

**San Rafael Fire Department and Dominican University Presents:**

A stylized graphic of a flame, rendered in shades of yellow, orange, and red, positioned behind the main title text.

**2018**  
**Wildland**  

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**URBAN Interface**  
**Symposium**

# Christopher Gray

Fire Chief  
City of San Rafael



# Not if, but when.



# City of San Rafael Mayor Gary Phillips





CALIFORNIA

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SENATOR MIKE MCGUIRE

---

*Senate District 2  
North Coast/North Bay*



**Robert Pesapane**

**FEMA Branch Director and Federal  
Preparedness Coordinator, Region IX**



**FEMA**



Eric Lamoureux

Cal OES Acting Deputy Director,  
Response and Recovery



*Cal* OES

GOVERNOR'S OFFICE  
OF EMERGENCY SERVICES



Jodi Traversaro

Cal OES Regional Administrator



*Cal* OES

GOVERNOR'S OFFICE  
OF EMERGENCY SERVICES





Joel Laucher

Chief Deputy Commissioner

California Department of Insurance



**California**

**Department of Insurance**

**Insurance Protection for All Californians**



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# Damon Connolly

## Marin County Supervisor

### District 1





Christie Neill

Battalion Chief

Marin County Fire Department

# Marin County Community Wildfire Protection Plan (CWPP)

FIRESafe MARIN  
Marin County Fire Chiefs Association  
Marin County Fire Department  
Marin County Parks & Open Space  
Marin Municipal Water District  
National Park Service  
PG&E  
Emergency Services  
NB Conservation Core  
Homeowner Associations



Sonoma Technology, Inc.

# 2015 CAL FIRE SRA Fire Prevention Fee Grant

- FSM Awarded \$123,200 grant
- Contracted Sonoma Technology Inc.
- Collaborated with Fire Chiefs, Land Managers to host 4 public meetings to gather public & community input.

# What is a CWPP?

Written plan (guiding document) describes fire hazards with mitigation measures at a community or county scale.

## **3 Required Components**

- Collaboration
- Prioritized Fuel Reduction
- Treatment of “Structural Ignitability”

# Benefits of a CWPP

- The process helps communities form **relationships** with fire departments and land managers tasked with fire hazard reduction.
- Fire hazard reduction projects in a CWPP receive **priority** for state and federal funding.
- CWPPS can identify county or community/**neighborhood** level projects to deal with flammable vegetation, or develop plans for fire hazard reduction within and around communities.
- Addresses **reducing structural ignitability** of houses (replacing wood shake roofs, removing flammable vegetation, enhancing building construction with fire resistant materials).



**Step 1**  
Prepare  
community base  
map and areas of  
concern



**Step 2**  
Prepare  
vegetation/fuel  
model data



**Step 3**  
Acquire local  
weather and fuel  
moisture data

**Step 4**  
Prepare  
population  
density map



**Step 5**  
Perform fire  
behavior  
modeling



**Step 6**  
Develop composite map of potential  
fire behavior, population density,  
and areas of concern



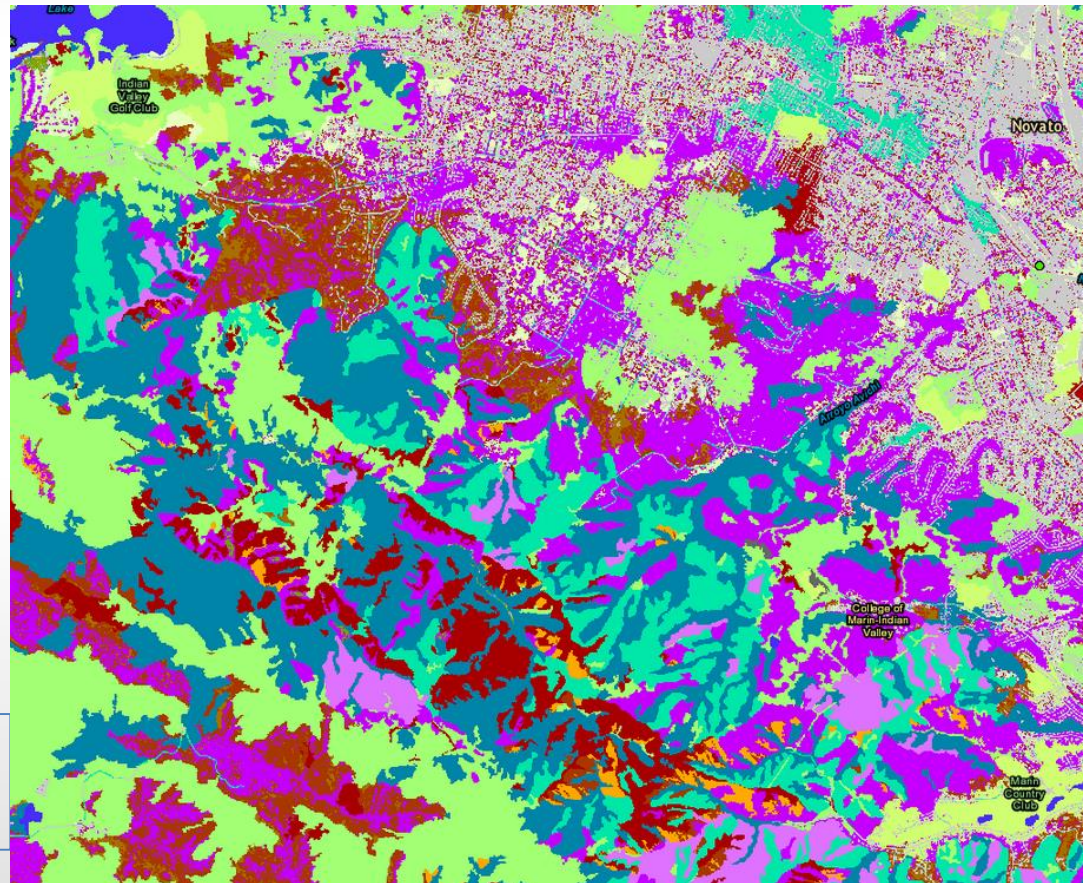
**Step 7**  
Develop rankings for  
areas of concern



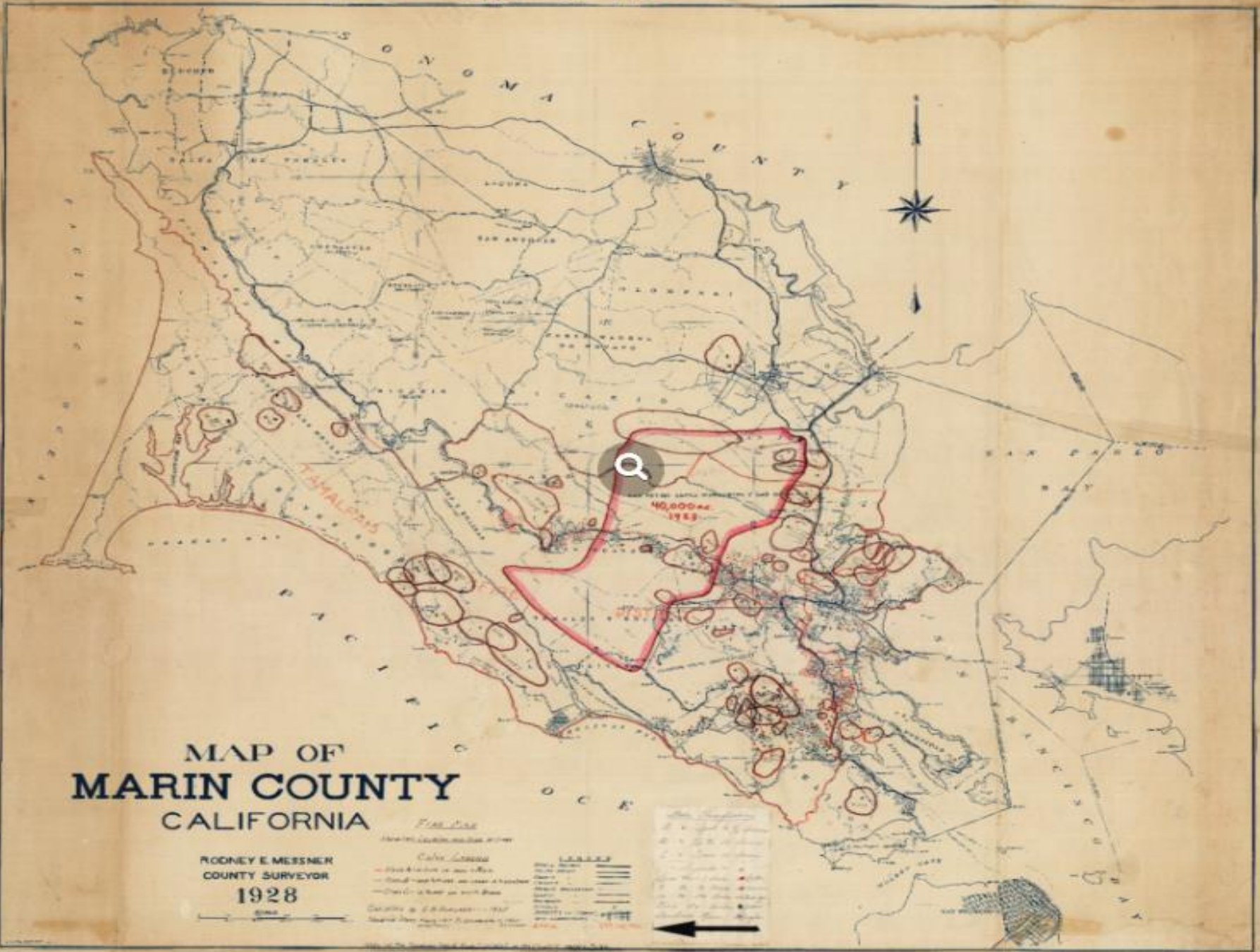
# Fire Modeling & Analysis (1)

Start with a base map of the community

- Fire history
- Communities
- Infrastructure
- Areas of concern
- Topography
- Vegetation/fuels



*What fuels are available to burn & where?*



MAP OF  
**MARIN COUNTY**  
 CALIFORNIA

RODNEY E. MESSNER  
 COUNTY SURVEYOR  
 1928

Scale: 1 inch = 1 mile

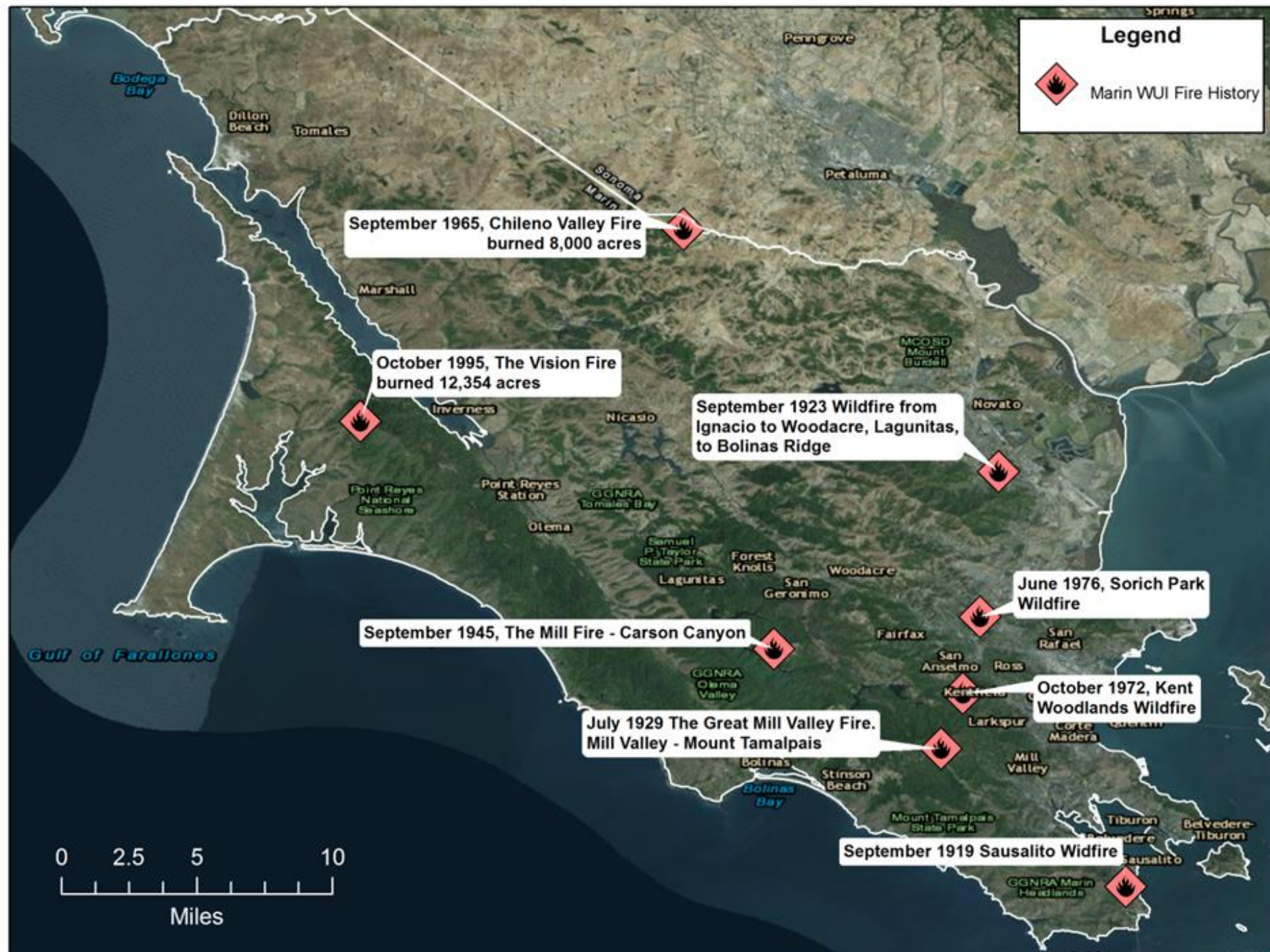
*Fire Dam*  
 How the Counties are Damaged

- Color Legend*
- Red — Areas of fire damage
  - Blue — Areas of fire damage, as shown in 1933
  - Dotted — Areas of fire damage, as shown in 1917

- LEGEND**
- City
  - Town
  - Village
  - Hamlet
  - Unincorporated place
  - Railroad
  - Highway
  - Water
  - Bay
  - Harbor
  - Strait
  - Sound
  - Inlet
  - Point
  - Spit
  - Peninsula
  - Island
  - Shoals
  - Reef
  - Bank
  - Beach
  - Cliff
  - Hill
  - Mountain
  - Peak
  - Summit
  - Ridge
  - Trench
  - Valley
  - Canyon
  - Gorge
  - Ravine
  - Gully
  - Run
  - Stream
  - River
  - Bay
  - Harbor
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  - Peak
  - Summit
  - Ridge
  - Trench
  - Valley
  - Canyon
  - Gorge
  - Ravine
  - Gully
  - Run
  - Stream
  - River

Scale: 1 inch = 1 mile

North Arrow



**Legend**

 Marin WUI Fire History

September 1965, Chileno Valley Fire burned 8,000 acres

October 1995, The Vision Fire burned 12,354 acres

September 1923 Wildfire from Ignacio to Woodacre, Lagunitas, to Bolinas Ridge

June 1976, Sorich Park Wildfire

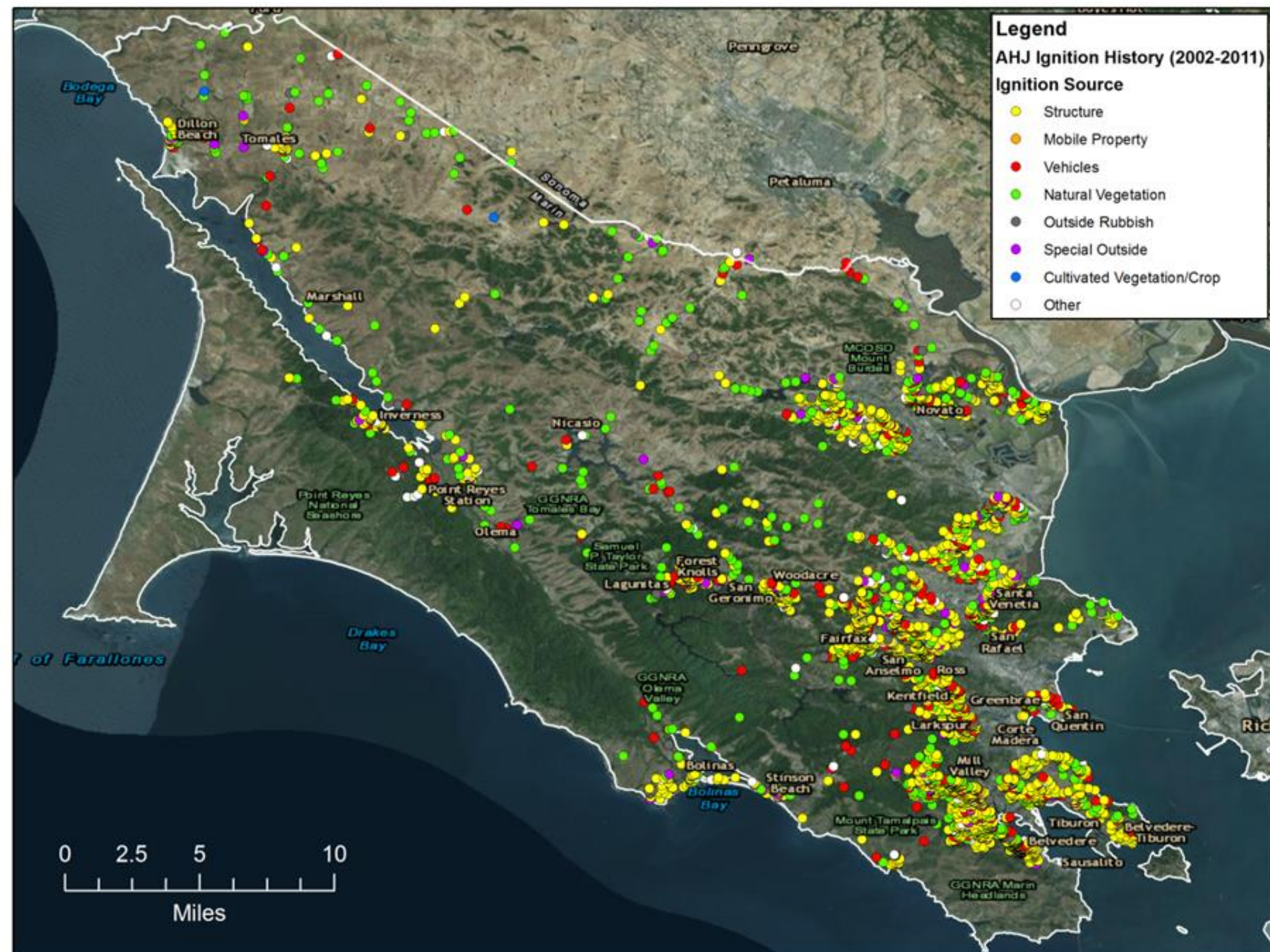
September 1945, The Mill Fire - Carson Canyon

October 1972, Kent Woodlands Wildfire

July 1929 The Great Mill Valley Fire. Mill Valley - Mount Tamalpais

September 1919 Sausalito Wildfire

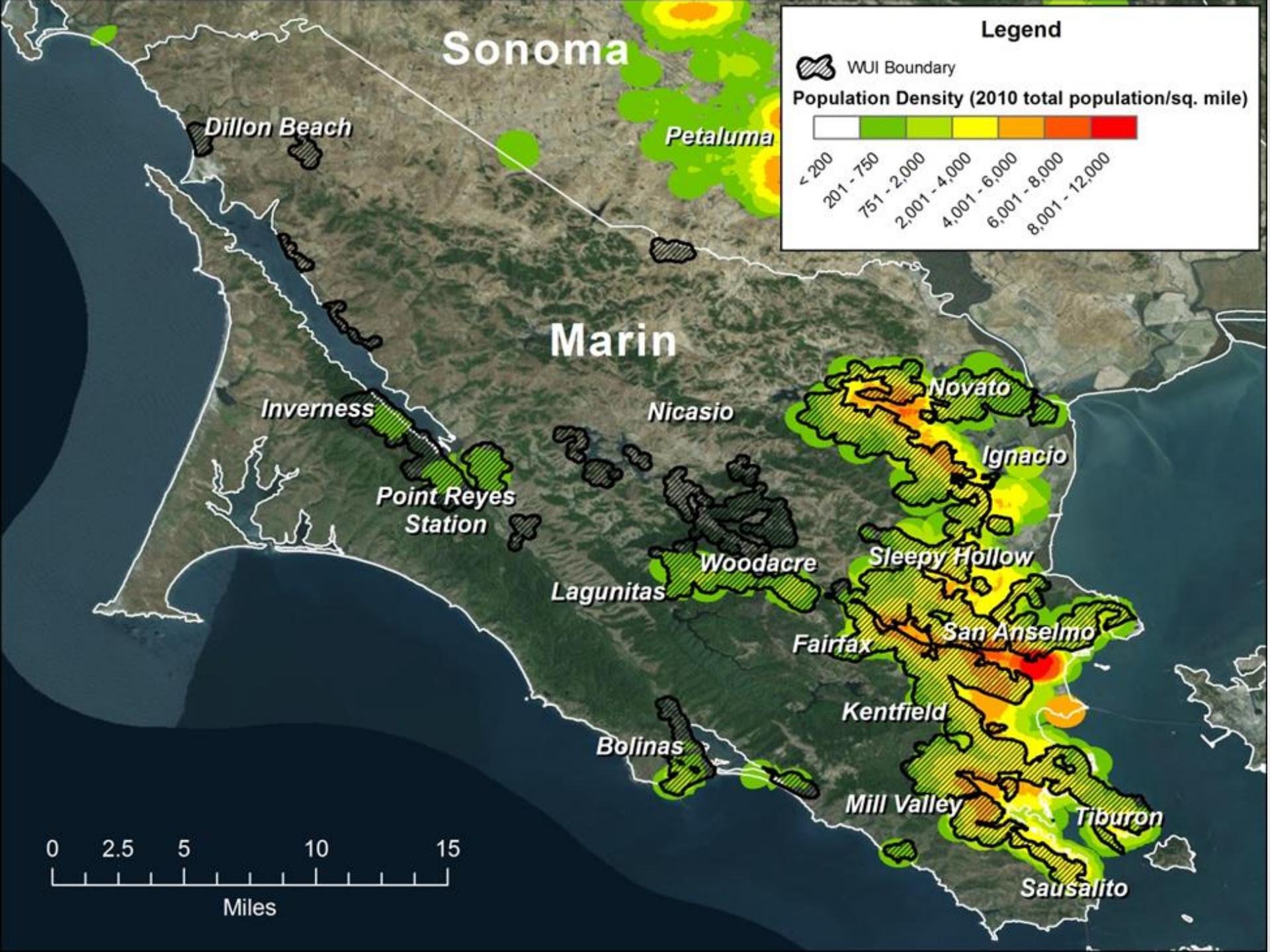


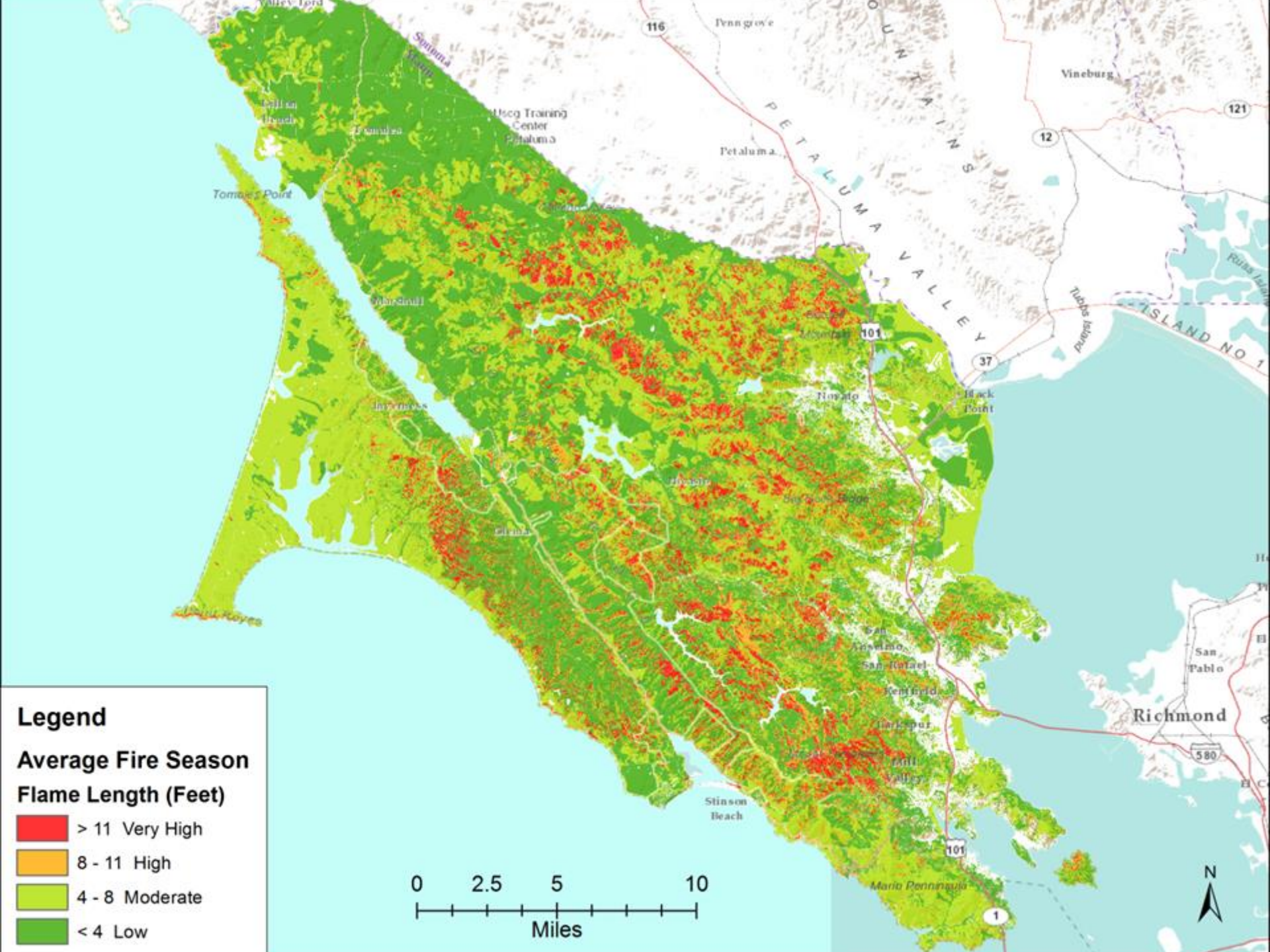


**Legend**  
AHJ Ignition History (2002-2011)  
Ignition Source

- Structure
- Mobile Property
- Vehicles
- Natural Vegetation
- Outside Rubbish
- Special Outside
- Cultivated Vegetation/Crop
- Other



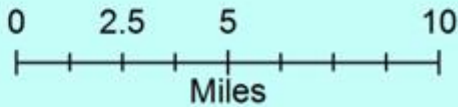


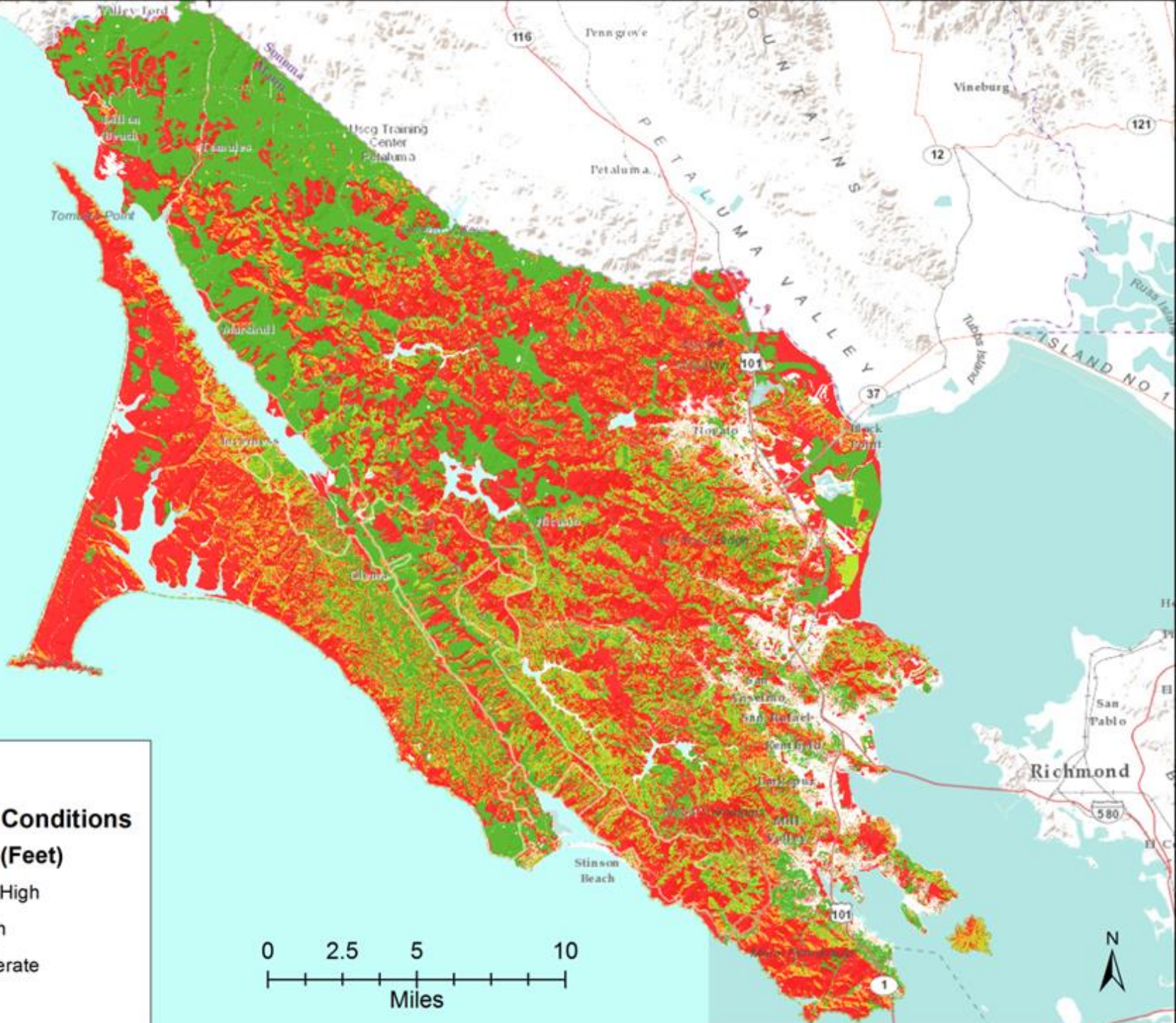


### Legend

### Average Fire Season Flame Length (Feet)

- > 11 Very High
- 8 - 11 High
- 4 - 8 Moderate
- < 4 Low

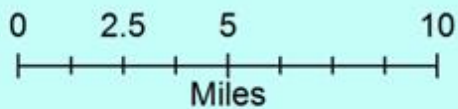




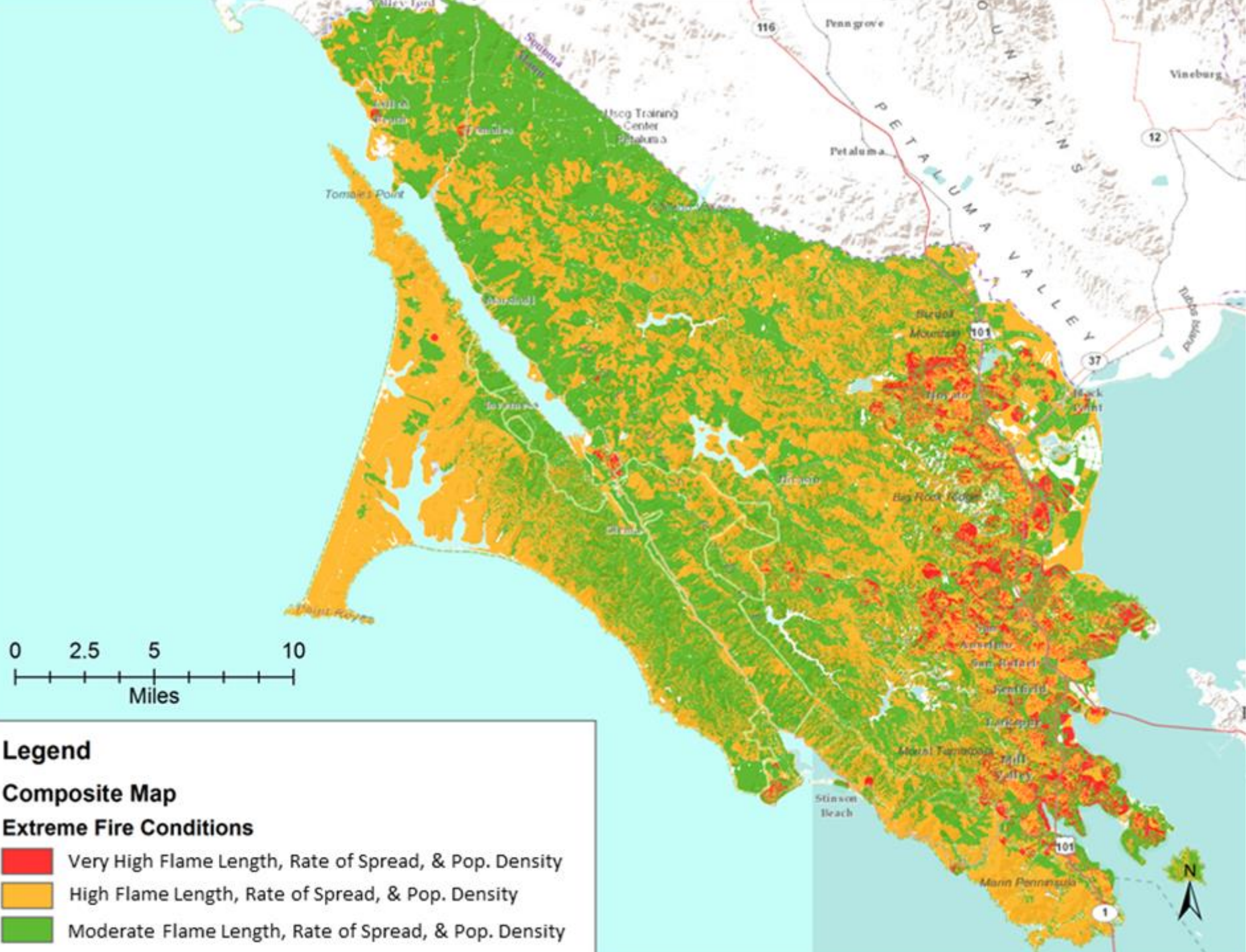
### Legend

#### Extreme Fire Conditions Flame Length (Feet)

- > 11 Very High
- 8 - 11 High
- 4 - 8 Moderate
- < 4 Low







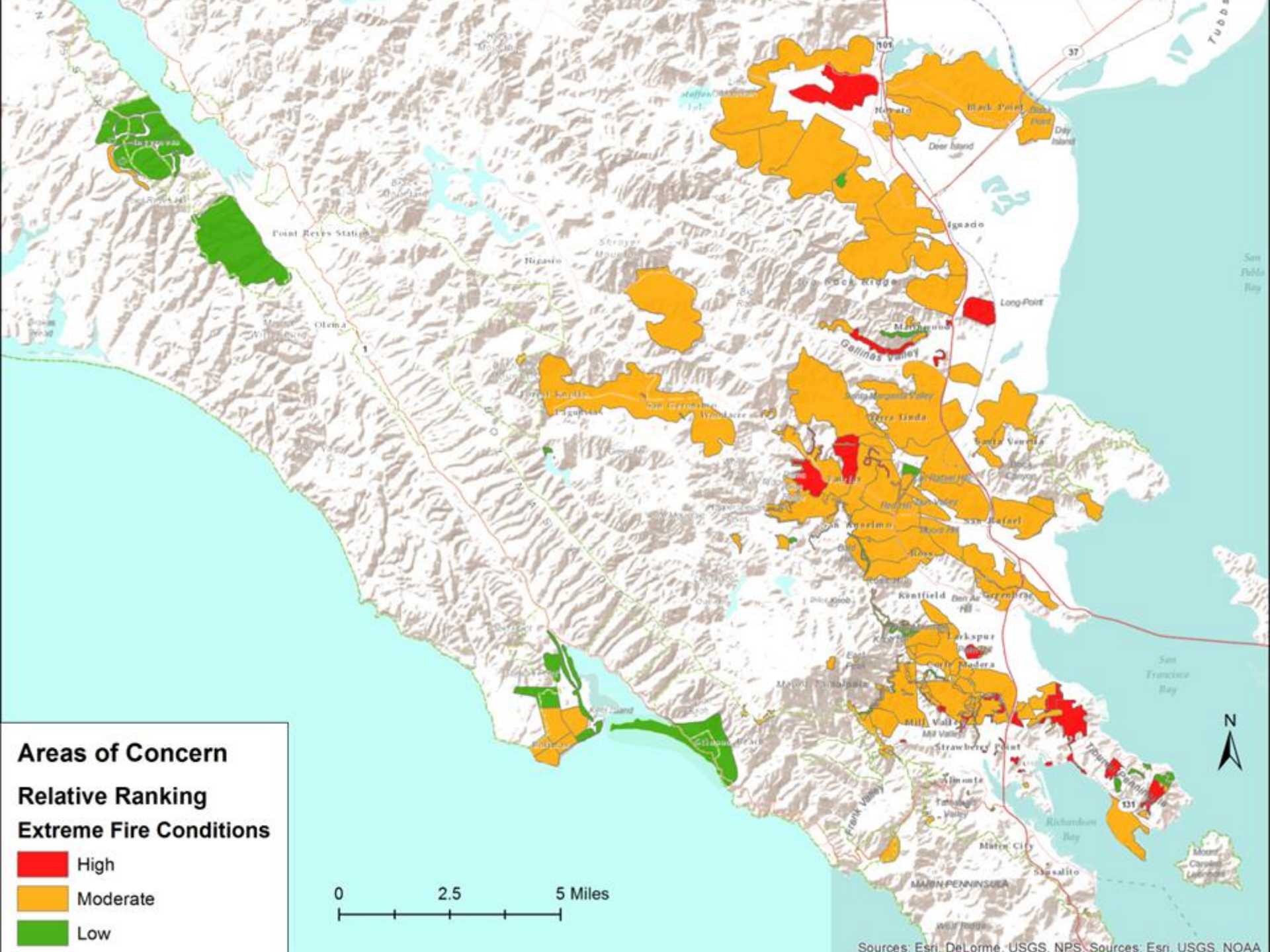
0 2.5 5 10  
Miles

**Legend**

**Composite Map**

**Extreme Fire Conditions**

- Very High Flame Length, Rate of Spread, & Pop. Density
- High Flame Length, Rate of Spread, & Pop. Density
- Moderate Flame Length, Rate of Spread, & Pop. Density



**Areas of Concern**  
**Relative Ranking**  
**Extreme Fire Conditions**

- High
- Moderate
- Low

0 2.5 5 Miles

Sources: Esri, DeLorme, USGS, NPS, Sources: Esri, USGS, NOAA

# Recommendations based on 5 key goals

- **Continue to identify & evaluate fire hazard**
- **Articulate & promote land use planning related to fire risk**
- **Collaborative development & implementation of wildland fire protection plans**
- **Integrate fire & fuel management practices**
- **Increase awareness, knowledge & actions individuals & communities can take to reduce loss & property damage from wildland fires**

# Recommendations

## **Goal: Continue to identify & evaluate fire hazard**

- Share, maintain fire data, maintain multi-agency hazard & resource GIS
- Inventory structures with shake/shingle roofs to target education

## **Goal: Articulate & promote land use planning related to fire risk**

- Continue outreach, integrate Firewise approaches into planning documents
- Implement structure ignitability activities, adopt WUI codes
- Funding for dedicated defensible space inspectors
- Make tree removal process less cumbersome & costly
- Assist landowners with green waste disposal – chipper days
- Coordinate with county to integrate Firewise approaches into planning docs and ordinances

# Recommendations

## **Goal: Collaborative development & implementation of wildland fire protection plans**

- Use CWPP to collaborate with landowners to develop fuel reduction strategies
- Support local scale CWPP to create transition zones between residential areas & open space to increase defensible space

## **Goal: Integrate fire & fuel management practices**

- Fire & Land Managers work on strategic fire hazard reduction
- Implement/maintain veg/fuel mgt projects along highly traveled roads
- Prioritize evacuations routes for fuel/vegetation reduction work
- Develop traffic congestion and stronger parking enforcement controls along evacuation routes
- Fire hazard reduction on vacant properties

# Recommendations

**Goal: Increase awareness, knowledge & actions individuals & communities can take to reduce loss & property damage from wildland fires**

- Defensible space & structure ignitability education/awareness
- Continue READY, SET, GO & Firewise USA programs
- Partner with neighborhoods in the WUI on education, Firewise
- Increase capacity for enforcement of defensible space, including absentee property owners, vacant lot fire hazard reduction
- Formalize defensible space assistance program for seniors

# Marin County Fire Programs

## CWPP Guides

### **Fire Prevention**

- Education
- Enforcement
- Engineering

### **Fuel/Veg Management**

- Collaboration with private landowners & county agencies to maintain & create strategic fuel reduction projects
- Maintain current investment in fuel breaks & fire roads

### **County Fire Code & Ordinances**

- Seasonal defensible space program
- Fire Code enforcement , VMPs
- Structural Ignitability
- Adopting WUI code

### **Community Defense**

- Work with **homeowners associations** & neighborhoods to address, evacuation routes, open space, vacant lots, green waste disposal, defensible space
- Ready, Set, Go Program
- Firewise USA Program

# Contact Information

Todd Lando

[toddlando@firesafemarin.org](mailto:toddlando@firesafemarin.org)

FIRESafe MARIN  
P.O. Box 2831  
San Anselmo, CA 94979

415-570-4FSM [4376]



Christie Neill

[cneill@marincounty.org](mailto:cneill@marincounty.org)

Marin County Fire Department  
33 Castle Rock Ave.  
Woodacre, CA 94973

415-473-3759







SAN RAFAEL FIRE DEPARTMENT

# San Rafael Fire Vegetation Management



Fire Inspector - Patrick Bignardi



SAN RAFAEL FIRE DEPARTMENT

# San Rafael Fire Vegetation Management

## Wildland Urban Interface (WUI)

refers to the zone of transition between unoccupied land and human development. These lands and communities adjacent to and surrounded by **wildlands** are at risk of wildfires.

## Defensible Space

is an area around a building in which vegetation, debris, and other types of combustible fuels have been treated, cleared, or reduced to slow the spread of fire to and from the building.

San Rafael Ordinance **4.12** requires homeowners living within designated WUI zones to maintain up to 100 feet of defensible space around structures or to their property line, whichever is closer.



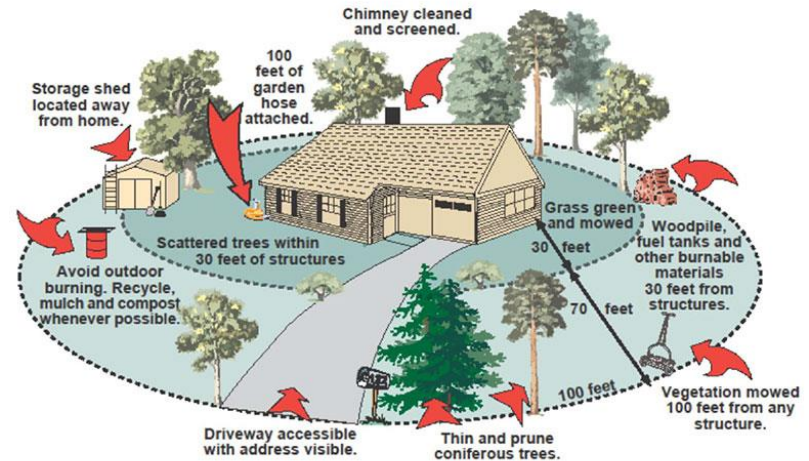
SAN RAFAEL FIRE DEPARTMENT

# San Rafael Fire

## Vegetation Management

### Vegetation Requirements within 100 feet of homes or to the property line

1. Remove all dead plants (vegetation).
2. Remove dead or dry leaves in rain gutters.
3. Trim tree branches 10 feet from other trees and from ground.
4. Trim branches 10 feet away from your chimney.
5. Relocate wood piles away from home and cover with a non flammable cover.
6. Remove or prune shrubs near windows.
7. Remove vegetation and items from under decks.



8. Create a separation between trees, shrubs and items that could catch fire, such as patio furniture, wood piles, swing sets, etc.
9. Cut or mow grass down to a max height of 3 in.
10. Create horizontal spacing between shrubs and trees.
11. Create vertical spacing between grass, shrubs and trees.
12. Remove fallen leaves, debris, and small branches to less than a depth of 3 inches.



SAN RAFAEL FIRE DEPARTMENT

# San Rafael Fire

## Vegetation Management

### Remove Flammable Plants

- Bamboo
- Acacia
- Broom
- Pampas Grass
- Juniper



San Rafael Ordinance  
**4.12.030** requires:

Remove all Junipers and Bamboo within 15' of any structure. Single specimens of Junipers or Bamboo are permitted beyond 15' of a structure if separated by two (2) times the height of the taller of the nearest bush.



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# San Rafael Fire Vegetation Management

## Ember Impingement:


- produced as trees and other objects burn in urban-wildland fires
- may be carried by winds over long distances.
- ultimately come to rest and may ignite surfaces far removed from the fire, resulting in fire spread.

## Harden Your Home.

Most homes are destroyed by wildfire because wind driven burning embers come into contact with something easily ignited on, in or near the home.




Unclutter the Gutter!



During wildfires, your home may be exposed to thousands of embers that rain down on your home. Take action now to reduce the ember threat.

## Deck Danger

- 
1. vulnerable to embers during wildfire
  2. area underneath the deck is particularly susceptible to ember attack



SAN RAFAEL FIRE DEPARTMENT

# 2017 WUI Efforts - Review

## Vegetation Modification:

- 272 cubic yards of junipers cleared.
  - Approx. 1850 WUI inspections.
  - 80 % compliance rate.
- Bamboo enforcement efforts.
- 182 tons of vegetation and flammable debris cleared.



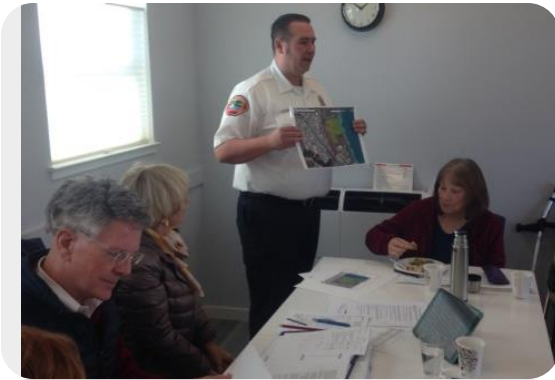


SAN RAFAEL FIRE DEPARTMENT

# 2017 WUI Efforts - Review

## Community Outreach:

- Defensible space presentations
- Wildfire preparedness pointers
- Several HOA presentations



## Community Assessments:

- School Wildfire Risk Assessment
- Residential Risk Assessment
- Open-space Risk Assessment
- HOA Wildfire Risk Assessment



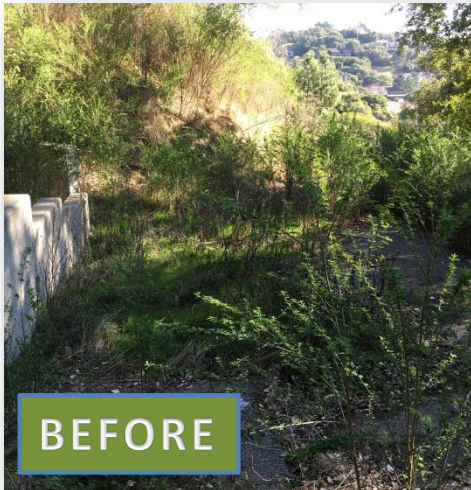


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# 2018 Continuing Efforts

## Fire road maintenance:

- Identify and grade all in need.
- Clear vegetation up and out.
  - 10' on each side and 13.5' vertical.
- Create shaded fuel breaks.





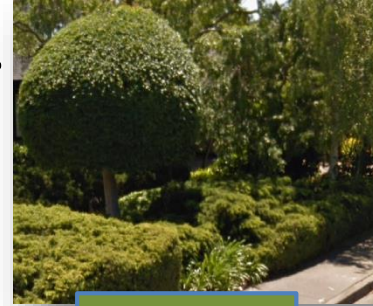


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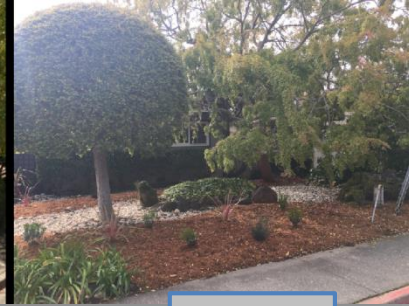
# 2018 Continuing Efforts

## YTD - Vegetation Modification:

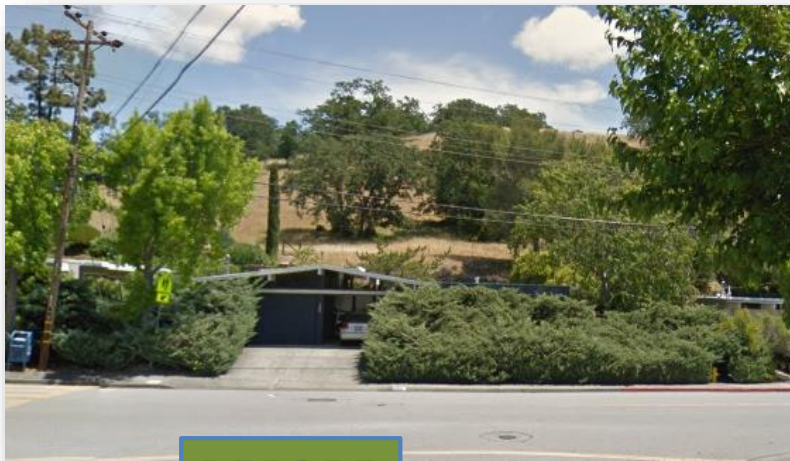
- **98** tons of junipers cleared from WUI.
  - Approx. **150** WUI inspections.
  - 80 %** compliance rate.
- Bamboo & **juniper** enforcement efforts.
- Large shaded **fuel breaks** created & **goats** in the open-space.



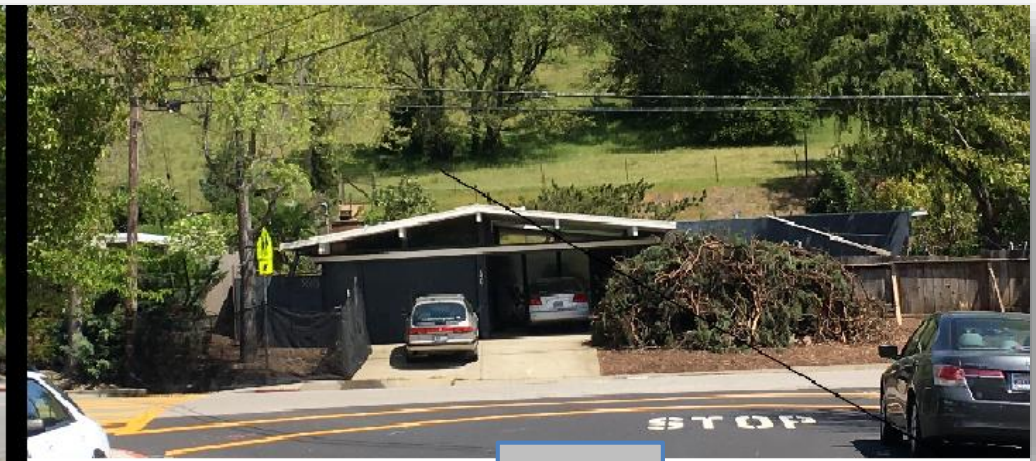
BEFORE



AFTER



BEFORE



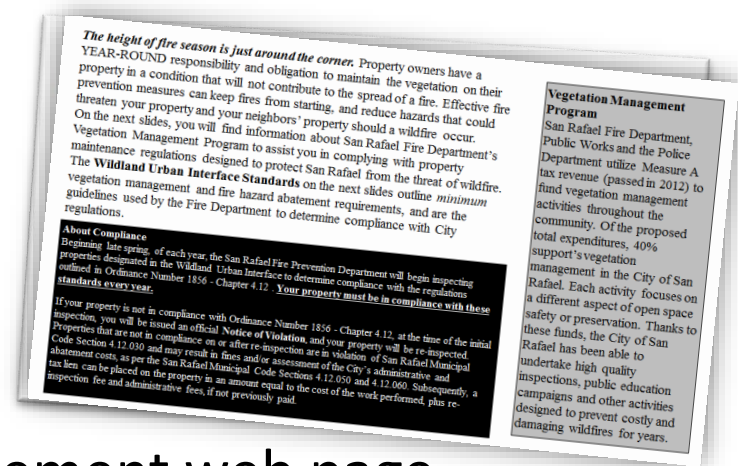
AFTER



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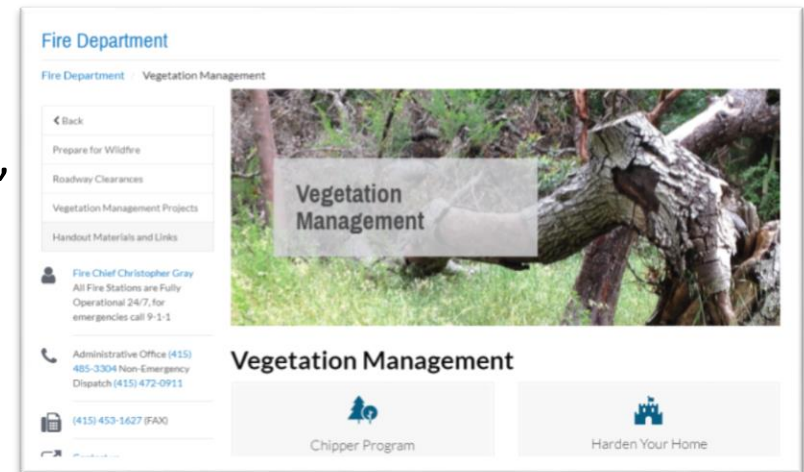
# 2018 *New* Efforts

- NEW Annual Inspection Notice going out to 9,000+ WUI homes.
  - May – June 2018



- Newly updated Vegetation Management web page.

- NEW digital & online tools:
  - ‘Hazard Assessment Request Form’
  - ‘Roadway Clearances Form’



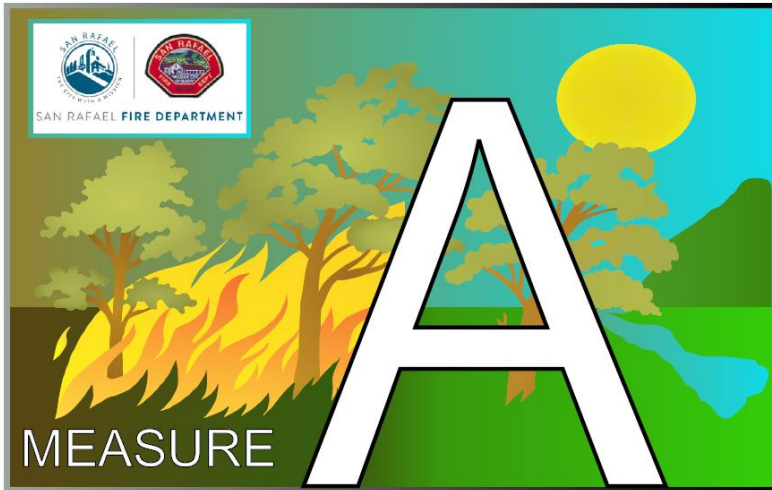


SAN RAFAEL FIRE DEPARTMENT

*Thank you.*

- Call us with any comments or concerns.

# San Rafael Fire Department Vegetation Management



Marshall Nau – Patrick Bignardi  
415-485-3457      415-458-8385



Tony Walls

Senior Vegetation Program Manager  
(PG&E)

# Community Wildfire Safety Program

May 3, 2018



Together, Building  
a Better California



# Community Wildfire Safety Program

Nothing is more important to us than keeping our customers and communities safe. Extreme weather events driven by climate change are causing unprecedented and unanticipated wildfires. Our Community Wildfire Safety Program will help reduce wildfire threats and strengthen our communities for the future.



**WHAT'S HAPPENING.** We are bolstering wildfire prevention and emergency response efforts, putting in place new and enhanced safety measures, and doing more over the long term to harden our electric system to help reduce wildfire risks and keep our customers safe.



**WHY IT'S HAPPENING.** Years of drought, extreme heat and 129 million dead trees have created a “new normal” for our state, and we must continue to adapt to meet these challenges.



**WHAT IT MEANS FOR CUSTOMERS.** We want to work together to share information, provide resources and help our customers and communities prepare for and stay safe during extreme weather events.



# We Are Taking Action

## Bolstering wildfire prevention and emergency response efforts

- Establishing a **Wildfire Safety Operations Center** to monitor wildfire risks in real-time
- **Increasing PG&E fire safety resources** to protect infrastructure, assist utility crews, and support first responders as needed
- **Expanding our network of PG&E weather stations** to enhance weather forecasting and modeling

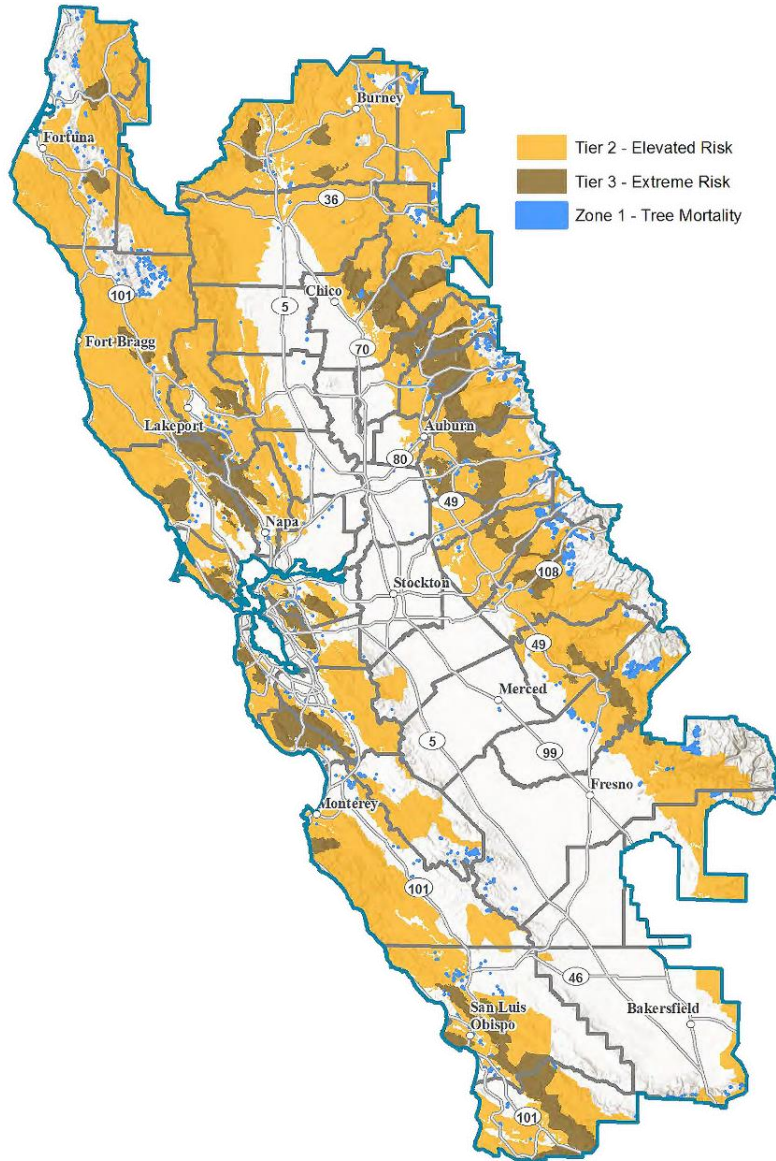
## Working with our communities on new and enhanced safety measures

- **Executing enhanced vegetation management** in high fire-threat areas
- **Expanding our disabling of reclosers and circuit breakers**
- **Refining and executing protocols to proactively turn off electric power** where extreme fire conditions are occurring

## Longer term, hardening our electric system and integrating new technologies

- Investing in **stronger, coated power lines**
- **Replacing wood poles** with non-wood poles in some areas in the coming years
- Spacing lines farther apart
- Working with communities to **develop microgrids**

# CPUC High Fire-Threat District (HFTD) Map



- In January 2018, the California Public Utilities Commission (CPUC) adopted a map designating the areas that are most at risk for wildfire.
  - Tier 3 areas are at extreme risk of wildfire
  - Tier 2 areas are at elevated risk for wildfire
  - Zone 1 areas are those with high tree mortality (dead and dying trees) rates
- This map was developed in coordination with CAL FIRE and based on input from electric utilities, communications infrastructure providers, and local public safety agencies.
- The map can be accessed at [cpuc.ca.gov/FireThreatMaps](http://cpuc.ca.gov/FireThreatMaps)





# Increased Vegetation Clearances

- We are expanding our routine vegetation work to meet new CPUC regulations effective December 2017 that require greater clearances to increase safety in high fire-threat areas.
- We will also be working with our customers to **create fire safety zones around power lines by removing vegetation that could act as fuel** in the event a fire does occur.

<b>4 FEET</b>	<ul style="list-style-type: none"><li>• New CPUC requirement of 4 feet minimum clearance year-round in high fire-threat areas</li><li>• For some communities, it's increased from the previous minimum requirement of 1.5 feet</li></ul>
<b>12 FEET OR MORE</b>	<ul style="list-style-type: none"><li>• Meeting the CPUC minimum clearance requirement of 4 feet requires creating clearances up to 12 feet or more to ensure compliance until the next inspection</li><li>• This work may involve some tree removal to help ensure safety</li></ul>
<b>15+ FEET</b>	<ul style="list-style-type: none"><li>• As an added layer of protection, extending clearances to at least 15 feet on either side of the power line to create fire safety zones in high fire-threat areas (Tier 3)</li></ul>

# Fire Safety Zones

- Fire Safety Zones of at least 15 feet on either side of power lines can help reduce wildfire risks, ensure access for first responders, and protect public safety by:
  - **Creating safe space** between power lines and trees and brush that can act as fuel for wildfires
  - **Helping slow the spread of fires** and provide safe access for CAL FIRE and local firefighters responding to wildfires
  - **Enhancing defensible space** around homes, businesses, and properties, improving safety





## Contact Us

Customers with questions can:

- Call us at **1-800-PGE-5000**
- Visit **[pgecommitment.com](http://pgecommitment.com)**



Rich Shortall  
FireSafe Marin Board  
President  
(FireSafe Marin)



**FIREWISE USA™**  
RESIDENTS REDUCING WILDFIRE RISKS

# **FIRE** Safe M A R I N



**FIREWISE USA™**  
RESIDENTS REDUCING WILDFIRE RISKS

# Your Fire Safe Council

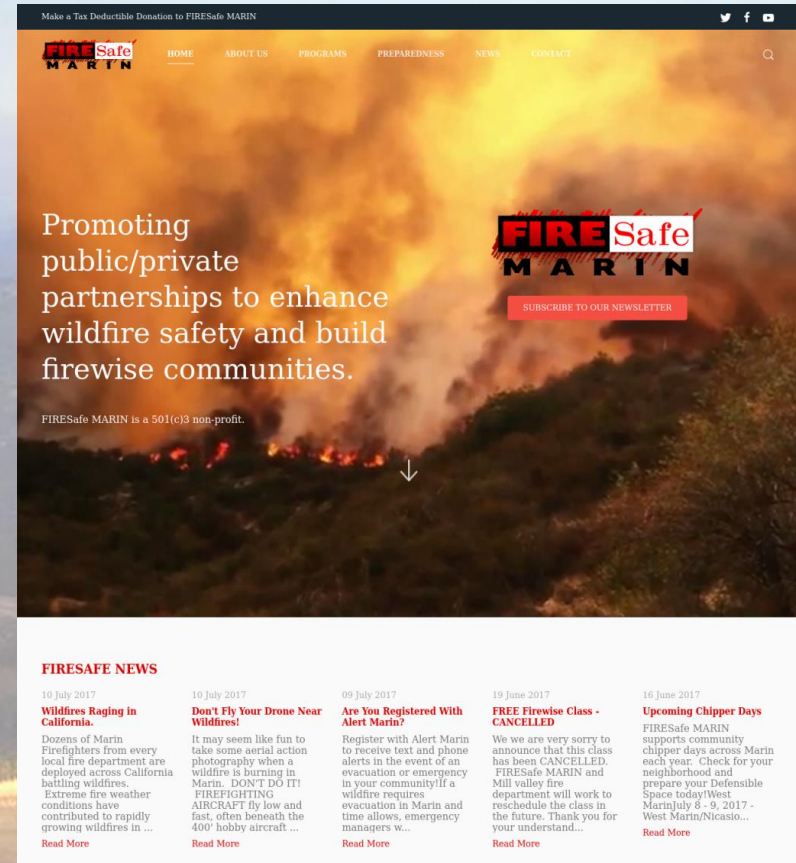


**FIREWISE USA™**  
RESIDENTS REDUCING WILDFIRE RISKS



Dedicated to reducing Wildland Fire hazards and improving Fire-safety awareness in Marin.

- \* 501(c)3 non-profit
- \* Members are Fire Departments, Land Managers, HOAs, Neighborhoods, Businesses
- \* Meets monthly since 1992
- \* Manages state, federal, private grants to reduce or mitigate wildfire hazards



[www.FireSafeMarin.org](http://www.FireSafeMarin.org)



[www.firesafemarin.org/firewise](http://www.firesafemarin.org/firewise)

2014-2017 four-year funding  
\$1,267,773

Our fuel reduction and wildfire prevention efforts in span the entire county involving thousands of volunteer hours and dozens of state, federal, and local public land management agencies, private homeowner's associations, businesses, PG&E, and every Marin fire agency.

# Project Types



**FIREWISE USA™**  
RESIDENTS REDUCING WILDFIRE RISKS

1. Community Wildfire Protection Plan
2. Vegetation Management Plans
3. Defensible Space  
Chipper Days
4. Evacuation Route Fuel Reduction
5. Wildfire Detection Cameras
6. Firewise Community Program



## WHAT IS FIREWISE USA?

- National recognition program
- Managed by the NFPA
- Framework for organizing to reduce hazard and risk
- Education tools
- Community builder
- 1400 sites in 42 states



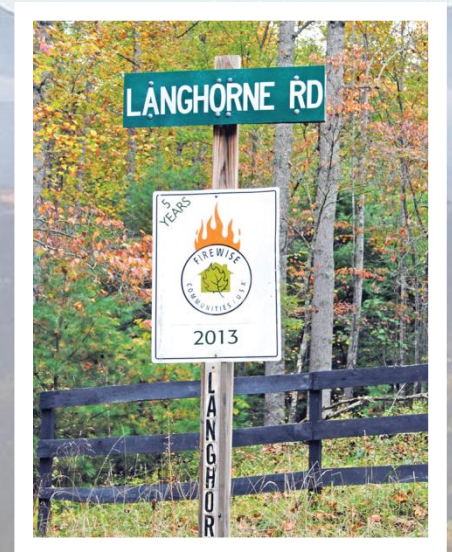
# Benefits



**FIREWISE USA™**  
RESIDENTS REDUCING WILDFIRE RISKS

Firewise Communities are more likely to survive wildfires!

- Tools for learning about wildfire
- Framework for action
- Community-building and collaboration
- **Insurance premium discounts**
- Grant eligibility...
- Great looking signs!



## Access to FIREsafe MARIN Chipper Grants

- Up to \$1500 annually
- Available only to:
  - Recognized Firewise Sites
  - New sites, in progress



# Requirements



**FIREWISE USA™**  
RESIDENTS REDUCING WILDFIRE RISKS

Create a **Firewise Board/Committee**

Complete a **wildfire risk assessment**

Create an **Action Plan**

Invest a minimum **\$24.14 /home** annually

**Firewise education event** once per year

Complete and submit **on-line application**



Thank you!

**FIRE** Safe  
M A R I N





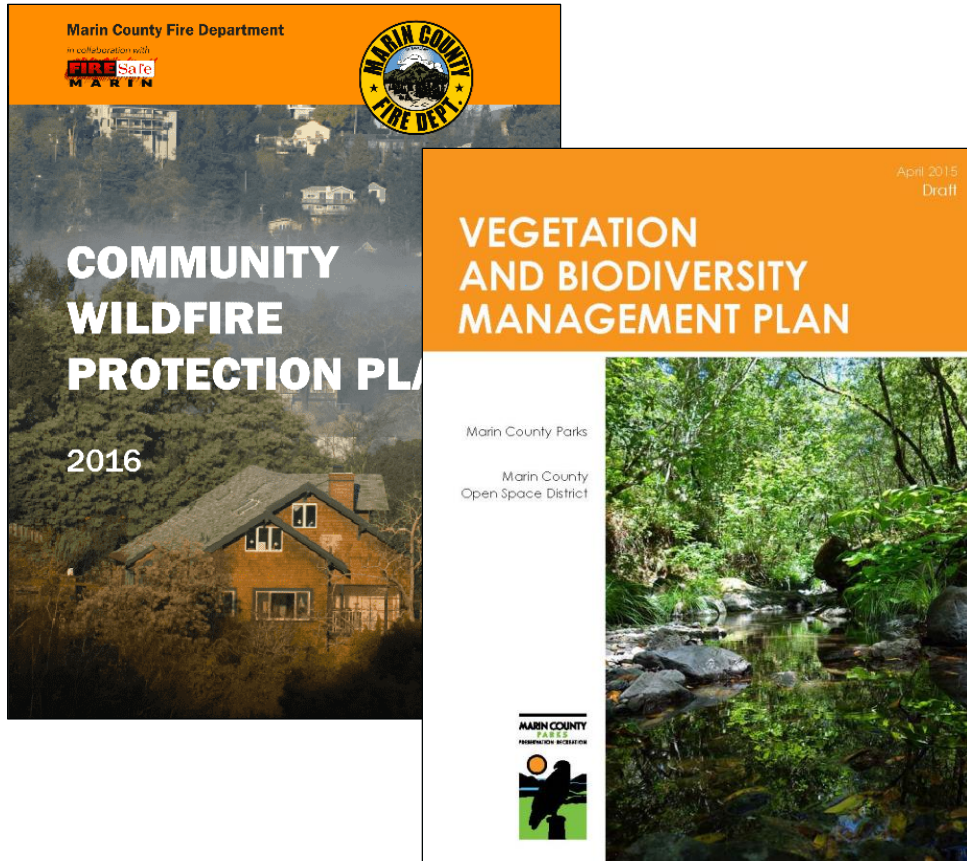
CARING FOR WHAT WE HAVE  
• 2012-2021 •

# Reducing Wildfire Risk in Marin

Sarah Minnick  
Vegetation and Fire Ecologist  
(Marin County Parks)

MAY 3, 2018

# GUIDANCE AND COORDINATION



- Collaboration on priorities
- Coordination through FIRE Safe MARIN
  - Grants, education, planning
- Strategic fuel reduction
- Actions with multiple benefits
  - Native habitat restoration
  - Invasive species control

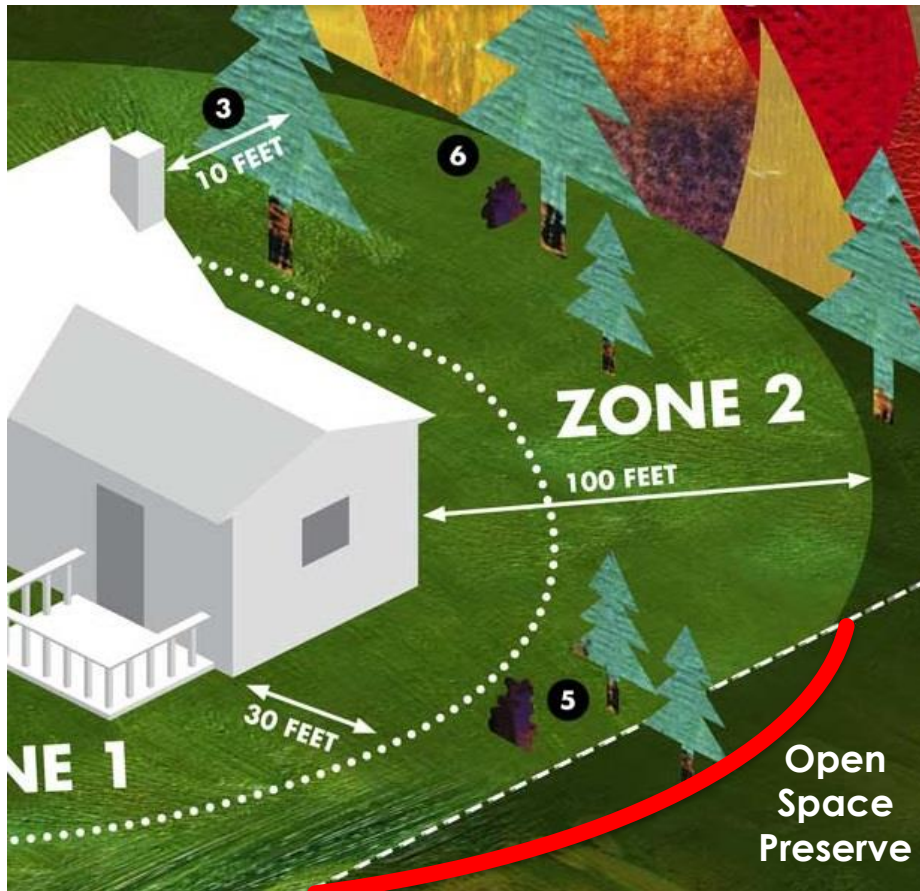
# FUEL REDUCTION



- **Defensible space** – around neighboring homes
- **Fuelbreaks** – strategic fuel reduction
- **Emergency access** – fire road clearance
- **Ignition prevention** – roadsides, powerlines
- **Fuel reduction projects** – thinning, grazing

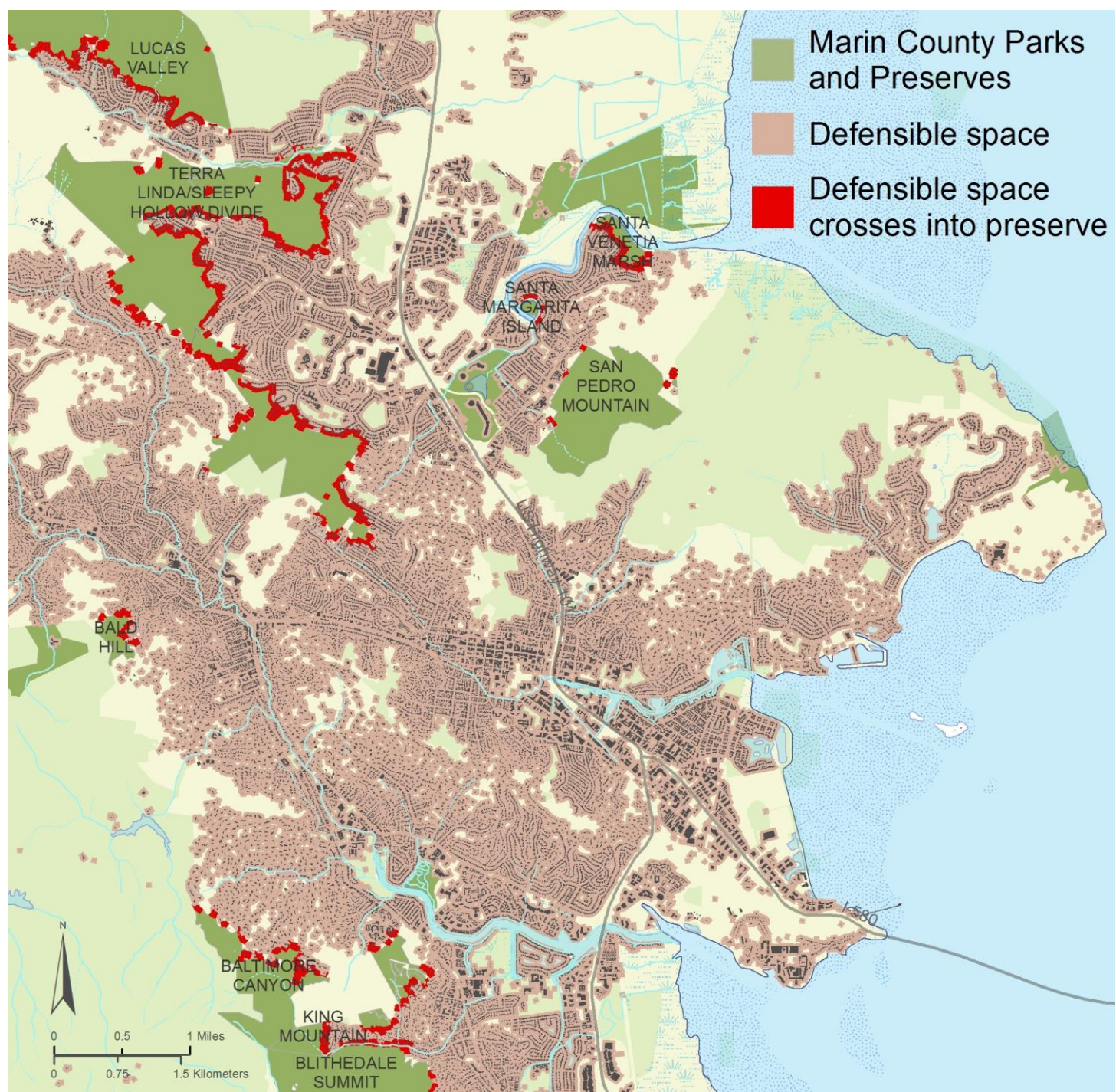


# DEFENSIBLE SPACE



- 53 acres of mowing
- 145 acres Wide Area Fuelbreaks near homes
- Defensible space permit program
  - Site visits and consultations
  - Support CAL FIRE recommended actions
  - Neighbors can maintain their full defensible space





# DEFENSIBLE SPACE

68.




3501 Civic Center Drive  
Suite 260  
San Rafael, CA 94903



FIRST CLASS MAIL  
US POSTAGE  
PAID  
COUNTY OF MARIN

## Open Space Neighbor

1234 Oak Lane  
San Rafael, CA 94903

## GET READY FOR WILDFIRE



**HARDEN YOUR HOME**

Flying embers can destroy homes up to a mile ahead of a wildfire. Prepare by making your house fire resistant.



**CREATE DEFENSIBLE SPACE**

California law requires homeowners to create a "Defensible Space Zone" around their homes.

**Read on to learn more about creating defensible space next to a Marin County Open Space District preserve. For more information about how to protect your home from fire, visit [firesafemarin.org](http://firesafemarin.org)**

## PROTECTING YOUR HOME FROM WILDFIRE



WILDFIRE IS COMING.  
ARE YOU READY?

ILLUSTRATION COURTESY: CAL FIRE

**Does your home border a Marin County open space preserve?**

Throughout the year, Marin County open space, Marin County Fire Department, and local fire agencies reduce the build-up of fire fuels in the county's preserves. If it's necessary to mow grass in a preserve to obtain the 100-foot of defensible space around your home, please proceed with caution according to the guidelines below.

- **Determine if you need a permit.** No permit is needed to mow grass or other annual plants within 100 feet of your home on most preserves land. However, Ring Mountain and Old Saint Hilary's preserves do require a permit to protect endangered plants found there. A permit is also needed to remove woody vegetation like bushes or trees. Request a permit from the Vegetation and Fire Ecologist at (415) 473-5089.
- **Confirm that the property where you want to work is owned by Marin County.** Check with the Marin County Assessor-Recorder-County Clerk's Office to determine the location of your property line. Call (415) 473-7215 or visit [marincountyparks.org](http://marincountyparks.org).
- **Determine your defensible space zone.** Measure 100 feet out from your home, not your property boundary.
- **Never mow or cut during hot and dry weather.** Mow early in the morning when temperatures are cooler like foggy days.
- **Protect wildlife.** Before mowing, walk through the area encouraging wildlife to leave. If you find a bird nest, wait until it is no longer being used before mowing the area.
- **Use caution.** Don't start a fire. Hot tools or metal blades striking rocks can start fires. Keep a fire extinguisher and/or hose at the work site.
- **Mow only grass and other annual plants.** Removing woody vegetation like bushes and trees requires a permit (see above).

The majority of property owners adjacent to Marin County open space preserves can obtain enough defensible space on their own property, but property owners can mow grass and other annual plants in the preserves if necessary to obtain the 100-foot of defensible space around homes. See the sidebar for more details.

[marincountyparks.org](http://marincountyparks.org)

Alternative formats are available upon request.  
The MCCDD is a special district pursuant to the California Public Resources Code. Marin County Parks oversees the management of the county parks system and provides public information on behalf of the MCCDD.

02/2018

# DEFENSIBLE SPACE: BEFORE FIRE



# DEFENSIBLE SPACE: AFTER FIRE



# FUEL BREAKS



# FUEL BREAKS

reduced fuel zone





# PG&E GASLINE CLEARANCE: BEFORE



# PG&E GASLINE CLEARANCE: AFTER



# PG&E GASLINE CLEARANCE: BEFORE



# PG&E GASLINE CLEARANCE: AFTER



# FUEL REDUCTION: THINNING (BEFORE)



# FUEL REDUCTION: THINNING (AFTER)



# FUEL REDUCTION: CHIPPING



# FUEL REDUCTION: BURN PILES





# FUEL REDUCTION: GRAZING



# FUEL REDUCTION: GRAZING



# REDUCING WILDFIRE RISK IN MARIN



- **1,816 acres** managed annually for fire hazard reduction
  - **53 acres** ignition prevention and defensible space mowing
  - **249 acres** emergency access mowing & pruning
  - **23 acres** fuelbreaks maintained
  - **1,346 acres** grazed
  - **145 acres** thinned since 2003
- In partnership with county and local fire departments



CARING FOR WHAT WE HAVE  
• 2012-2021 •

# THANK YOU

Main Office  
3501 Civic Center Drive, Suite 260  
San Rafael, CA 94903

Website: [marincountyparks.org](http://marincountyparks.org)

Phone: (415) 473-6387



@marincountyparks



@marincountyparks



@marincountyparks



[youtube.com/marinparks](https://youtube.com/marinparks)



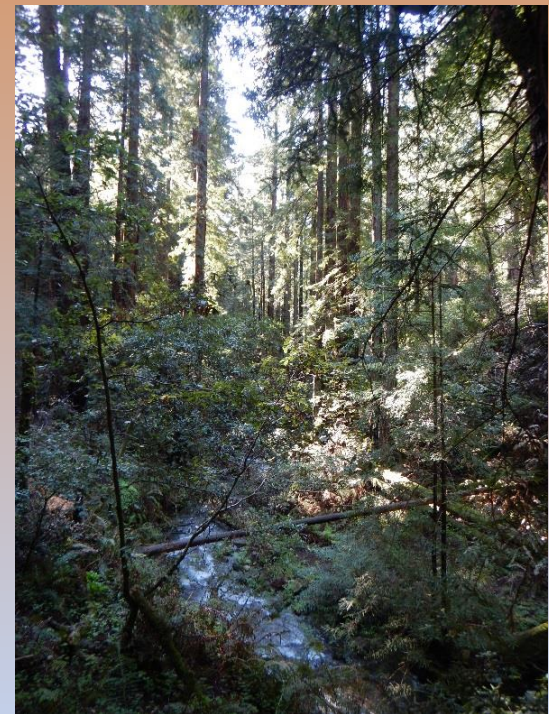
Cyndy Chafer

Natural Resource Program Manager  
(California State Parks – Bay Area  
District)



## State Parks in Marin County:

- China Camp State Park
- Mount Tamalpais State Park
- Samuel P. Taylor State Park
- Olompali State Historic Park
- Tomales Bay State Park
- Angel Island State Park
- Marconi Conference Center SHP



*The Mission of California Department of Parks and Recreation is to provide for the health, inspiration, and education of the people of California by helping to preserve the state's extraordinary biological diversity, protecting its most valued natural and cultural resources, and creating opportunities for high-quality outdoor recreation.*

# Resource Protection and Management

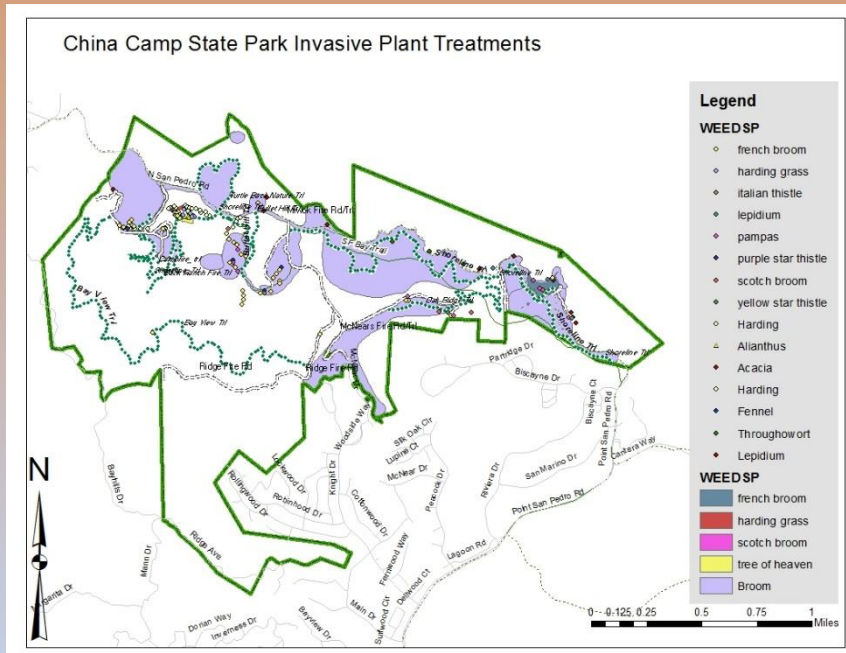
- The goal of the State Parks resource management program is to protect, restore, and maintain the natural resources in the State Park system.





# Vegetation Management

- Invasive plant control
  - Broom
  - yellow star thistle
  - Eucalyptus



# China Camp State Park



FRIENDS  
OF  
CHINA  
CAMP



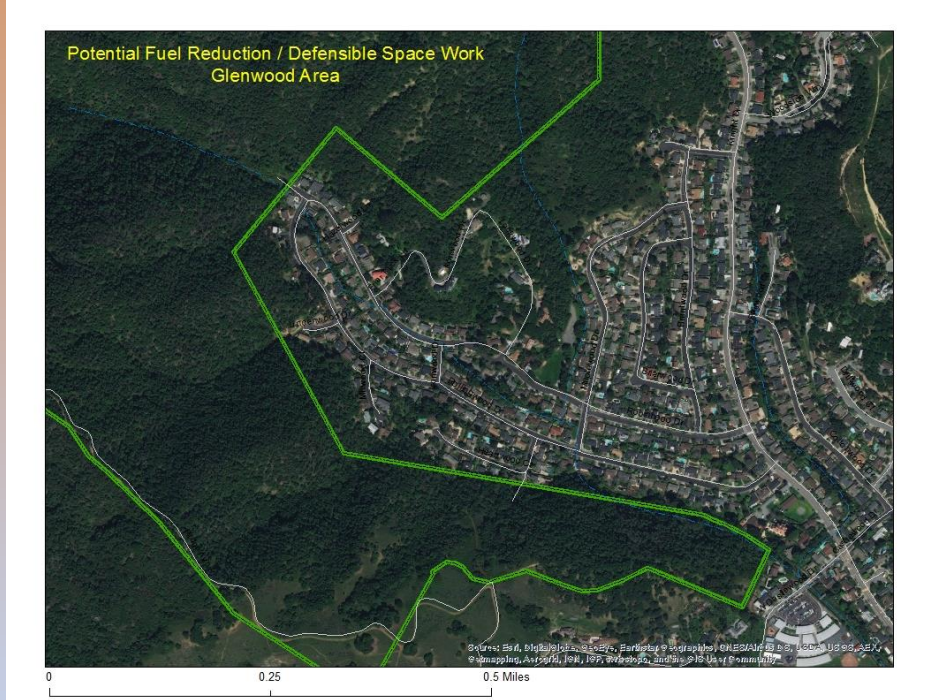
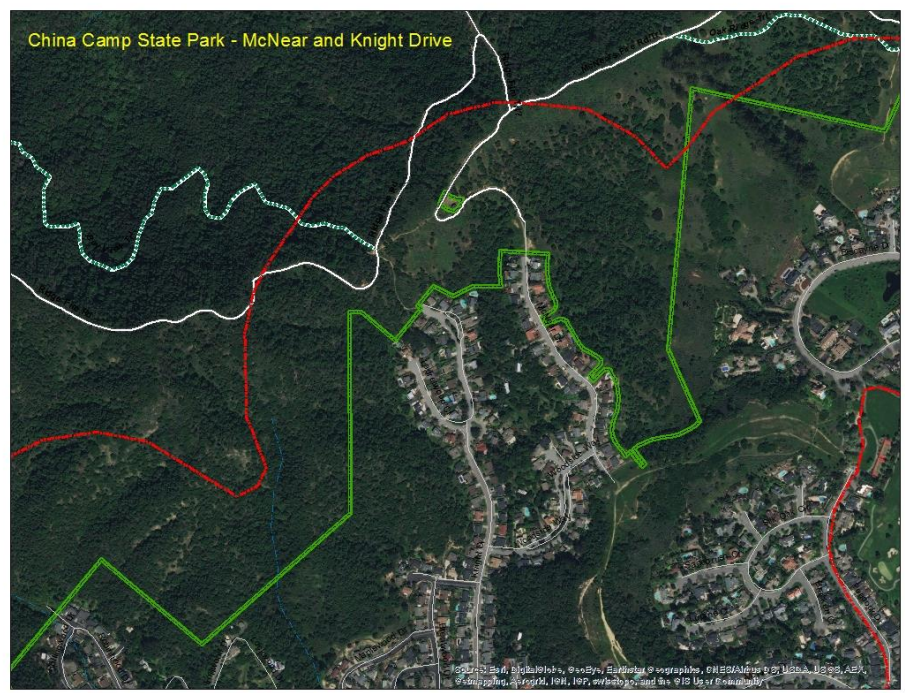
## VOLUNTEERS NEEDED!

Volunteers are the heart of Friends of China Camp. We lead tours manage park operations. We are always looking for new volunteer and consider joining our team – send us the form below, and we'll

# Vegetation Management

- Vegetation Modification Zones







# Fact Sheet

## Bay Area State Parks and the Wildland Urban Interface

The California Department of Parks and Recreation (State Parks) maintains wildland parks in order to preserve the natural, cultural, and scenic features for the people of California. Many of these native ecosystems contain plants that can become flammable under specific environmental conditions of high wind, high temperature and low humidity. These ecosystems inevitably burn either from natural or human causes.

State Parks policy permits vegetation modification on Department lands only when, 1) required by state law to clear around its structures/facilities, 2) previous legal commitments have been made to allow the creation and maintenance of fuel modification areas, 3) it is critical to the protection of life or park resources, or 4) park vegetation up to 130 horizontal feet from a non-Department habitable structure must be modified for a neighbor's defensible space.

### What you can do as a State Parks Neighbor

Buildings constructed adjacent to park units in the wildland-urban interface zone are at risk from wildland fires. The design and maintenance of the structure itself is the most important factor in building survivability during a wildfire. Defensible space and hardening your home (i.e., making your home less ignitable) will dramatically increase the chance of your house surviving a wildfire and help protect firefighters.

Contact your local Fire Agency to obtain Home Hardening and Defensible Space guidelines for your property and ensure your property meets those guidelines.

Determine your defensible space zone by measuring the distance from the closest exterior wall of your home to the property line. If this distance is 100 feet or greater, all of the defensible space can be created on your property. If this distance is less than 100 feet it may be desirable, depending on the type of vegetation present, to create some of the defensible space on neighboring property. If so, determine who owns the neighboring land.

As a State Parks neighbor, you or your contractor can conduct vegetation work in the State Park through our Boundary Vegetation Modification Right of Entry (BVMROE) Permit process.\* The BVMROE Permit is intended to give State Parks neighbors that share a common boundary with a State Park permission to temporarily access State Park land to conduct vegetation work along the boundary in order to achieve defensible space for their home. Homeowner groups can also pool resources and obtain one permit for multiple contiguous properties along a park boundary.

To learn more about obtaining a State Parks Boundary Vegetation Modification Right of Entry permit to complete defensible space for your home, please contact:

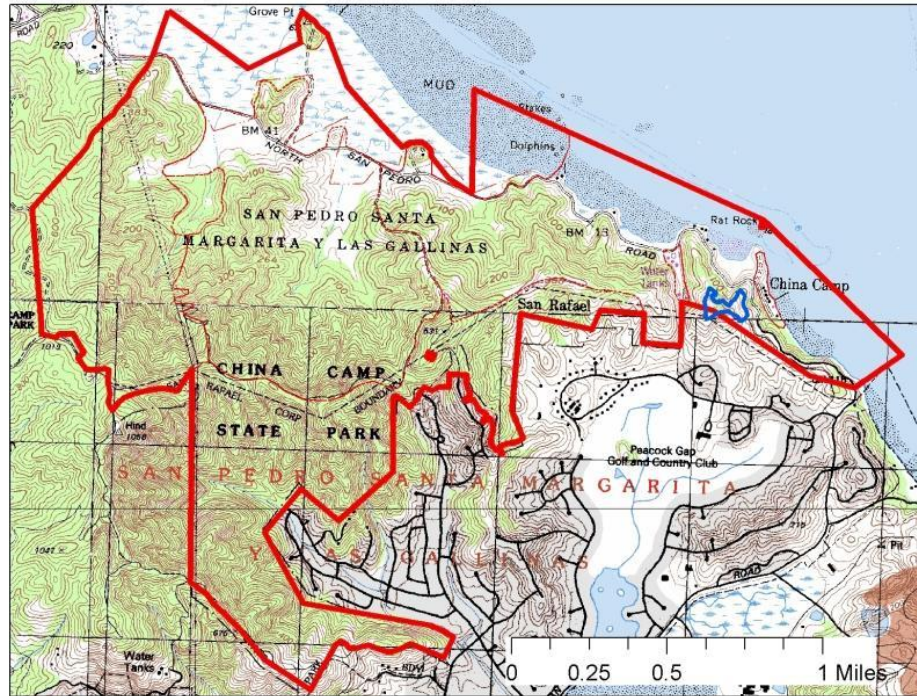
Cyndy Shafer, California State Parks Bay Area District  
(707) 769-5652 x208

\* A permit fee may be required. It may take up to a week to respond to inquiries regarding permits and processing a permit usually takes several weeks.



# Wildfire Management

China Camp State Park: June 23, 2009 Fire



## Legend

— China\_Camp\_June\_23\_2009



Recent Fires in  
China Camp SP:

- 2009 Fire
- Village Fire 2015
- Bay View Fire 2016
- Village Fire 2017





# Questions?

Contact: Cyndy Shafer

Natural Resource Program Manager

Bay Area District, California State Parks

[Cyndy.Shafer@parks.ca.gov](mailto:Cyndy.Shafer@parks.ca.gov)





Mark Brown

Deputy Chief

Marin County Fire Department





# Evacuations

Responsibilities and Procedure

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- Incident Commander/Unified Commander
  - Identify areas to be evacuated
  - Determine levels of evacuation
  - Determine levels of closure
  - Consider need for evacuation shelters

# Responsibilities

---

- Law Enforcement
  - Lead decision maker for evacuations during a law enforcement event
  - Perform the evacuations
  - Establish and maintain road closures

# Responsibilities

---

- Fire
  - Lead decision maker for evacuations during fire events
  - Assist evacuations as appropriate

# Responsibilities

---

- OES
  - Manage and maintain notification systems
  - Create evacuation messaging
  - Send all evacuation messaging
  - Support evacuation shelters

# Responsibilities

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- Evacuation and MTZ Checklist
  - Good tool/field reference
  - It is recommended that all fire and law enforcement vehicles carry the Marin County Evacuation and MTZ Quick Reference as a reference tool

**Evacuation Definitions**

- **Evacuation Order** – Movement of community members out of a defined area due to an immediate threat to life and property from an emergency incident. An Evacuation Order should be used when there is potential or actual threat to civilian life within 1 to 2 hours or when the IC deems it necessary to protect civilians.
- **Evacuation Warning** – Alerting of community members in a defined area of a potential threat to life and property from an emergency incident. An Evacuation Warning may be issued when the potential or actual threat to civilian life is more than 2 hours away.
- **Levels of Closure** – A closure prohibits the usage or occupancy of a defined area such as a park, beach, or road due to potential or actual threat to public health and/or safety. Media is allowed under all closure levels unless prohibited under PC 409.5
  - **Level 1 Closure** – Closed to all traffic except local residents; may require escorts
  - **Level 2 Closure** – Closed to all traffic except FD, LE and critical incident resources (i.e. utility companies, Caltrans, County Roads, etc.)
  - **Level 3 Closure** – Closed to all traffic except FD and LE.
  - **Level 4 Closure** – Closed to all traffic including FD and LE.
- **Shelter in Place** – Directing community members to stay secured inside their current location. Used if evacuation will cause higher potential of loss of life.
- **Safe Refuge Area** – A temporary location to hold evacuees until safe evacuation is possible.
- **Safe Points** – Temporary area outside of affected area to stage evacuees until emergency is over or a shelter can be opened.

**MTZ Fire**

**Incident Commander – Checklist**

- Unified Command** (LG Fire/MCFD/LE)
- Central Ordering Point** (Woodacre)
- Communications** – Local MERA CMD Patched to MRN-Local (D5-H5)  
Tactical VFIRE24, VFIRE25, CDF Tac 1 or CDF Tac 4
- Establish Incident Objectives**
- Establish Immediate Priorities**
- Establish ICP**
- Actions**
  - Evacuation** – OES Duty Officer – Comm Center will make contact
  - Media Info** – Call Center Phone Number – 415-473-7191

# Procedure

- Evacuation Definitions
  - Evacuation Order – Movement of community members out of a defined area due to an immediate threat to life and property from an emergency incident. An Evacuation Order should be used when there is potential or actual threat to civilian life within 1 to 2 hours or when the IC deems it necessary to protect civilians
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# Procedure

---

- Evacuation Definitions
  - Shelter in Place – Directing community members to stay secured inside their current location. Used if evacuation will cause higher potential of loss of life
  - Safe Refuge Area – A temporary location to hold evacuees until safe evacuation is possible
  - Safe Points – Temporary area outside of affected area to stage evacuees until emergency is over or a shelter can be opened

# Procedure

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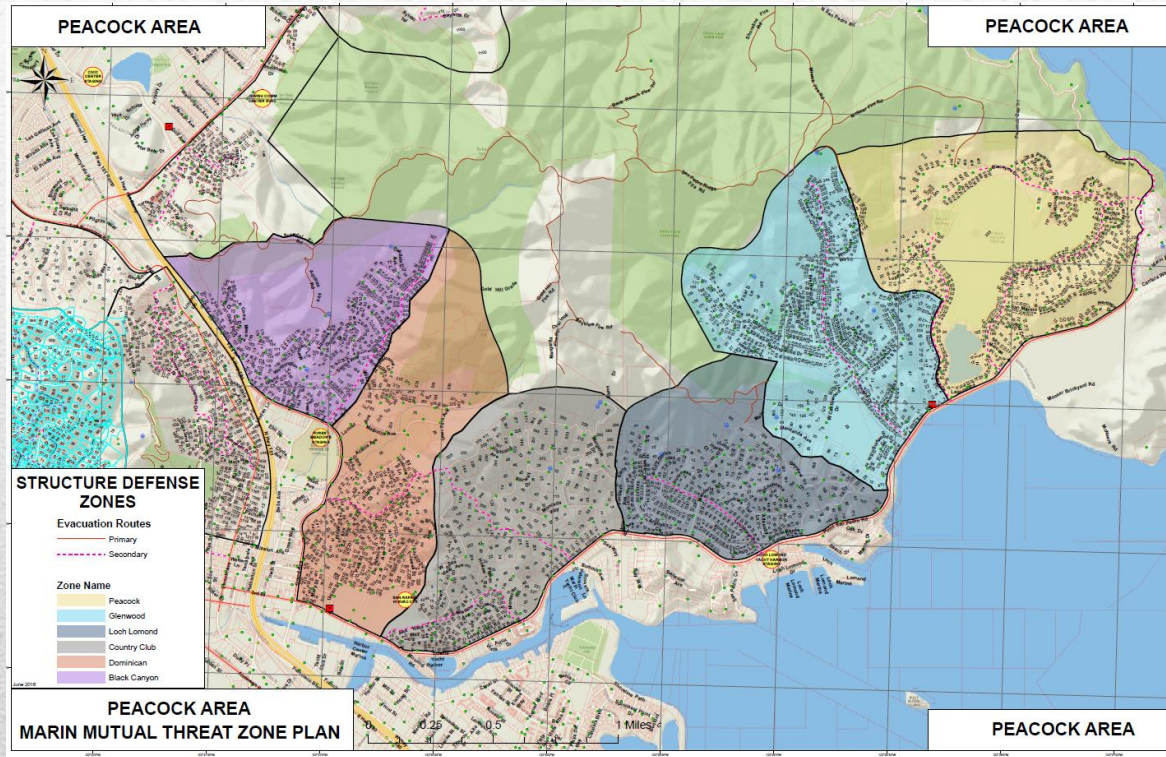


- Incident Commander/Unified Commander
  - After evacuation zones have been identified, the IC/UC will inform Law Enforcement and the OES Duty Officer of the evacuation levels (Order or Warning)
    - Identify the geographical evacuation zones (preferably the pre-established Structure Defense Zones).
    - If pre-identified evacuation areas are not used, specific boundaries of the evacuation area must be provided

# Procedure

---

- Incident Commander/Unified Commander
  - Structure Defense Zones



# Procedure

- Incident Commander/Unified Commander
  - After the evacuation areas have been identified, it will be Law Enforcement's responsibility to conduct the evacuations and establish the road closures (fire resources may assist in evacuations during situations of life over property)

# Procedure

---

- OES Duty Officer/Marin County EOC
  - Notify the identified evacuation zones of the appropriate evacuation level with the pre-established language
    - Short message for Twitter and long message for voice/text/web messaging
  - Unified Commanders receive the same alert which provides positive feedback that the alert went out as requested.
  - Update the Marin County OES Current Emergency webpage with the appropriate information

# Procedure

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# Evacuations

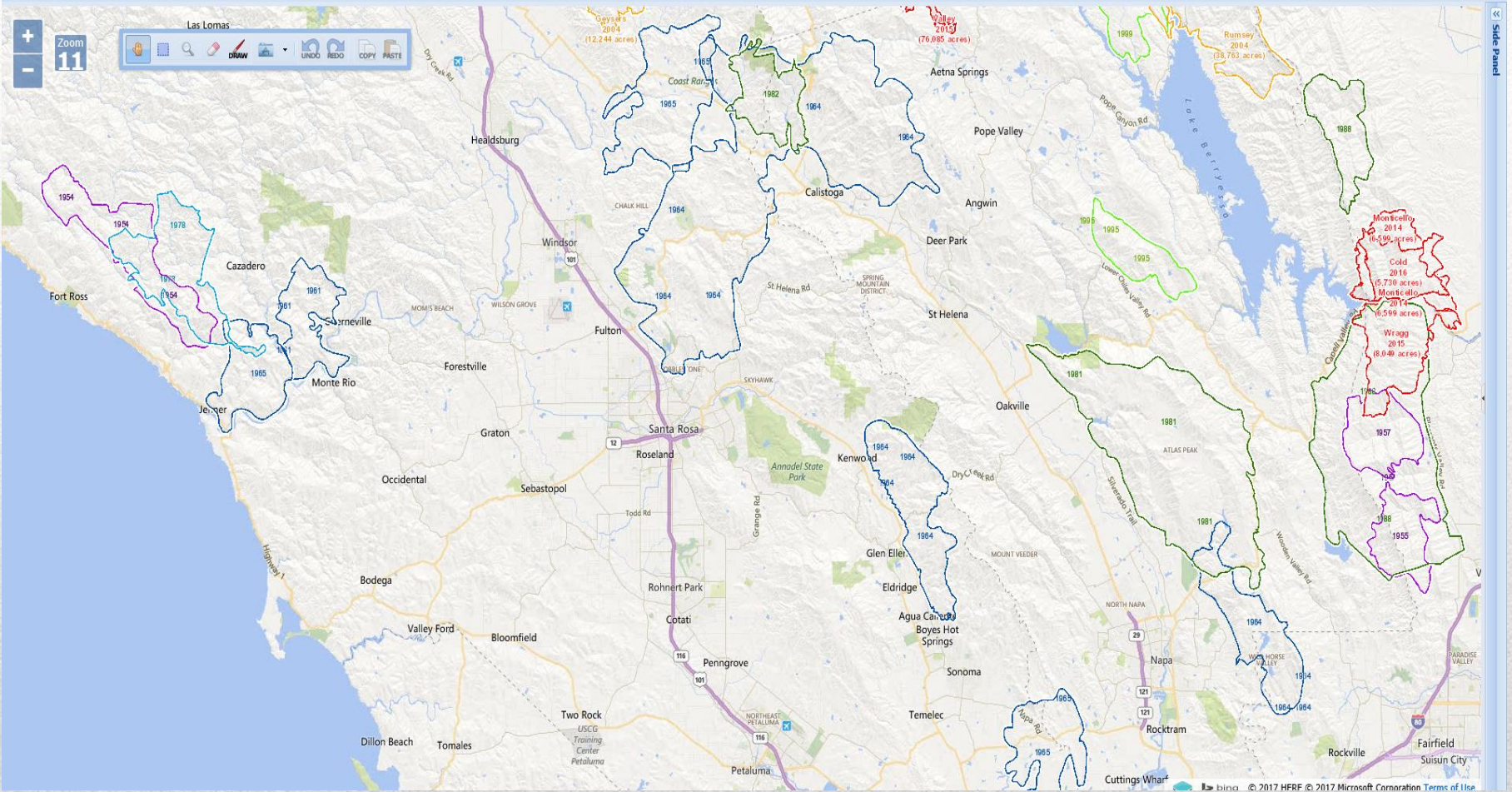
Lessons Learned

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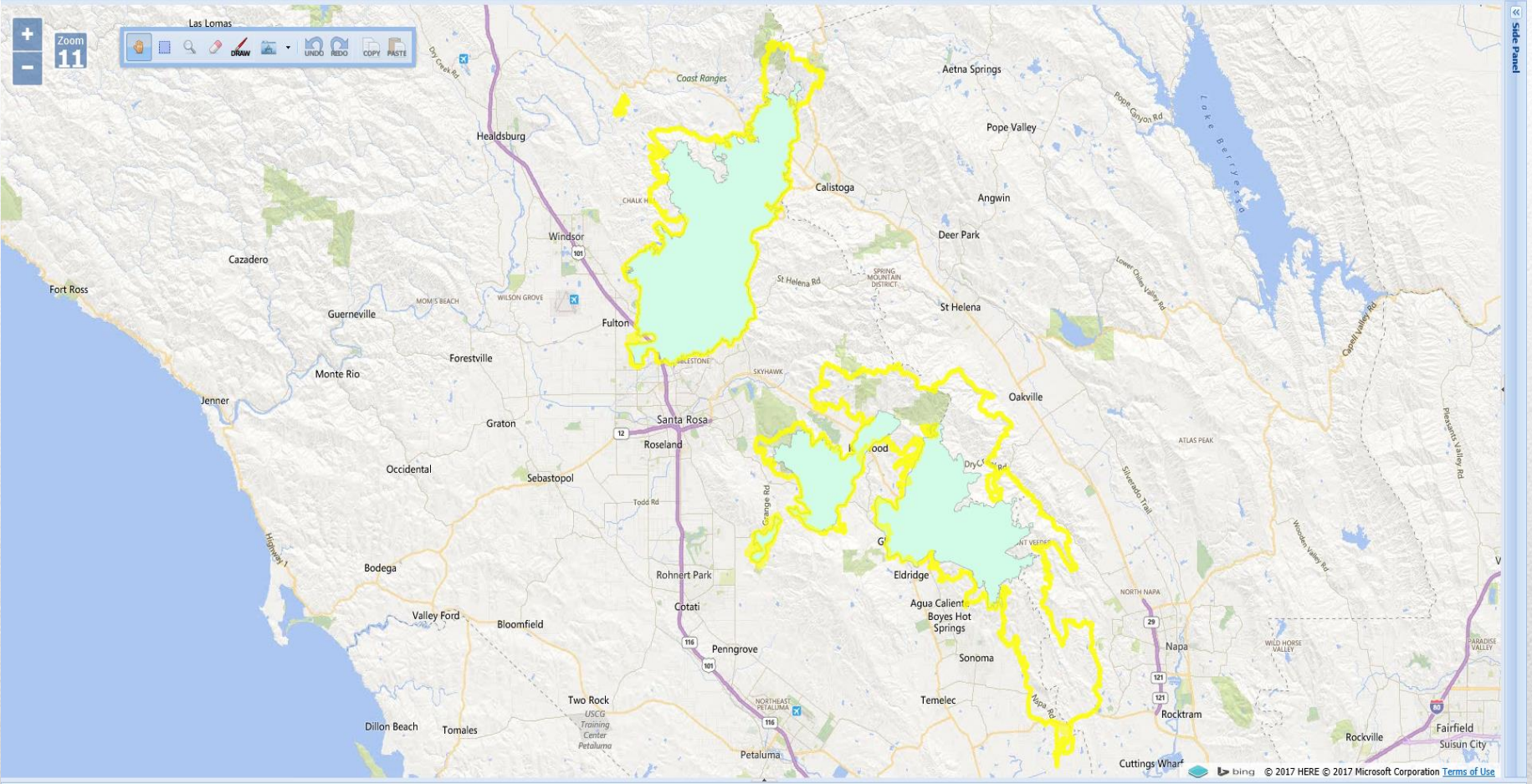
- Understanding fire history is very important
- Unfortunately, some of our fire history and experience is actually working against us

# Lessons Learned

---



# Fire History



# Fire History



- The size of the evacuation areas were unprecedented for this area – as was the speed in which they needed to be evacuated
- Many notifications were sent, however, many were not received
  - Cell phones not turned on
  - Cell phones not near people who were sleeping
  - Cell phones not enrolled in messaging systems

# Lessons Learned

---

- Many people were not enrolled in the notification systems
  - Landline vs. Cellular
- Are you enrolled in AlertMarin?

# Lessons Learned

---

- People were unprepared or physically unable to evacuate quickly
  - Could not carry heavy objects
  - Could not get out of garages with no power at their homes
- Are you prepared for a rapid evacuation?
- Are you physically capable of evacuating quickly?
  - Early planning is vital

# Lessons Learned

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- Despite all of our technology, nothing works better than people knocking/pounding on doors
  - Law Enforcement
  - Fire Department
  - Friends/Family/Neighbors

# Lessons Learned

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Chris Reilly  
Emergency Services Manager  
Marin County (OES)



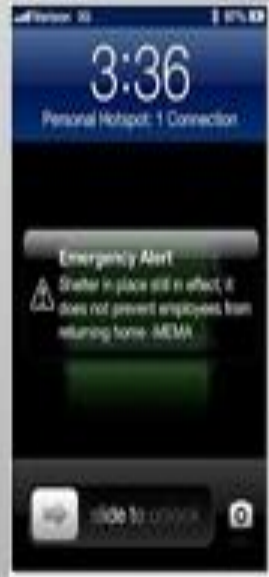
# Marin County Sheriff's Office of Emergency Services (OES)

- OES Mission when no incidents ? Supporting Preparedness, Planning, Training, Exercising and Maintaining EOC.
- OES Mission during Wildland Fire Incidents:
  - Activate Emergency Operations Center (EOC) as needed
  - Support Field Operations – Resources
  - Alert and Warning + Public Information
  - Evacuation coordination + Emergency transportation
  - Mass Care and Shelter – Staging areas, evacuation sites, shelters
  - Recovery – Coordinate debris management, re-population





# Alerting Options

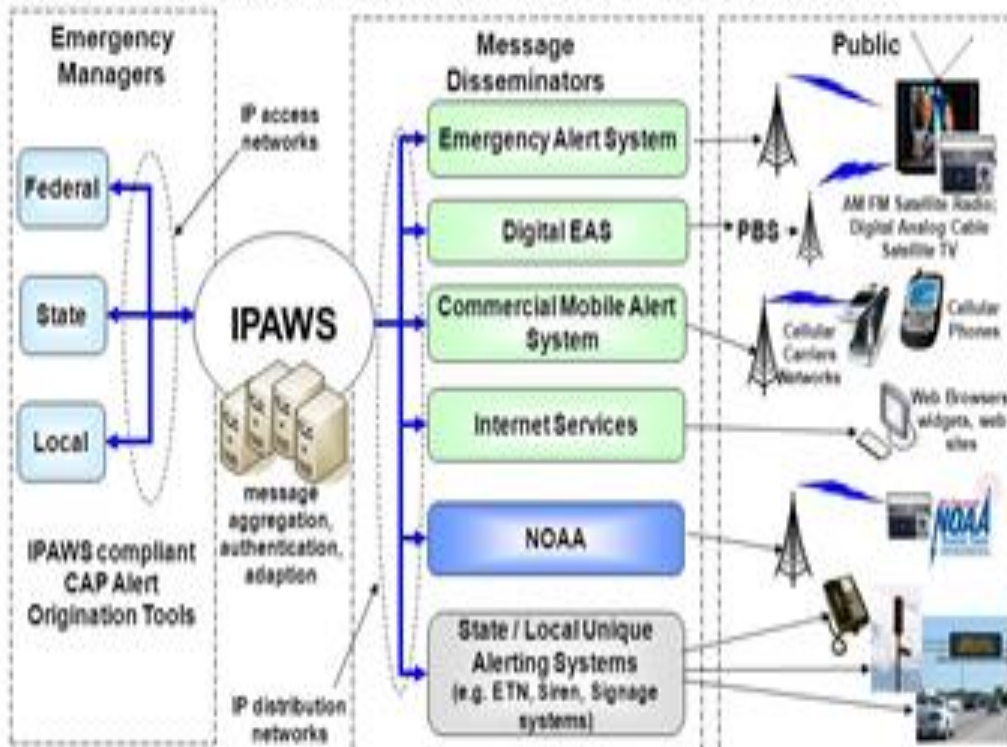




# Integrated Public Alert and Warning (IPAWS)

## IPAWS Vision Architecture

Standards Based Alert Message data exchange format, alert message aggregation, shared, trusted access & distribution networks, alerts delivered to more public interface devices



FEMA







# Marin County Sheriff's OES Alert and Warning Tools

- Emergency Alert System (EAS)
- Wireless Emergency Alerts (WEA)  
Changes proposed !
- AlertMarin
- Nixle
- Social Media
- Sirens / Horns
- Law Enforcement & Fire Agencies  
Evacuation Procedures





# Emergency Alert System



- The Emergency Alert System (EAS) is used by alerting authorities to send detailed warnings via broadcast, cable, satellite, and wireline radio and television channels. EAS provides very broad alerting to the entire Bay Area media market.
- Anyone not watching / listening to broadcast media will not get the message. In many cases, radio and TV stations continue to operate when other means of alerting the public are unavailable, providing a layer of resiliency to the suite of available emergency communication tools.





# Wireless Emergency Alerts



- Wireless Emergency Alerts (WEA) are short emergency messages from authorized public alerting authorities that can be broadcast to any WEA-enabled mobile device in a locally targeted area. The WEA channel can be used for three alert categories: **Presidential, AMBER, and Imminent Threat**. WEA messages are **broadcast from cellular towers** in the designated alert area to any WEA-enabled mobile devices that communicate with the cell tower during the alert duration.





# Changes to Wireless Emergency Alerts (WEA)

- Alert and Warning – What changes are coming?
- Wireless Emergency Alerts (WEA) – A Federal Program
- Increase the number of characters of a Wireless Emergency Alert (WEA) message from 90 to 360 characters. WEA message length has been a gnawing concern of practitioners who complain that 90 characters are simply not enough to communicate a workable alert.
- Include URLs and phone numbers within the message.
- Make geographic targeting of WEA messages more precise.
- Create a new class of alerts called **public safety messages**. As it stands, WEA can only be used for imminent threats, AMBER Alerts, and Presidential Messages.
- Broadcast WEA messages in Spanish, as well as English.
- Establish provisions for practitioners to test WEA, train personnel on the use of WEA, and raise public awareness.





# Proposed State Legislation – SB 833

## Changes to WEA

- Alert and Warning – What changes are coming?
  - Proposed State Legislation – SB 833
- This bill would provide for a **red alert system** designed to issue and coordinate alerts following an evacuation order, as specified. The bill would require the red alert system to incorporate a variety of notification resources and developing technologies that may be tailored to the circumstances and geography of the underlying evacuation, as appropriate.
- The bill also would require OES to ensure that emergency management personnel trained on the WEA system receive **yearly training** in WEA software and equipment operation.
- The bill, upon appropriation by the Legislature, would require an emergency management office within a county or city and county to be **provided moneys** for the purposes of implementing this provision.





# “AlertMarin”



- The **Marin County Sheriff's Office of Emergency Services (OES)** uses the AlertMarin Emergency Notification System to deliver incident-specific information or potentially life-saving instruction to the precise geographic area(s) affected – MTZs are pre-programmed.
- You may now **register your cell phone** or VoIP (voice over internet protocol) phone to receive emergency alerts sent by call, text, email, or smartphone application from the County of Marin. Search the Apple Store or Android Marketplace for the “Everbridge” app.
- Listed and unlisted/blocked **Marin County landline phone numbers are already included in our emergency notification system.** Cell phone and VoIP numbers are not included and will require your registration in our Self-Registration Portal @ [alertmarin.org](http://alertmarin.org).





# Nixle



- Nixle is a Community Information Service dedicated to helping you stay connected to the information that matters most to you, depending on your physical location. Information is immediately available over your cell phone by text message, by email, and over the web. Self-register by texting your zip code to 888777. The system typically alerts via SMS / text, though email & smartphone app. Alerting can be geographically focused from a single zip code to entire county.
- There are four types of messages; Alerts (many would refer to this as an emergency type alert), Advisories (less urgent need-to-know information), Community Information (day-to-day neighborhood to community-level information), Traffic (very localized traffic information).





# Social Media



- The Marin County Sheriff's Office uses many of the social media platforms now available to assist in disseminating information to the public. These platforms are: **Twitter, Facebook, Nextdoor, Instagram, Webpages** and others. We use these platforms to share all kinds of information from non-emergency to emergency. We do not rely on these platforms alone to convey urgent emergency alert and warning messages. We may use them to share additional information regarding an ongoing incident after the appropriate warning has already been broadcast through one of the preferred alert methods above.







# Sirens / Horns



- Some communities in Marin County use sirens or horns to alert residents and visitors to an imminent dangerous situation. The siren/horn activation is usually followed up by the distribution of additional information or direction by using one of the alerting systems above or by broadcasting a pre-recorded message on a local radio station. These sirens or horns are location specific but the sound often “bleeds over” into adjoining jurisdictions therefore neighboring jurisdiction work together to coordinate messaging.





# Law Enforcement/Fire Agency Evacuation Procedures

- Law Enforcement Officers and Firefighters may drive through neighborhoods with sirens activated announcing evacuations and/or emergency directions over their loud speakers.





# Lessons Learned

- Other Emergency Management Lessons Learned + Efforts going forward:
- Continue and improve **Emergency Operation Center** (EOC) Training + Exercising
- **Sheltering** – Continue to work with government and non-profit stakeholders to develop and improve mass care and sheltering capabilities
- **Donations Management** – Review plan and strengthen stakeholder collaboration
- Emergency **Procurement** Issues – Review and refine procedures
- **Recovery** – Continue to refine and improve efforts to “get back to normal”





# Mass Care & Shelter



- Shelters are opened as needed
- Locations determined by incident
- We partner with Red Cross, Cities/Towns and other NGOs and FBOs





# Public Information and Warning



**Text AlertMarin or your zip  
code to 888777**

Or

Visit [www.alertmarin.org](http://www.alertmarin.org) to  
register for emergency alerts

Follow us @marinsheriff.org

