 1, Hwy 17, and Hwy 9.

Although there has been an absence of large conflagrations in recent fire history in this planning area, there are numerous roadside and debris fires suppressed each year.

Fuels within the planning area differ throughout the landscape. In the northern portion of the planning area, fuels are composed of primarily mixed conifer, with a brush component near the ridges. In the southern portion of the planning area, the dominant fuels are hardwood and grasses, with a smaller mixed conifer component.



# Santa Cruz County CWPP

Santa Cruz Central  
Wildland Urban Interface Area  
2010



Santa Cruz Central  
CWPP Planning Area



Adjacent Planning Areas



Roads

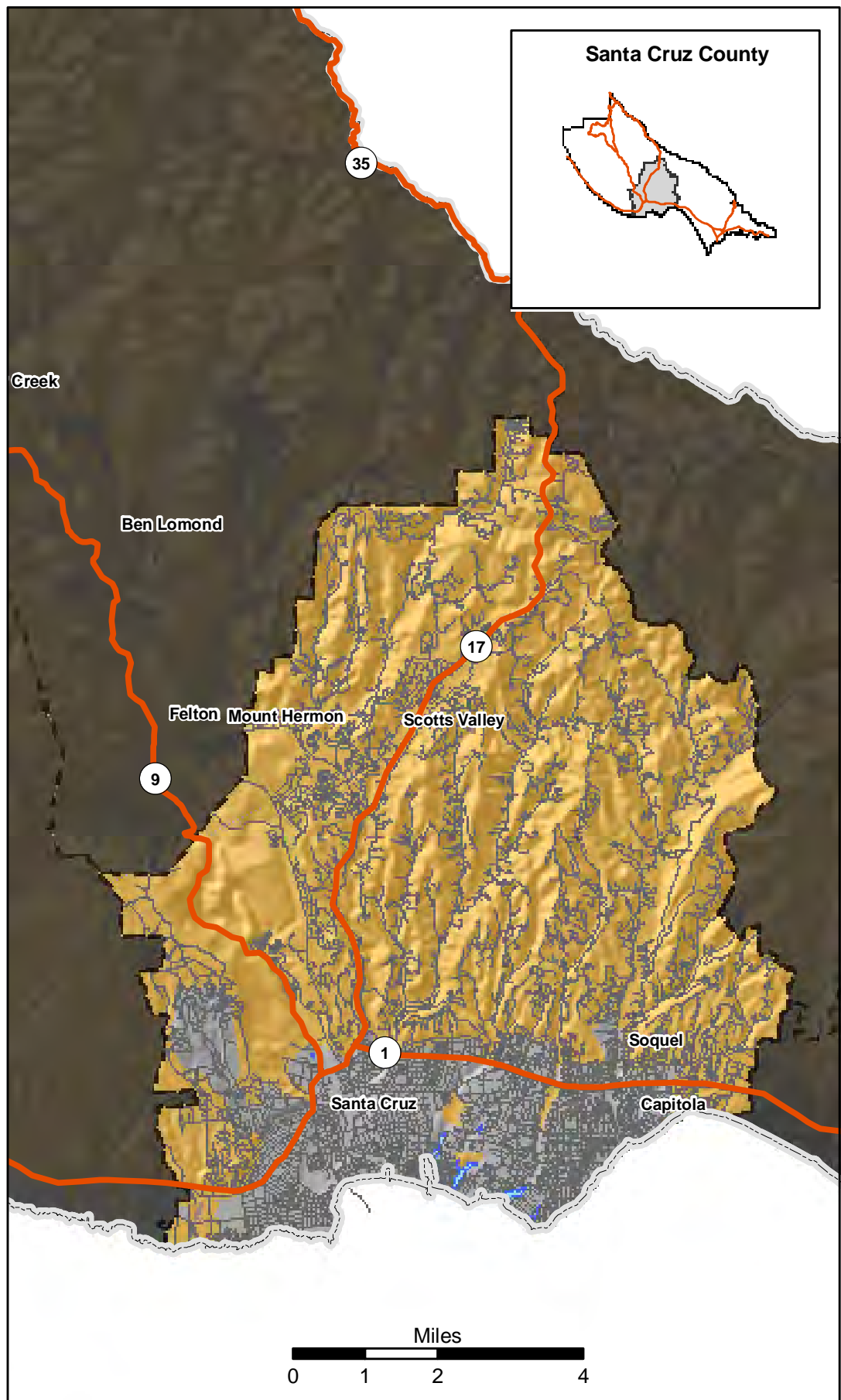
Wildland Urban Interface



Non-WUI



County Boundary



The planning area is home to various fire jurisdictions including:

- Santa Cruz County Fire
- CAL FIRE
- Branciforte Fire Protection District
- Santa Cruz City Fire Department
- Central Fire Protection District
- University of California Santa Cruz Fire Department
- Scotts Valley Fire Protection District

Other agencies with large properties within this planning area include:

- California Department of Parks and Recreation
- City/County Parks
- Land Trust of Santa Cruz County

Additional landowners within the planning area include:

- Private residences
- Managed Timberland
- Undeveloped private ownerships

### **Assets at Risk – As identified through stakeholder meetings**

Communities/Neighborhoods

- Life and property are always considered the dominant asset at risk.
- City of Scotts Valley
- Paradise Park
- Soquel San Jose Corridor
- Glen Canyon Road Corridor
- Glenwood Acres
- Lockhart Gulch Corridor

- Lockhart Gulch Corridor
- Weston Road Corridor
- Graham Hill Road Corridor
- Big Redwood Park
- Bean Creek Corridor
- Pilkington Road corridor
- Laurel Glen
- Olive Springs Community
- Laurel Glen Community
- Mountain View Community
- Fairway Drive Community
- Branciforte corridor
- Glen Haven corridor
- Porter Gulch Community

Other – Non-environmental

- Communications
- PG&E Transmission Lines
- Seventh Day Adventist Campground
- Wineries/Vineyards
- Schools (Main St. Elementary, Mountain Elementary School, Soquel High School)
- Equestrian Facilities
- Water Storage
- Land of Medicine Buddha
- Enchanged Valley Camp
- Kennolyn Camp
- Santa Cruz County Juvenile Hall

## Environmental

- Protection of Openspace and Parkland (all agencies)
- Watershed Protection
- Managed timberland
- Wildlife

## **Project Priority**

In addition to those areas identified above, more specific HIGH priority areas were identified at public and agency meetings. Those areas have been highlighted in “Green” on the following map. Those areas not currently identified as HIGH priority on the map should still be considered priority areas in terms of recommendations proposed by this plan. The Highlighted areas are those areas stakeholders consider the priority areas for fuel reduction projects.

## **The following agency/group/person has submitted a project proposal for this planning area:**

- Soquel Fire Safe Council
- Arana Gulch Watershed Alliance and the RCD
- UCSC Natural Reserve

# Santa Cruz County CWPP

Santa Cruz Central  
Project Priority Area Map  
2010



Santa Cruz Central  
CWPP Planning Area



Adjacent Planning Areas



Roads

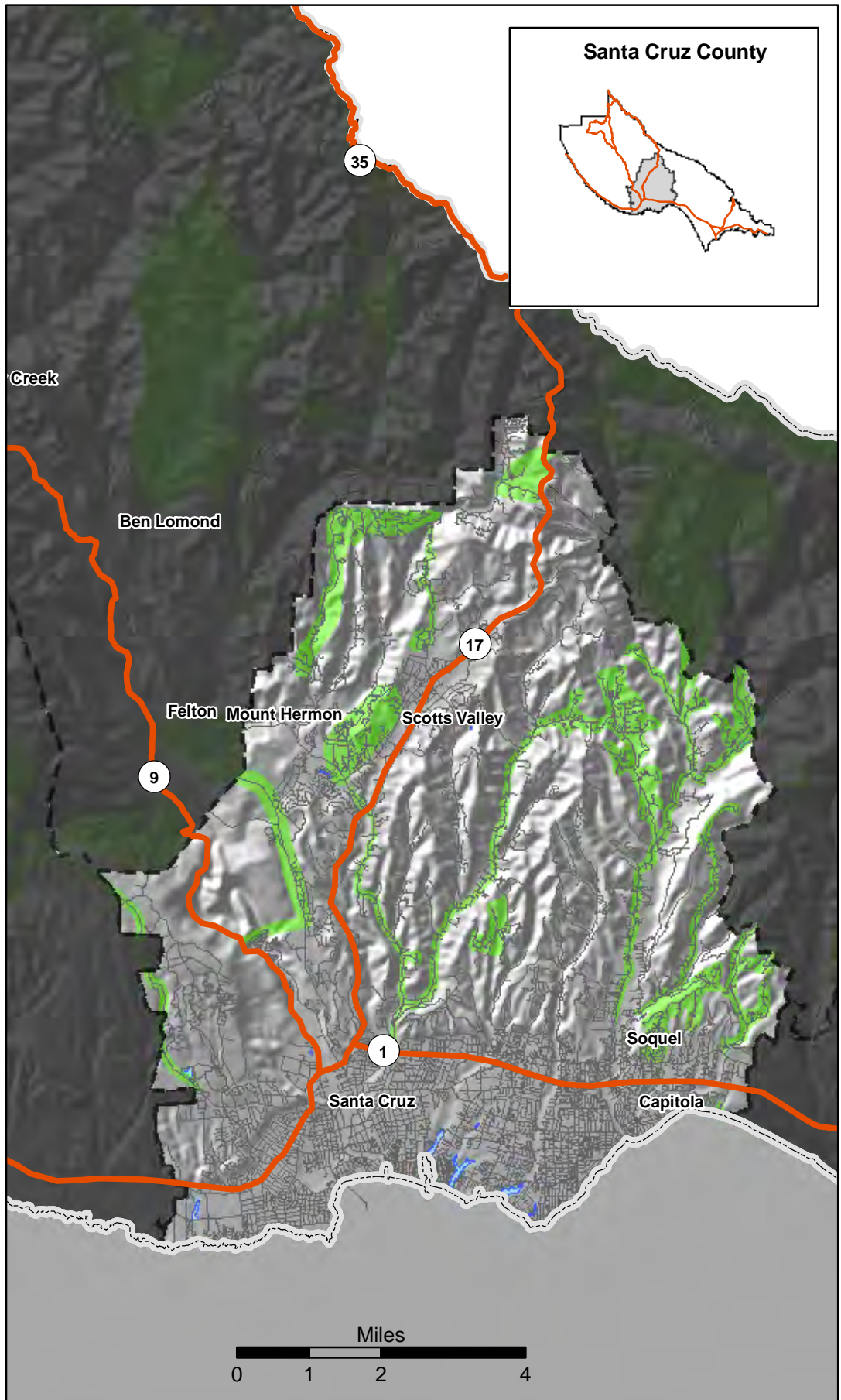
High Priority Area



Lower Priority Area



County Boundary



Santa Cruz County



# Santa Cruz County CWPP

Santa Cruz Central  
Fuel Rank Hazard  
2010



Santa Cruz Central  
CWPP Planning Area



Adjacent Planning Areas

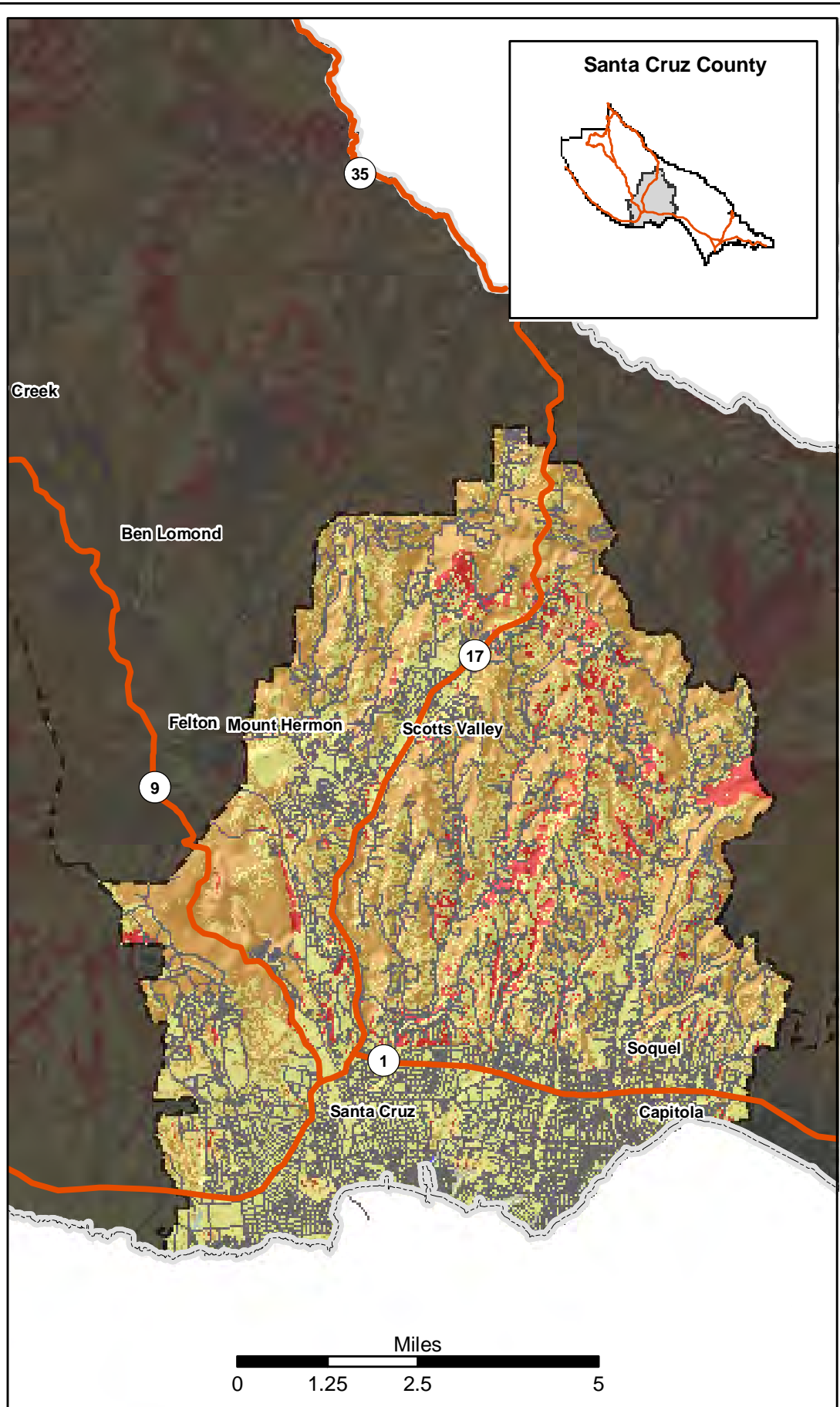


Roads

County Boundary

### Fuel Rank Hazard

- Moderate
- High
- Very High



# **Santa Cruz South - Coastal**

The Santa Cruz South – Coastal planning area covers the south westernmost section of Santa Cruz County, from Aptos south to the City of Watsonville and the Monterey County Line. The entire planning area is home to high population densities. The largest are found in the developed communities of Aptos, La Selva and City of Watsonville. There are also many residences located in the undeveloped areas along major intersecting roadways such as Freedom Blvd, Corralitos and Pleasant Valley Road.

Recent significant fire history in this planning area includes the Trabing Fire in June of 2008. In that fire, 630 acres were consumed and 26 residential structures were destroyed.

Fuels within the planning area differ throughout the landscape. In the northern portion of the planning area, fuels are composed of primarily mixed conifer, with a brush component near the ridges. In the southern portion of the planning area, the dominant fuels are hardwood and grasses, with a smaller mixed conifer component.



# Santa Cruz County CWPP

Santa Cruz South - Coastal  
Wildland Urban Interface Area  
2010



Santa Cruz South  
Coastal  
CWPP Planning Area



Adjacent Planning Areas



Roads

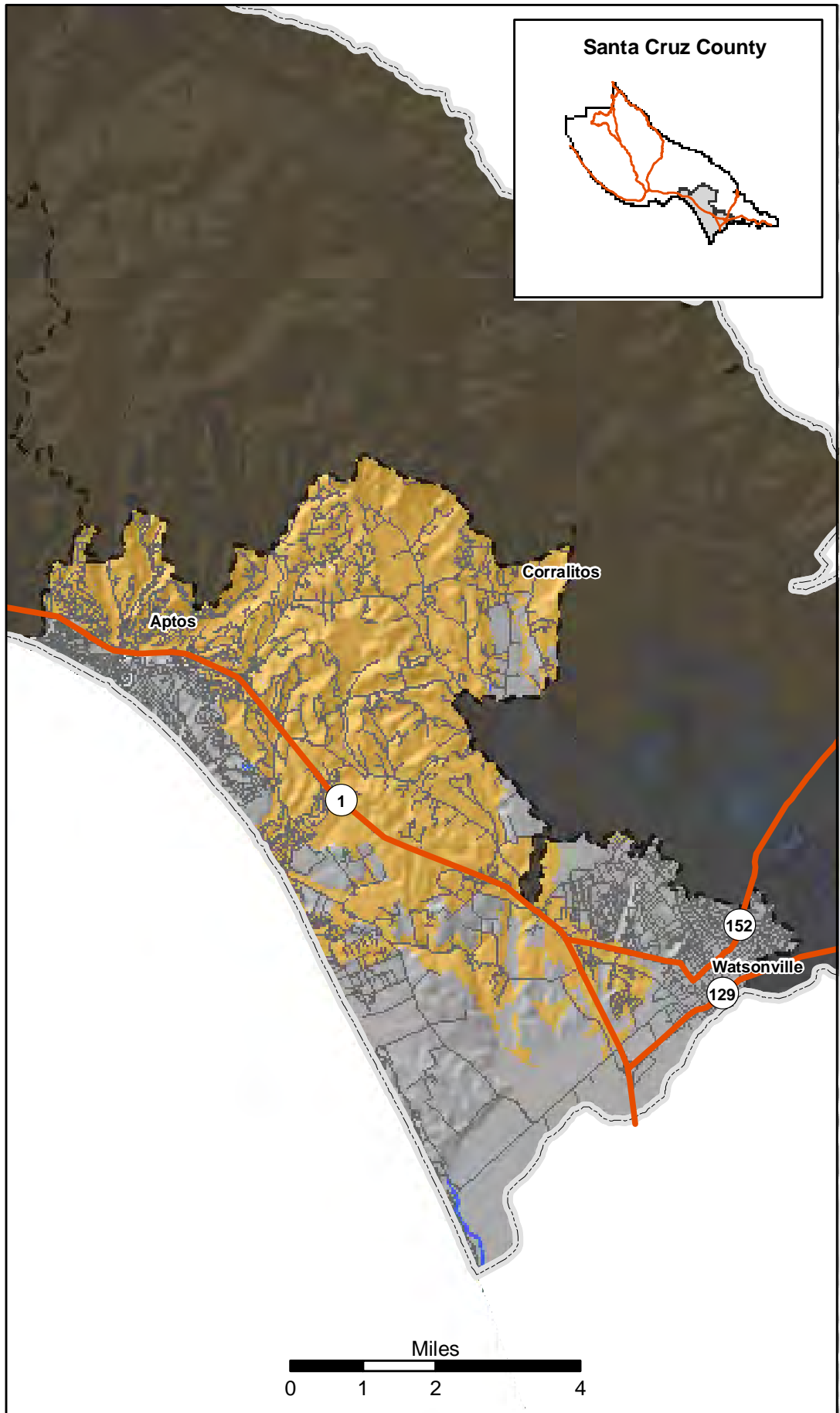
High Priority Area



Lower Priority Area



County Boundary





The planning area is home to various fire jurisdictions including:

- Santa Cruz County Fire
- CAL FIRE
- Aptos La Selva Fire Protection District
- Watsonville Fire Department
- Pajaro Valley Fire Protection District

The following volunteer companies respond to emergencies within the planning area:

- Corralitos Volunteer Fire Department

Other agencies with large properties within this planning area include:

- California Department of Parks and Recreation
- CAL FIRE – Demonstration State Forest
- Santa Cruz County Parks
- Department of Fish and Game
- United States Fish and Wildlife Service

Additional landowners within the planning area include:

- Private residences
- Managed Timberland
- Undeveloped private ownerships
- Ranchland
- Agriculture

### **Assets at Risk – As identified through stakeholder meetings**

Communities/Neighborhoods

- Life and property are always considered the dominant asset at risk.
- Tramping

- La Selva Beach
- Day Valley
- Aptos Hills
- Rodeo Gulch Community
- Trout Gulch Road
- Valencia Road
- Redwood Drive Community
- Hwy 1 corridor between Freedom Blvd and Buena Vista
- Vienna Woods
- Calabassas Road
- White Road
- Larkin Valley

Other – Non-environmental

- Cabrillo College
- Aptos High School
- Aptos Junior High School
- Valencia Elementary School
- Orchard School
- Wineries/Vineyards
- Water Storage
- PG&E Transmission Lines

Environmental

- Protection of Openspace and Parkland (all agencies)
- Watershed Protection
- Managed timberland
- Wildlife

### **Project Priority**

In addition to those areas identified above, more specific HIGH priority areas were identified at public and agency meetings. Those areas have been highlighted in “Green” on the following map. Those areas not currently identified as HIGH priority on the map should still be considered priority areas in terms of recommendations proposed by this plan. The Highlighted areas are those areas stakeholders consider the priority areas for fuel reduction projects.

**The following agency/group/person has submitted a project proposal for this planning area:**

- Redwood Drive Community
- Santa Cruz County

# Santa Cruz County CWPP

Santa Cruz South - Coastal  
High Priority Project Area Map  
2010



Santa Cruz South  
Coastal  
CWPP Planning Area



Adjacent Planning Areas



Roads

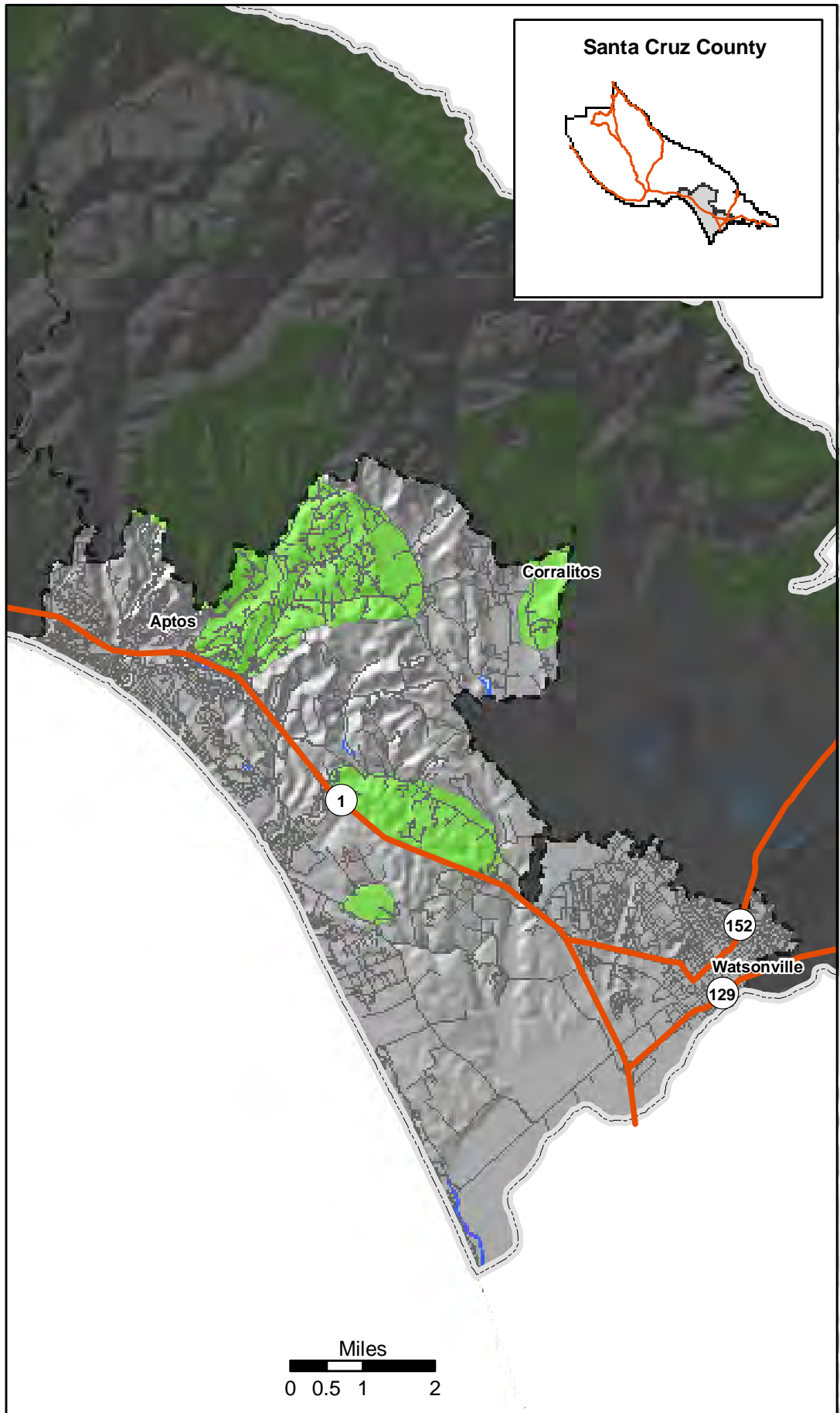
High Priority Area



Lower Priority Area



County Boundary



# Santa Cruz County CWPP

Santa Cruz South - Coastal

Fuel Rank Hazard

2010



Santa Cruz South Coastal CWPP Planning Area



Adjacent Planning Areas



Roads

County Boundary

**Fuel Rank Hazard**

Moderate

High

Very High



# Appendix A

A number of stakeholders have submitted project proposals to be included in the CWPP. Their inclusion in the plan does not ensure funding or permitting. The following list shows the project proponent and type. Specific plan details are maintained by CAL FIRE and the RCD (Requests for project proposals should be directed to CAL FIRE and RCD).

**Santa Cruz County** – Proposed road right of way and fuel reduction project in the Trabing Fire area.

**Big Creek Lumber Company** – Proposed roadside shaded fuelbreaks on specific truck trails and implementation of a standardized road naming program.

**Pilkington Road Area – Arana Gulch Watershed Alliance and the RCD** – Proposed road crossing project restoring access between the Pilkington Road neighborhood and Paul Sweet Road.

**UCSC Natural Reserve** – Proposed research alternatives to burning in chaparral habitats.

**BLM** – Proposed roadside fuel reduction along Warnella, San Vicente, Swanton, Laguna Creek and Bonny Doon Roads.

**Bonny Doon Community Fire Protection Projects** – Proposed roadside and neighborhood shaded fuel breaks in the Bonny Doon area.

**Deer Creek Landowners Inc.** – Proposed roadside fuel reduction projects on more than 15 miles of roadways in the Deer Creek Road area.

**Las Cumbres** – Roadside fuel reduction throughout the community.

**Highlands Recreation District** – Maintain existing and develop new fire breaks.

**Soquel Fire Safe Council** – Roadside shaded fuel breaks within the Soquel Fire Safe boundaries.

**Steve Nichols** – Creating a shaded fuel break along 4.5 miles of roads and around some residential structures in the Gazos Creek Watershed area.

**Land Trust of Santa Cruz County** – Fuel reduction and road improvement projects on Land Trust holdings located off of Brown Valley Road and Geyer Road in Santa Cruz County.

**San Mateo County Coastside Large Animal Evac Unit (CLAEvac)** – Proposal requesting funding for team training and communication equipment.

**Redwood Drive Community (Aptos area)** – Roadside shaded fuel breaks, defensible space improvement, chipping for individual property owners, and improve emergency evacuation routes.

**South Skyline Fire Safe Council** – Proposed shaded fuelbreak adjacent to the Kings Creek Truck Trail, connecting Skyline Blvd to Highway 9.

**Bonny Doon Fire Safe Council** – Proposed roadside shaded fuel breaks adjacent to public and private roads.

**Midpeninsula Regional Open Space District** – Proposals in San Mateo and Santa Cruz County identifying improved emergency vehicle access and other road improvements. MROSD has also identified locations in both counties where fire and fuels management projects should occur and where additional planning is needed.