

Current Status of Sudden Oak Death in California Forests



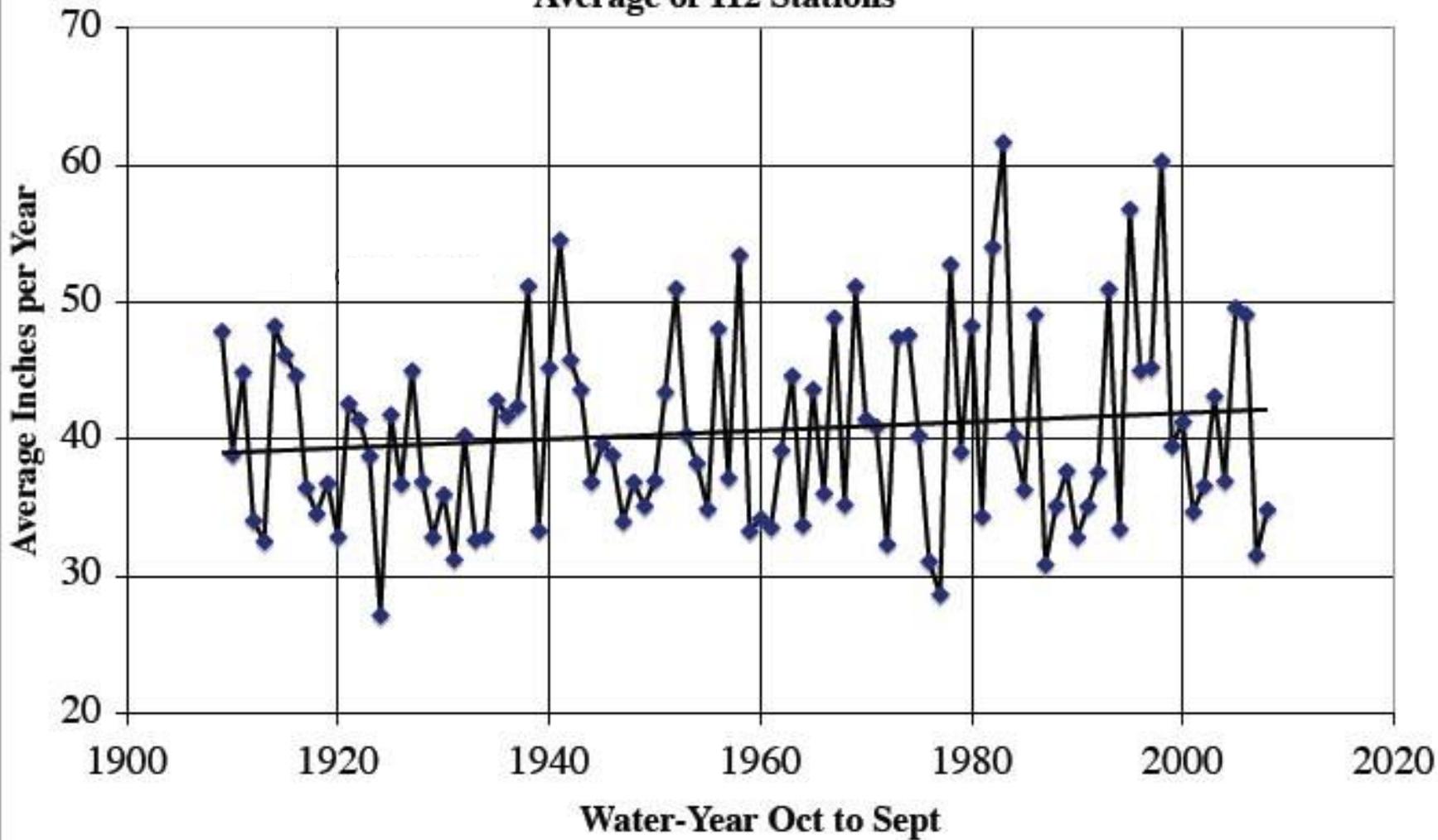
Future?

**~~Current~~ Status of Sudden Oak Death
in California Forests**



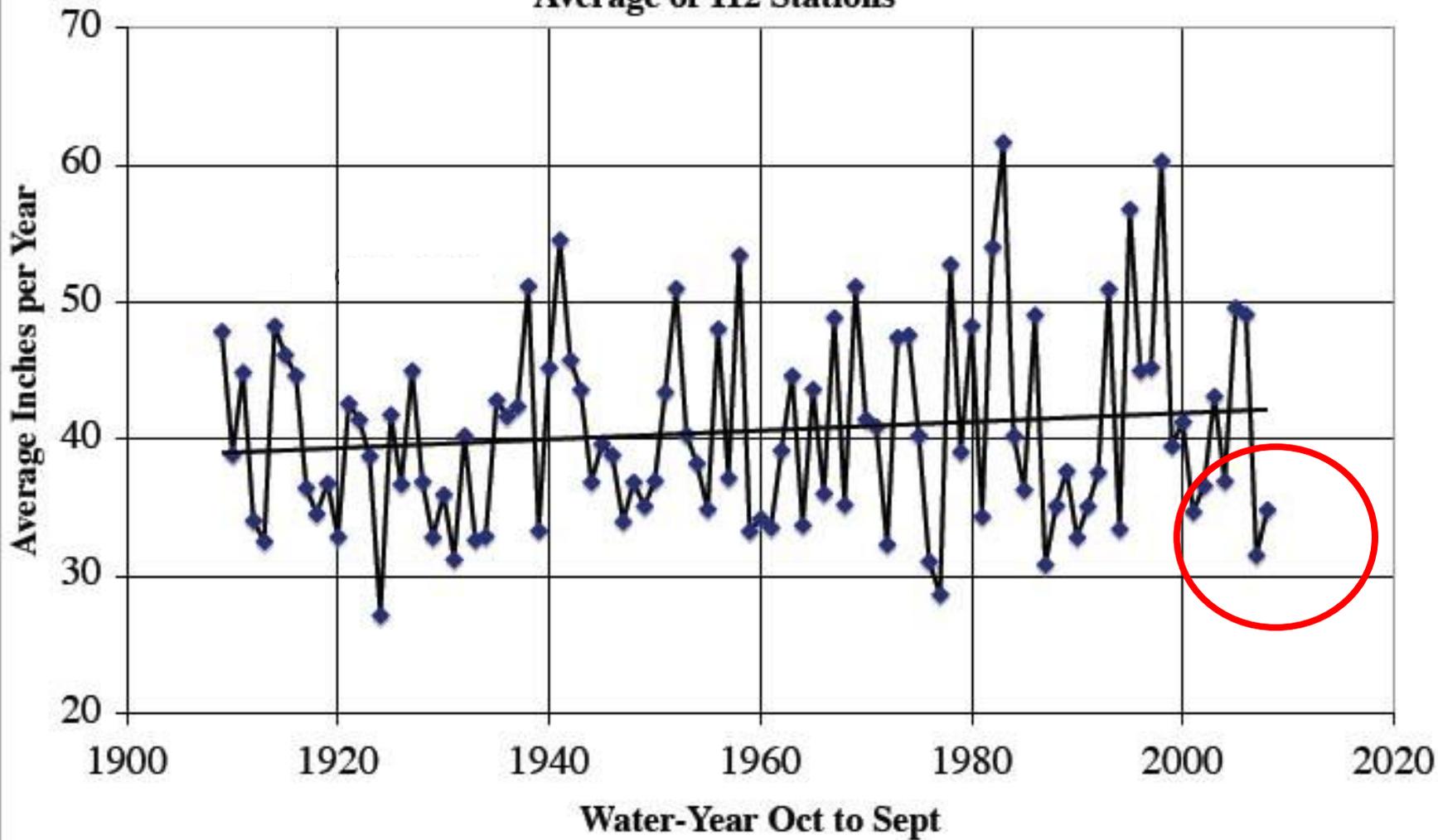
100 Years of California Rainfall 1909 to 2008

Average of 112 Stations



100 Years of California Rainfall 1909 to 2008

Average of 112 Stations





Spring Rainfall	Year	Marin	Humboldt
March - June	2002	7.0	6.7
Lake Lagunitas, Marin Co.	2003	12.0*	21.5
Long term ave. = 13.3 inches	2004	3.1	5.9
	2005	22.4	20.2
Redway, Humboldt Co.	2006	28.5	24.6
Long term ave. = 13.7 inches	2007	4.5	3.0
	2008	0.8	3.9
	2009	10.2	12.2

Sources:

J. Klein, MMWD

M. Beh, Humboldt UCCE

Spring Rainfall	Year	Marin	Humboldt
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	2008	0.8	3.9
	2009	10.2	12.2
	2010	19.2	20.5
	2011	28.6	22.7
Sources:	2012	21.0	17.5
J. Klein, MMWD			
M. Beh, Humboldt UCCE			



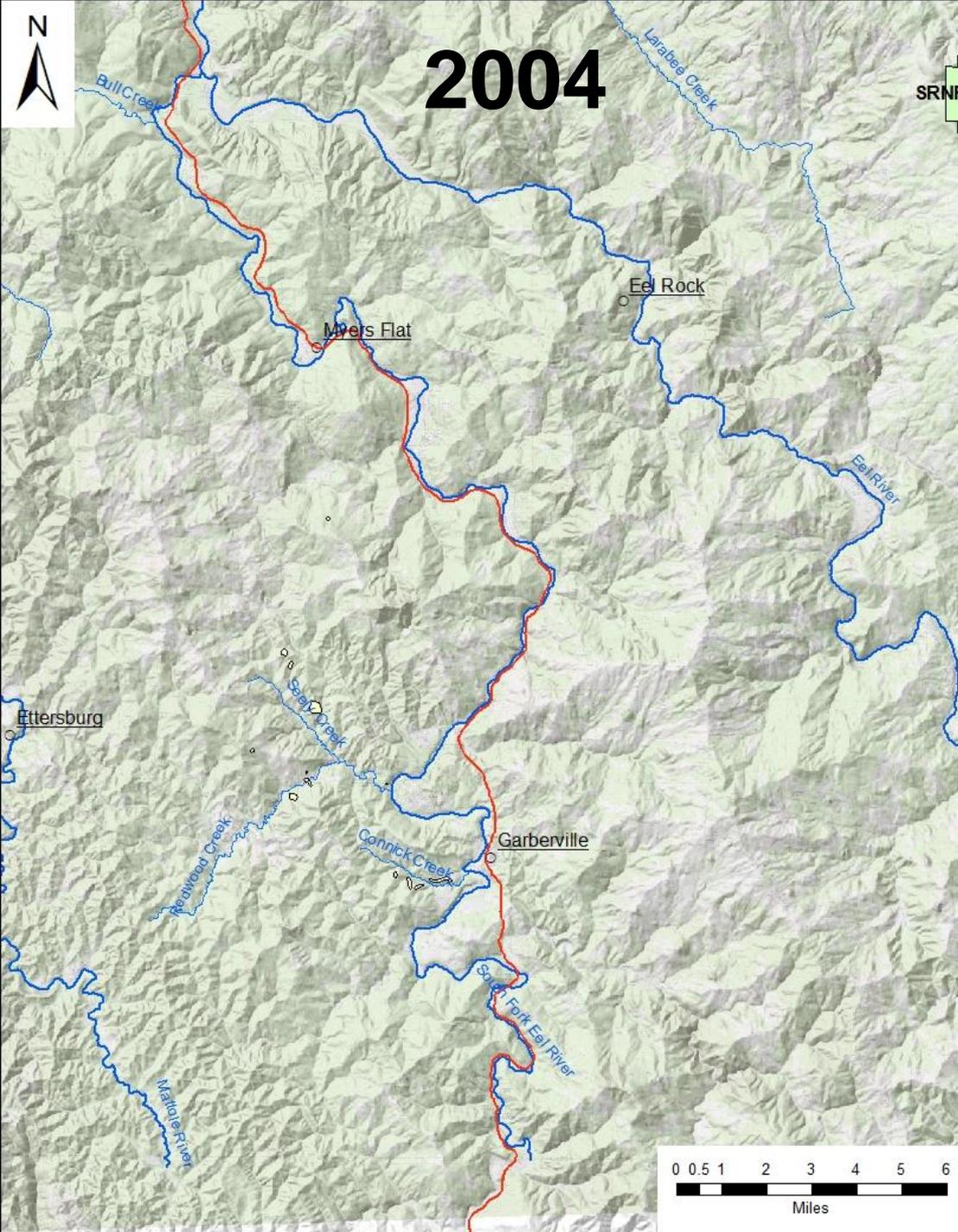




Bolinas Ridge 2007

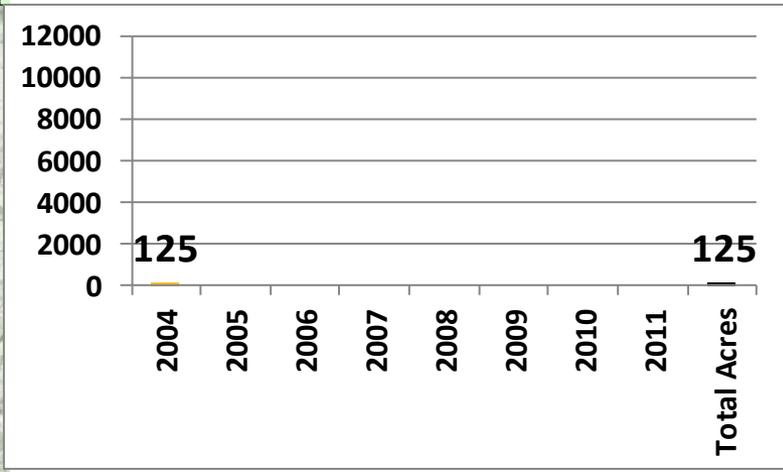
Marin Co.

J. Klein



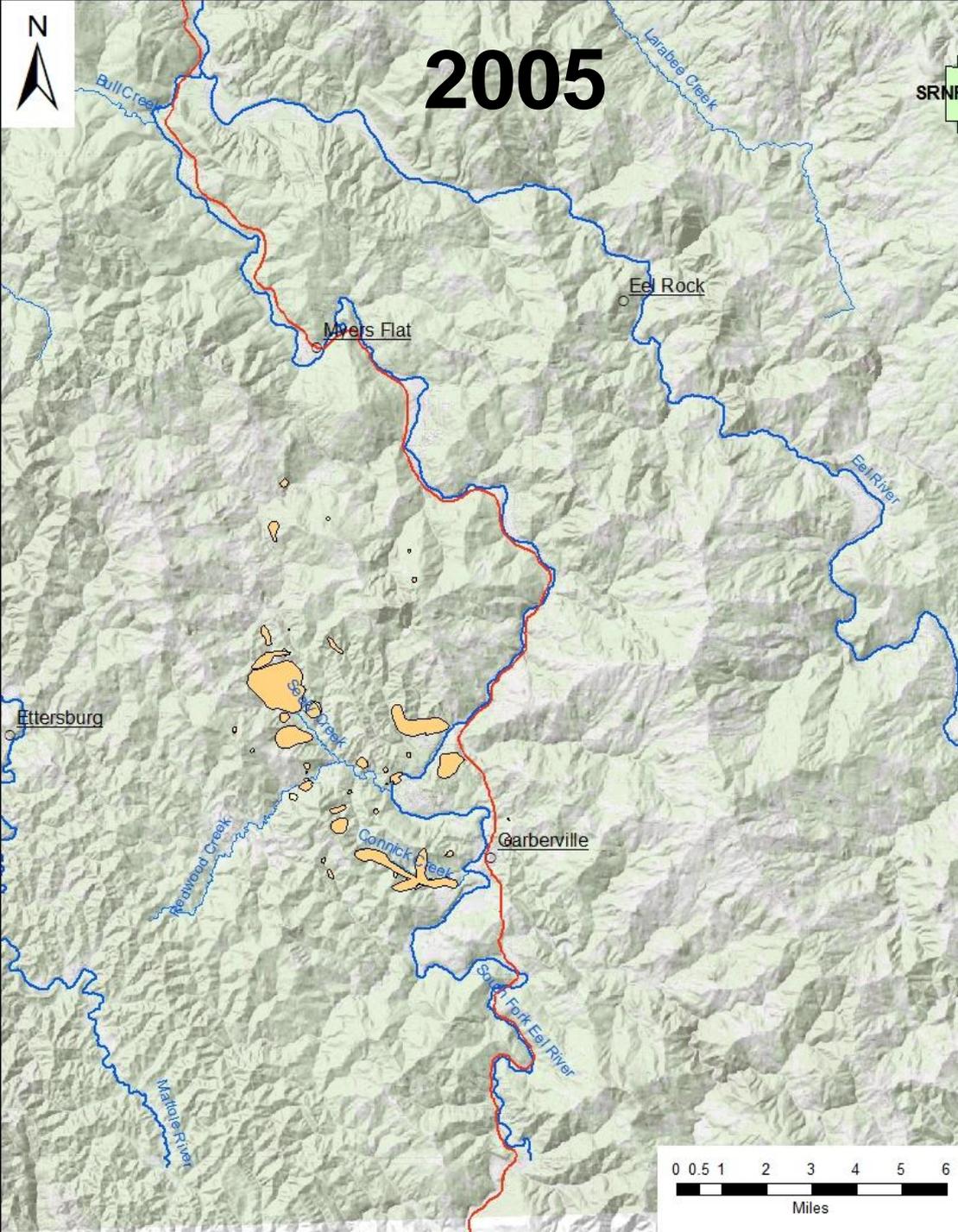
2004

Aerial Detection (ac) by Year



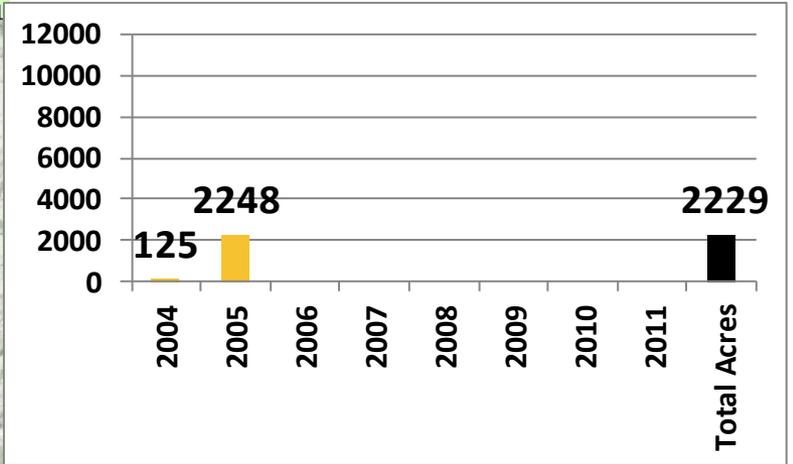
<u>Year</u>	<u>Rainfall (in)</u>
2002	6.7
2003	21.5
2004	5.9

Source: Y. Valachovic, UCCE,
Z. Heath, B. Oblinger, USFS

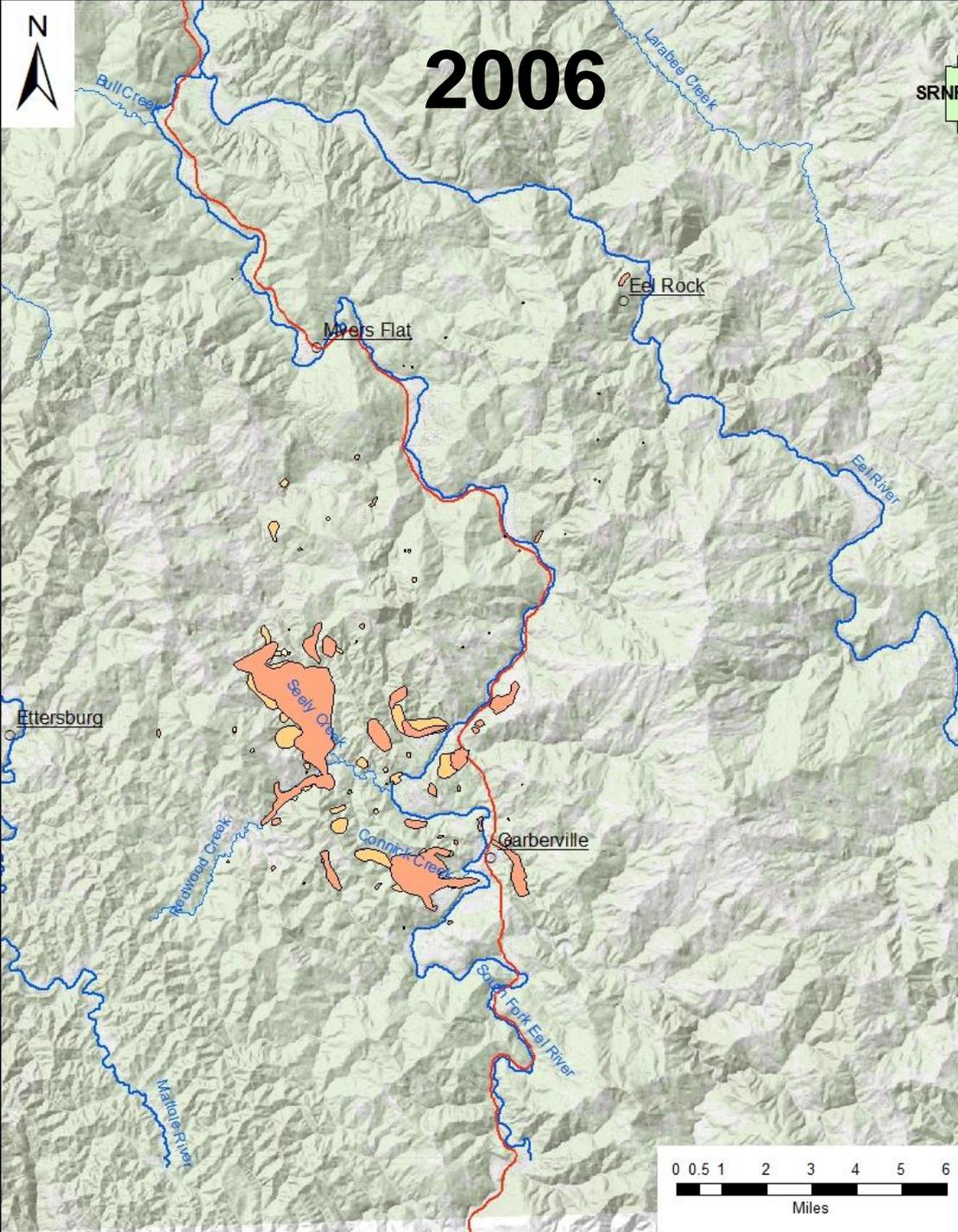


2005

Aerial Detection (ac) by Year

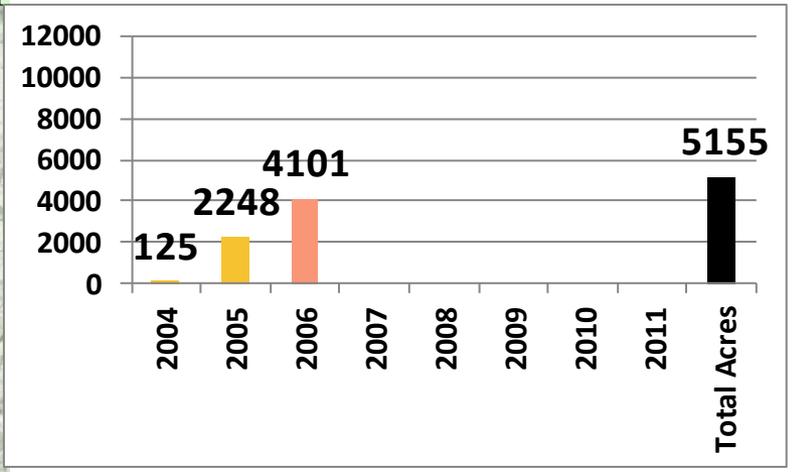


<u>Year</u>	<u>Rainfall (in)</u>
2002	6.7
2003	21.5
2004	5.9
2005	20.2

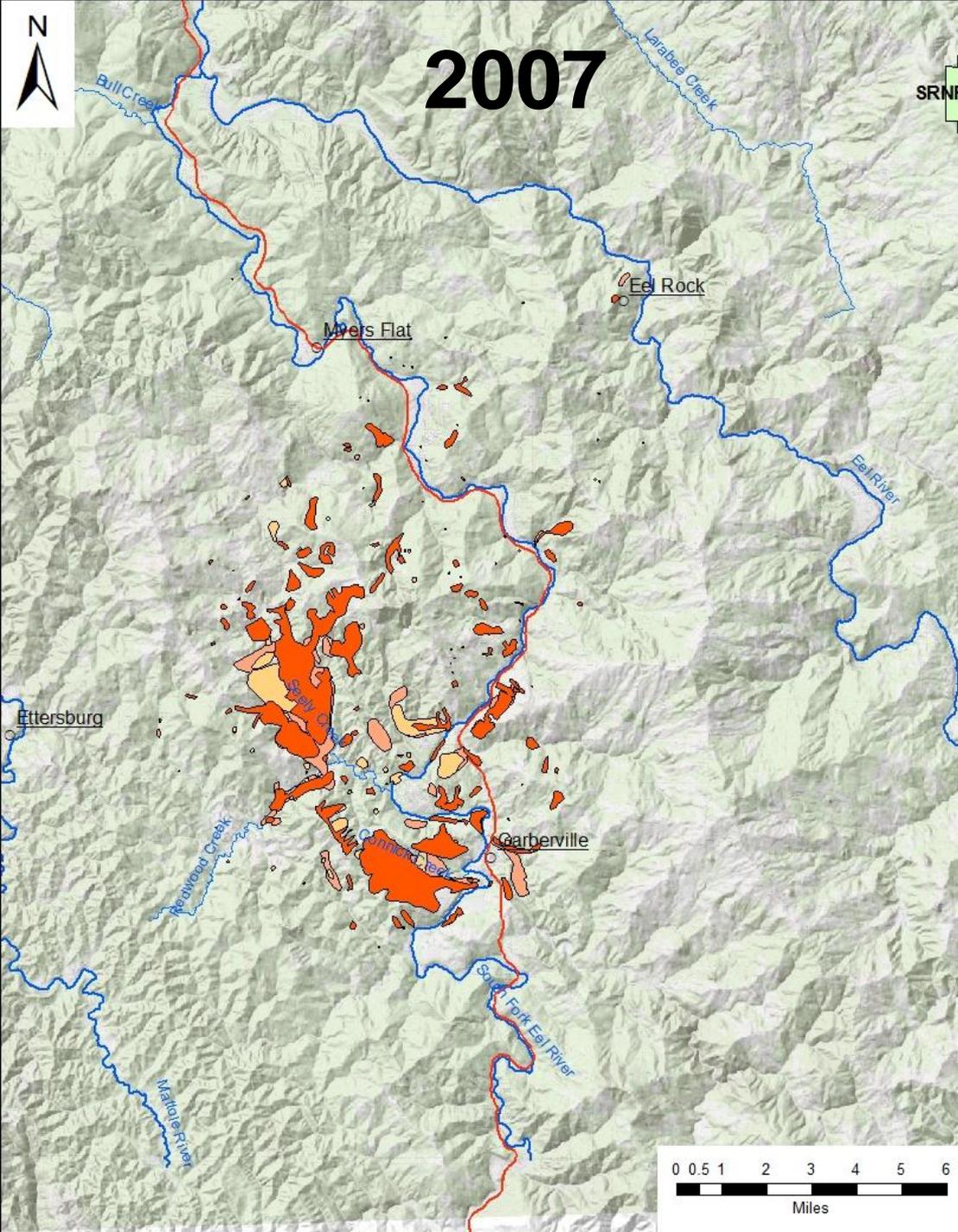


2006

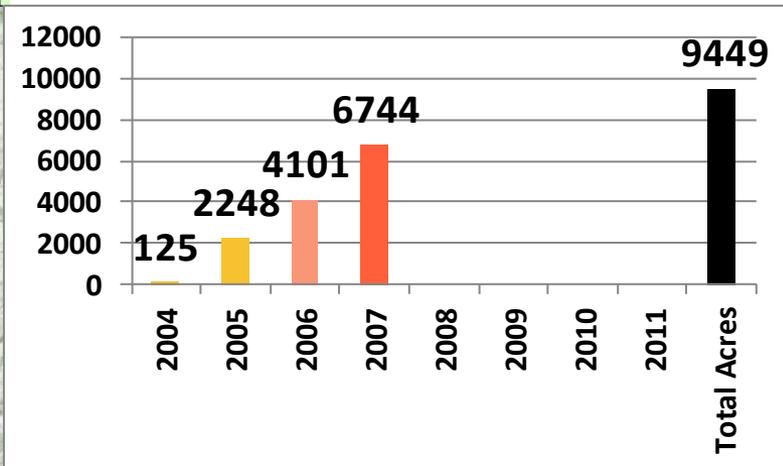
Aerial Detection (ac) by Year



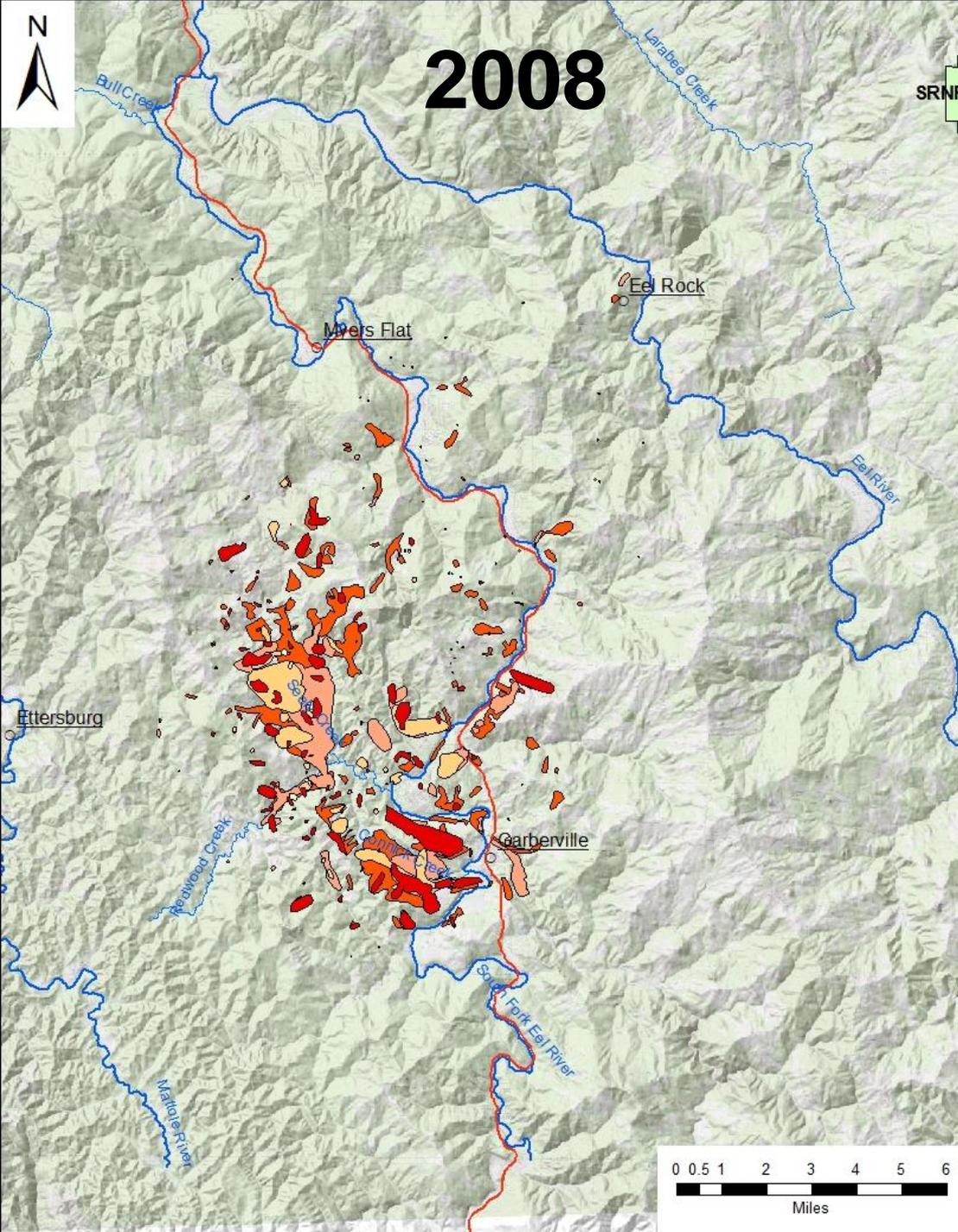
<u>Year</u>	<u>Rainfall (in)</u>
2003	21.5
2004	5.9
2005	20.2
2006	24.6



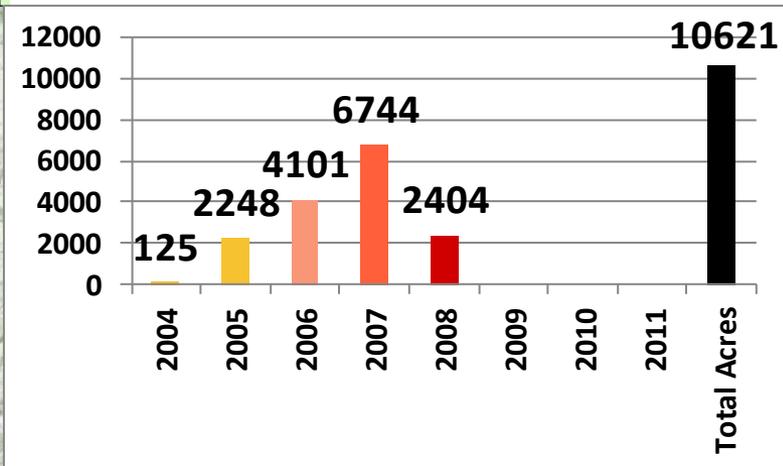
Aerial Detection (ac) by Year



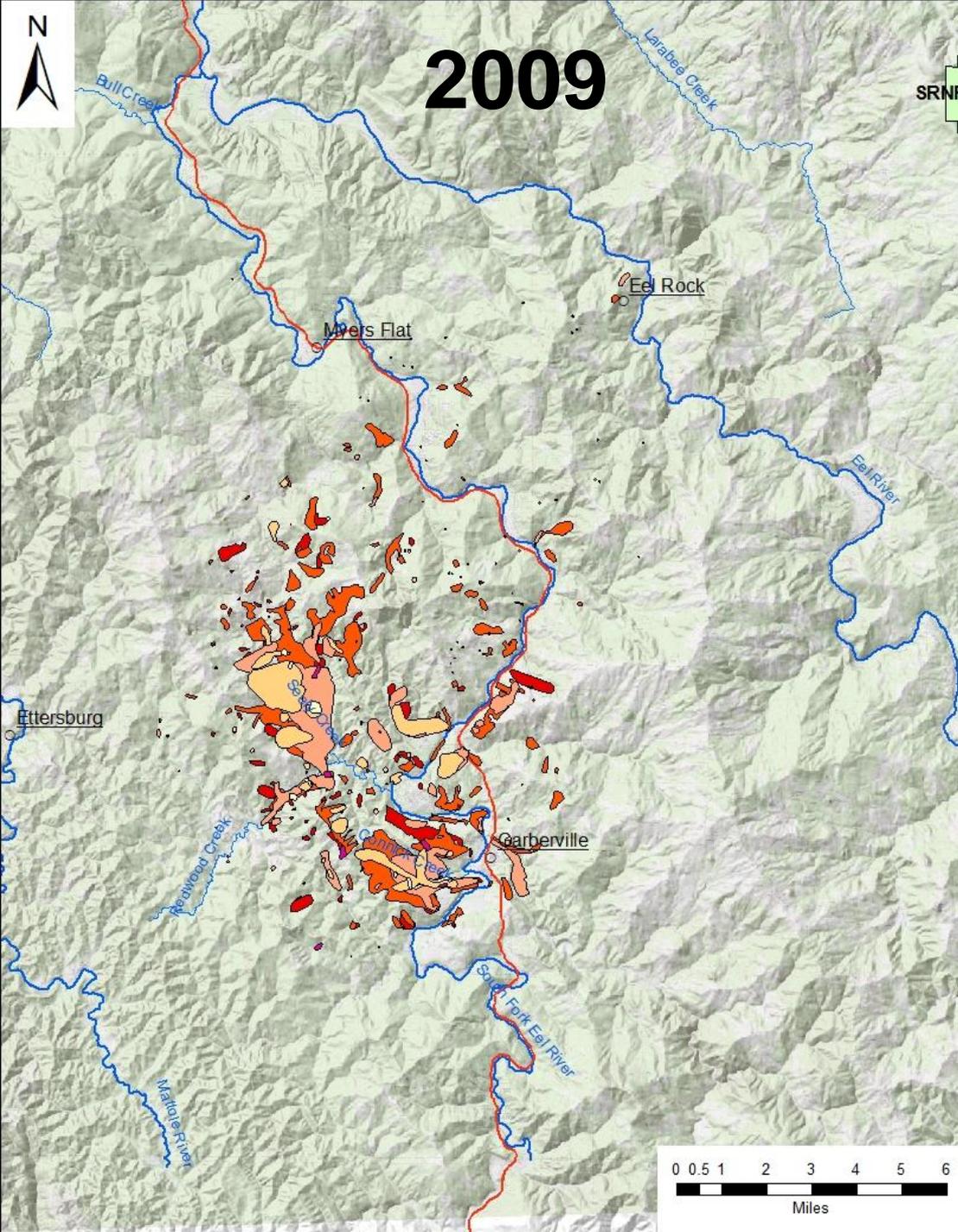
<u>Year</u>	<u>Rainfall (in)</u>
2004	5.9
2005	20.2
2006	24.6
2007	3.0



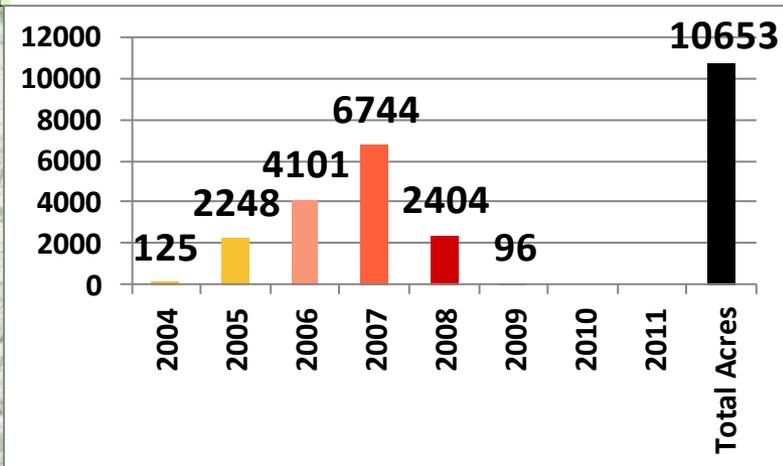
Aerial Detection (ac) by Year



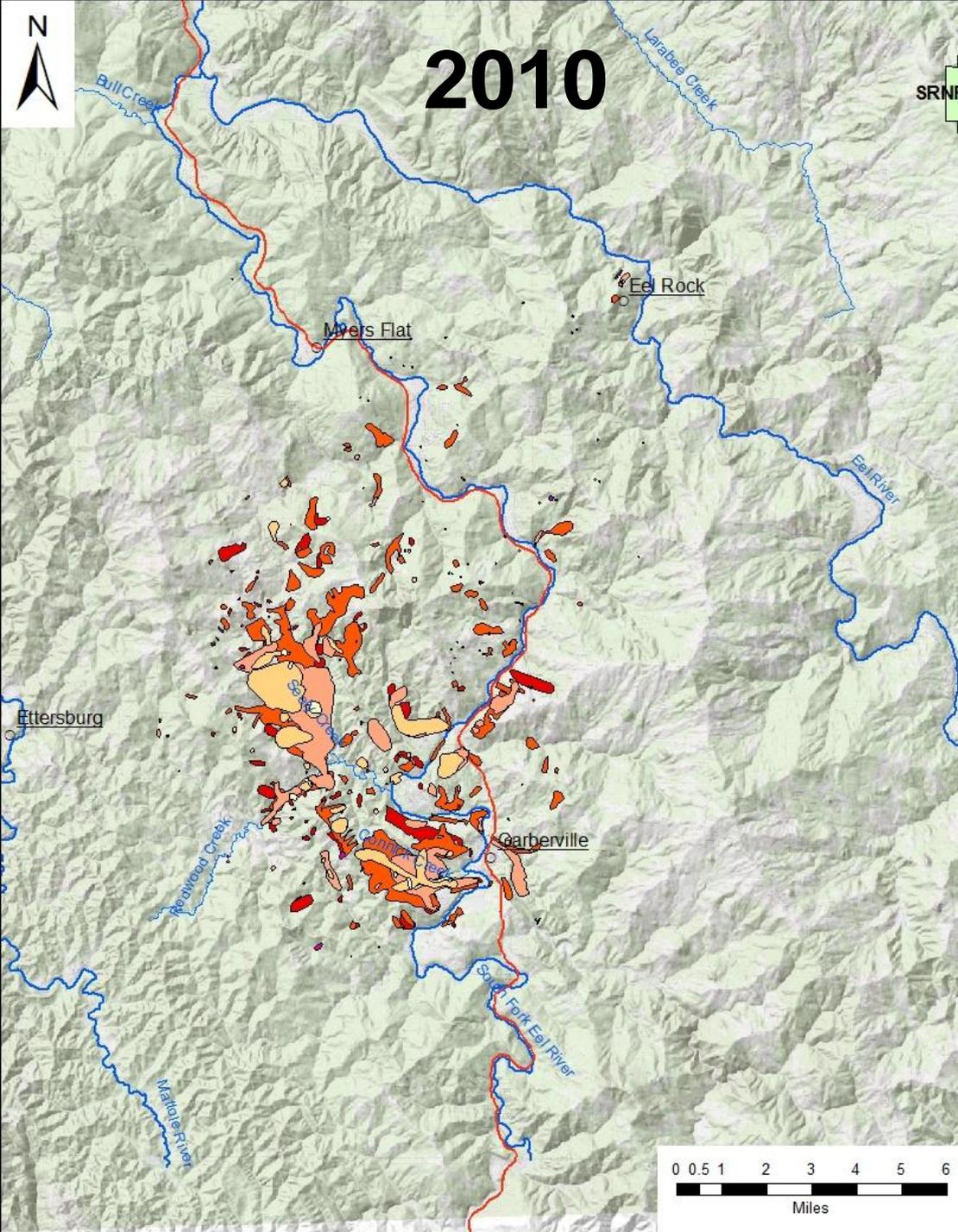
<u>Year</u>	<u>Rainfall (in)</u>
2005	20.2
2006	24.6
2007	3.0
2008	3.9



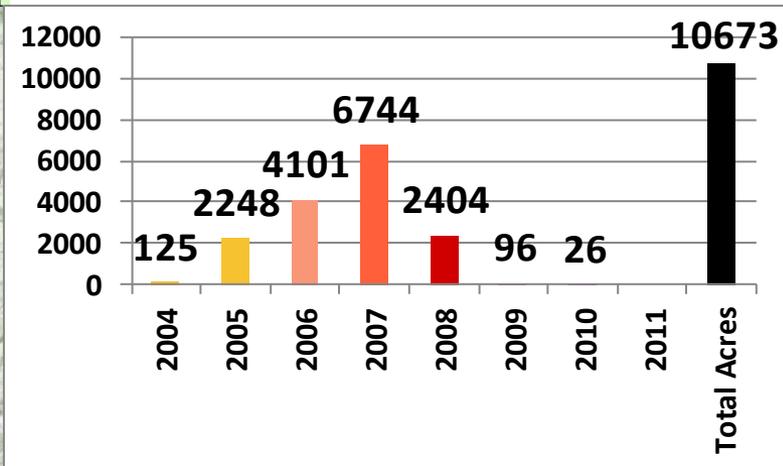
Aerial Detection (ac) by Year



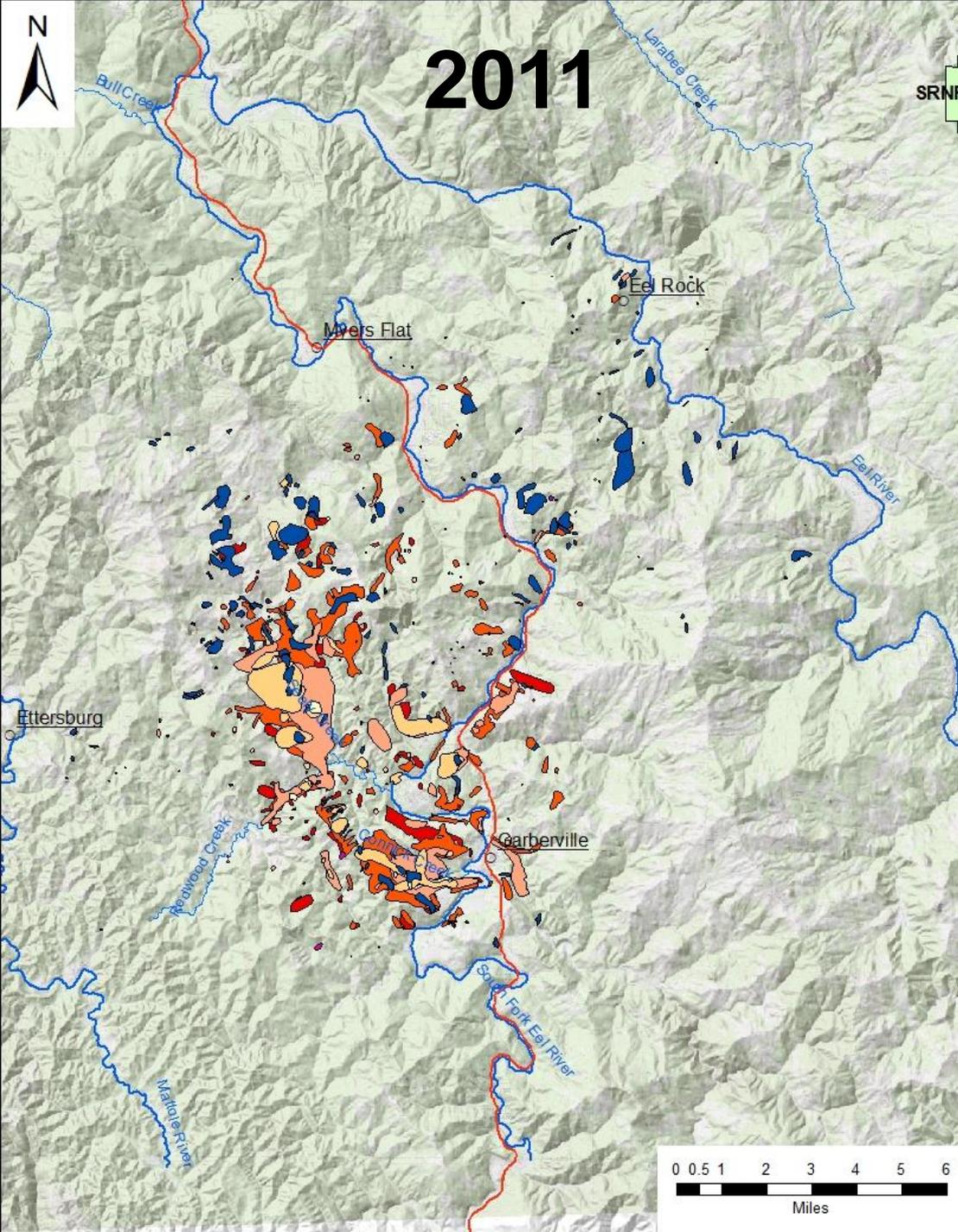
<u>Year</u>	<u>Rainfall (in)</u>
2006	24.6
2007	3.0
2008	3.9
2009	12.2



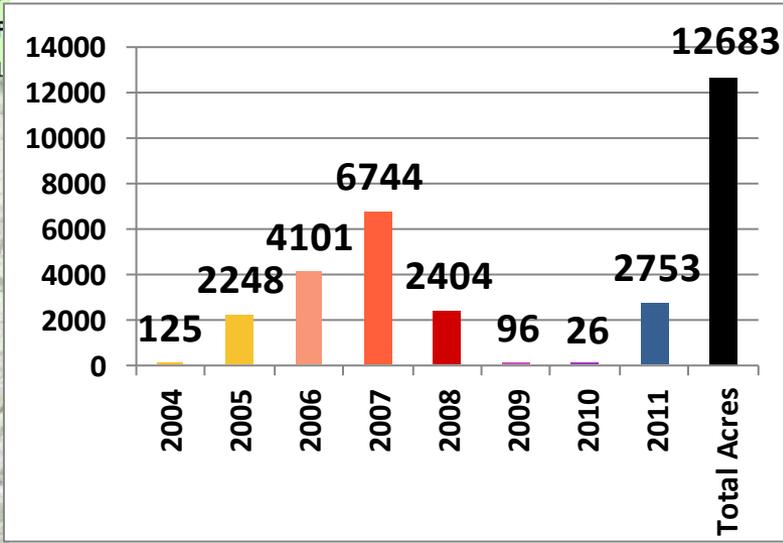
Aerial Detection (ac) by Year



<u>Year</u>	<u>Rainfall (in)</u>
2007	3.0
2008	3.9
2009	12.2
2010	20.5



Aerial Detection (ac) by Year



<u>Year</u>	<u>Rainfall (in)</u>
2008	3.9
2009	12.2
2010	20.5
2011	22.7



Marin County, CA
June 2000

Current Status of Sudden Oak Death in California Forests





Humboldt



Big Sur

Distribution of Sudden Oak Death





Humboldt

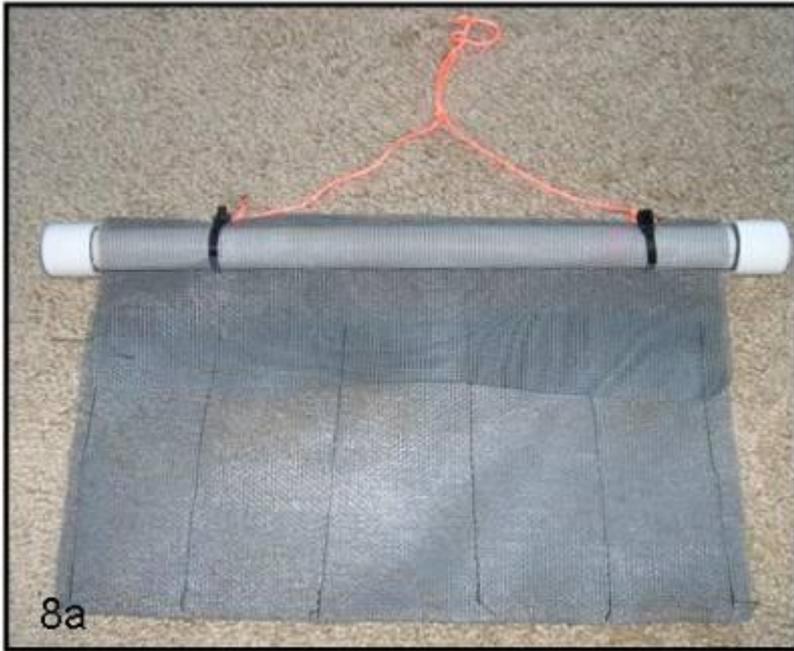


Big Sur

Distribution of Sudden Oak Death



Stream monitoring



Stream Monitoring Detection of *Phytophthora ramorum* 2004 - 2012

Legend

Stream Monitoring Sites

P. ramorum Status:

● Positive

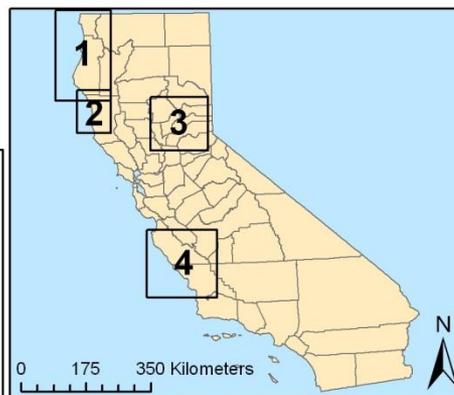
● Negative

■ Negative Watersheds

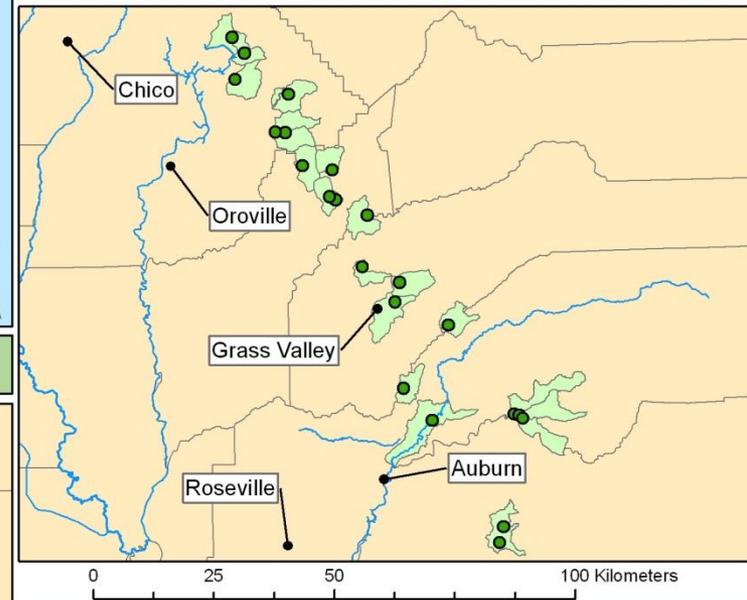
■ Positive Watersheds

— Streams

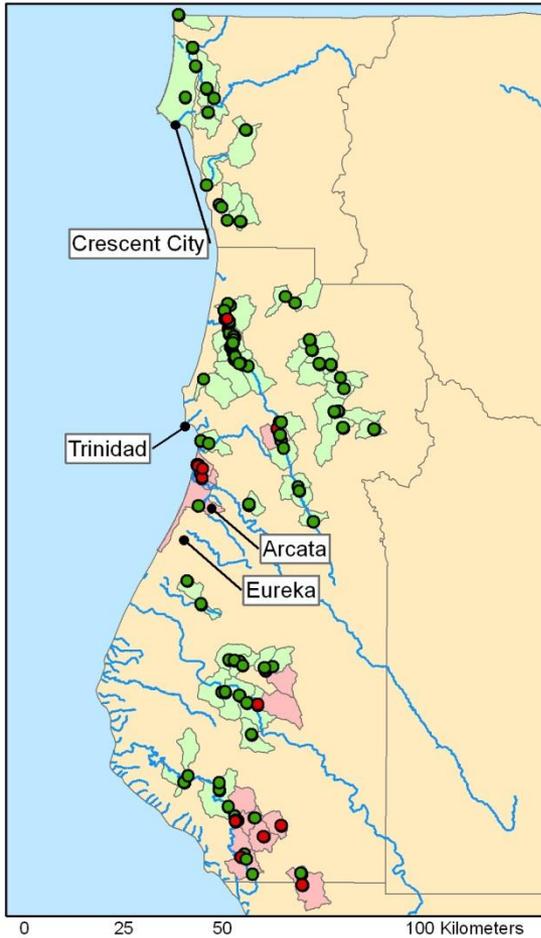
■ CA Counties



3. Northern Sierra Nevada



1. Humboldt & Del Norte Co.



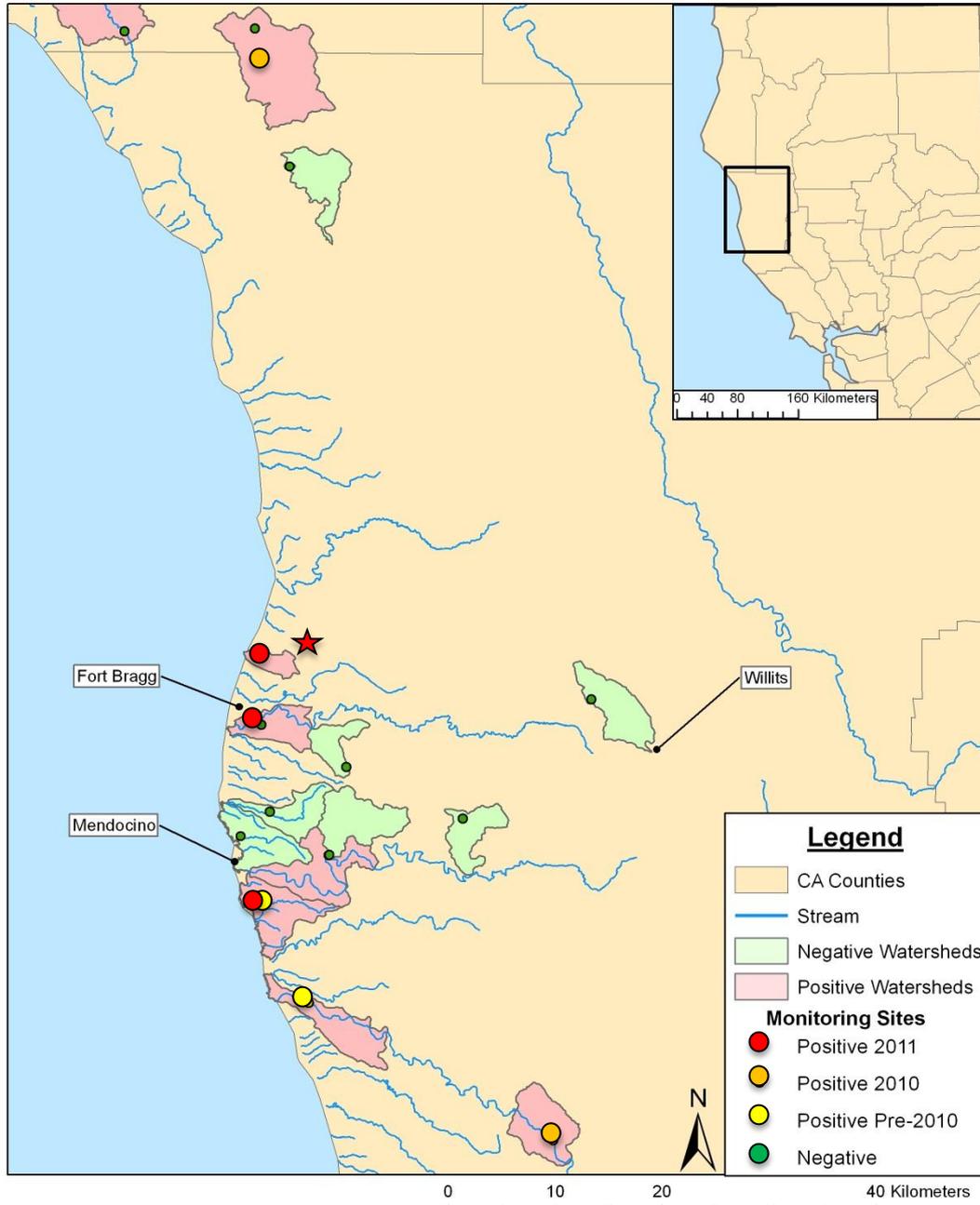
2. Mendocino Co.



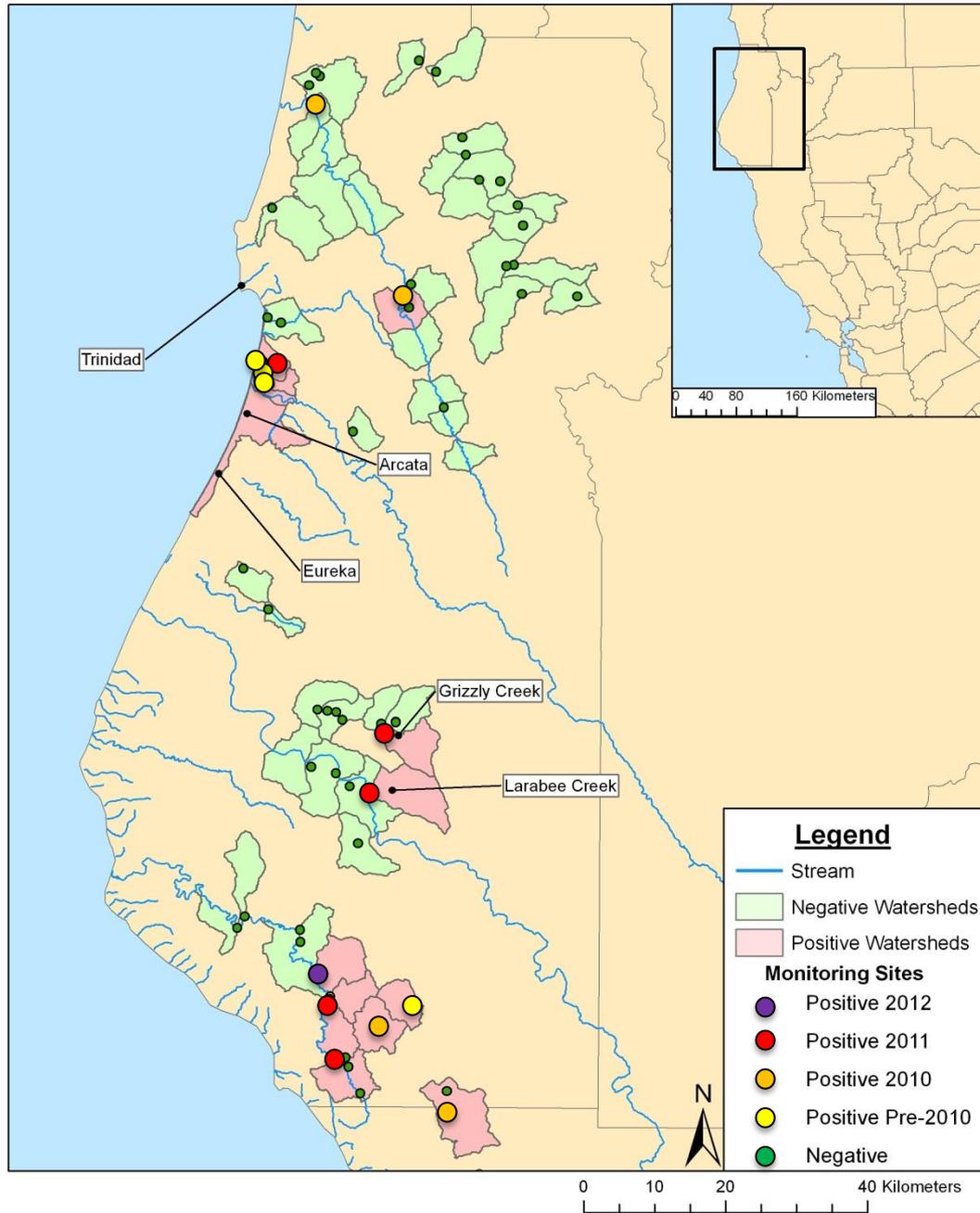
4. Central Coast



Stream Monitoring Detection of *Phytophthora ramorum* Mendocino County



Stream Monitoring Detection of *Phytophthora ramorum* Humboldt County

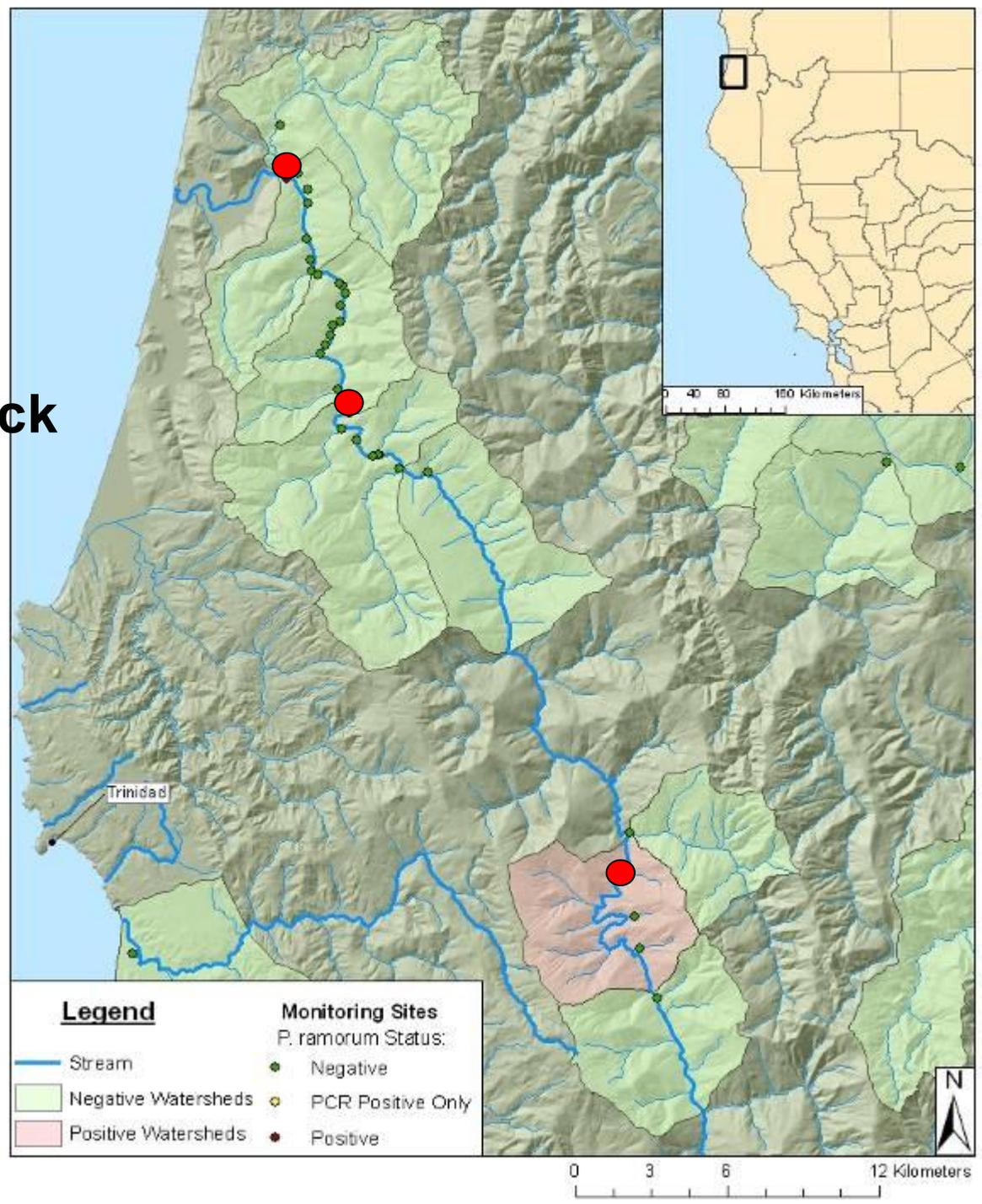


Redwood Creek, Humboldt Co.

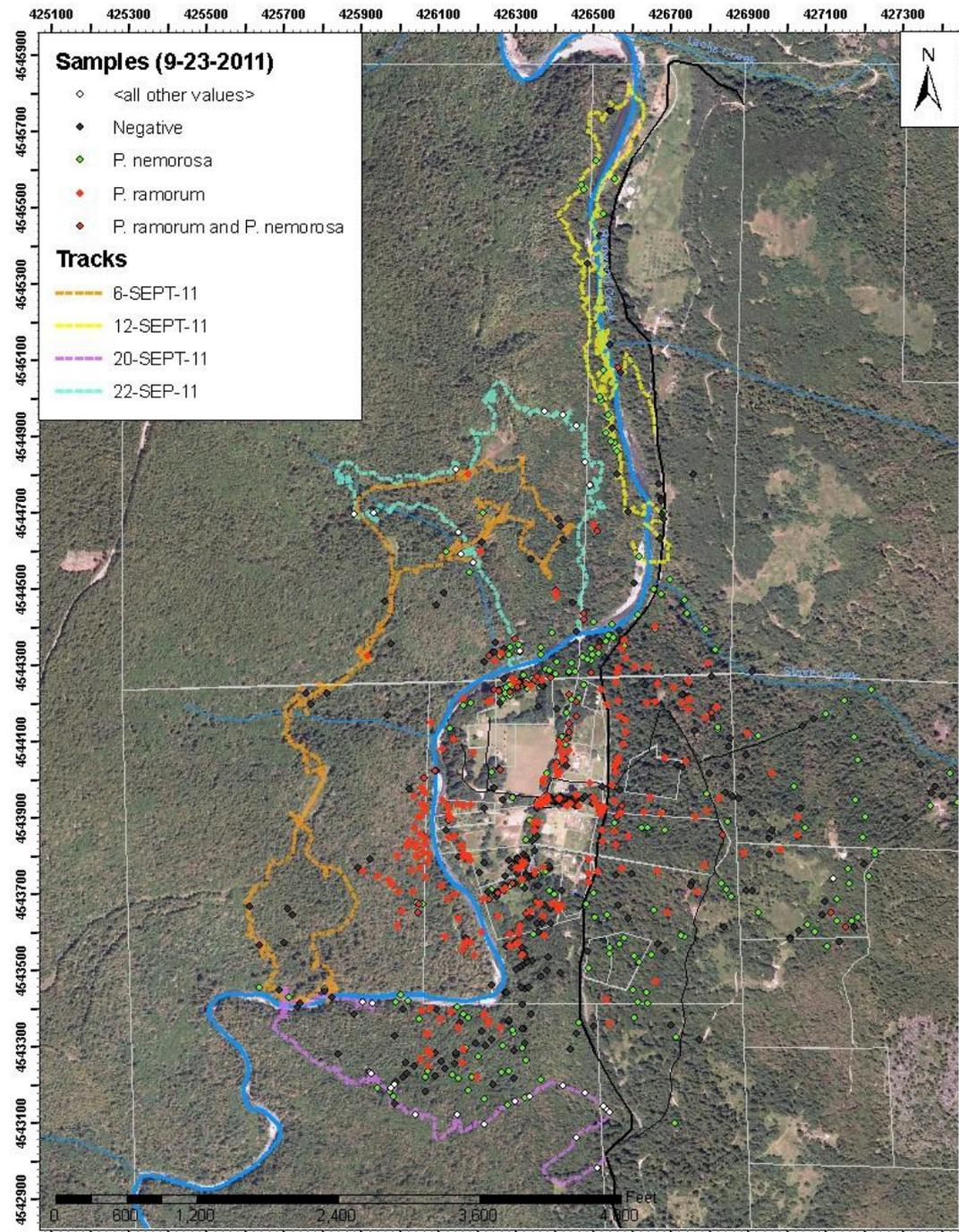
Redwood Creek @ Orick

2004-2009: negative

2010-2012: positive



Redwood Creek



SOD Blitzes



"SOD-BLITZES"

Communities Coming Together in the Fight Against Sudden Oak Death

This activity possible thanks to funding from:
[USDA Forest Service, State and Private Forestry](#), [The Gordon and Betty Moore Foundation](#), and [Agdia, Inc.](#)

Spring 2012 SOD Blitzes

Marin County - Saturday April 21, 9:00am, Dominican University,
 Joseph R Fink Science Center, Rm 103.

Contact: [Sibdass Ghosh - sibdass.ghosh@dominican.edu](mailto:sibdass@dominican.edu)

East Bay - Orinda - Saturday April 28, 10:00am,
 Garden Room, Orinda Library, 26 Orinda Way.

Contact: [Bill Hudson - wllhh@ymail.com](mailto:wllhh@ymail.com),

East Bay - Berkeley - Saturday April 28, 1:00pm,
 Rm. 159 Mulford Hall, UC Berkeley,

[Register Online for UC Berkeley Meeting](#)

Google Map: [UC Berkeley Meeting Location](#)

Contact: [Susan Schwartz - F5creeks@aol.com](mailto:F5creeks@aol.com),

San Francisco - Tuesday May 1, 8:30am

Golden Gate Park Presidio & Golden Gate Park

Rec Room, [SF County Fair Building](#), GGP near 9th Ave. & Lincoln Way

Presidio Contact: [Christa Conforti - CConforti@presidiotrust.gov](mailto:CConforti@presidiotrust.gov)

Golden Gate Park Contact: [Gloria Koch-Gonzalez - Gloria.Koch-Gonzalez@sfgov.org](mailto:Gloria.Koch-Gonzalez@sfgov.org)

Carmel Valley - Saturday May 5, 9:00am

Garland Ranch Regional Park Visitor Center, 700 West Carmel Valley Road.

Contact: [Tim Jensen - tjensen@mprpd.org](mailto:tjensen@mprpd.org)

Sund - Tuesday May 8,

Contact: [Ellen Natesan - ENatesan@sfgwater.org](mailto:ENatesan@sfgwater.org)

SOD-BLITZ - Results for 2011

Want to learn more?

[Sign up for one of our SOD Training Workshops at UCB](#)
and
[SOD Blitz Meetings in Your Community](#)

This activity possible thanks to funding from:
[USDA Forest Service, State and Private Forestry, The Gordon and Betty Moore Foundation, and Agdia, Inc.](#)

Summary

SOD Blitz	Total Samples	# Positive	% Positive
Humboldt/Mendocino	8	0	0.0
Napa	137	34	24.8
Sonoma	259	90	34.7
Marin	134	71	52.9
East Bay/UCB	383	52	13.6
East Bay/Orinda	75	5	6.7
East Bay South	20	1	5.0
SF Presidio	107	0	0.0
Atherton/Palo Alto/Menlo Park	105	26	24.8
Woodside/Portola Valley	344	242	70.3
Los Altos	139	26	18.7
Saratoga/Los Gatos	72	70	97.2
Carmel Valley	89	16	18.0

SOD Blitz

**% *P. ramorum*
positive**

Location

2010

2011

**Woodside/
Portola Valley**

24

70

**Atherton/
Menlo Park**

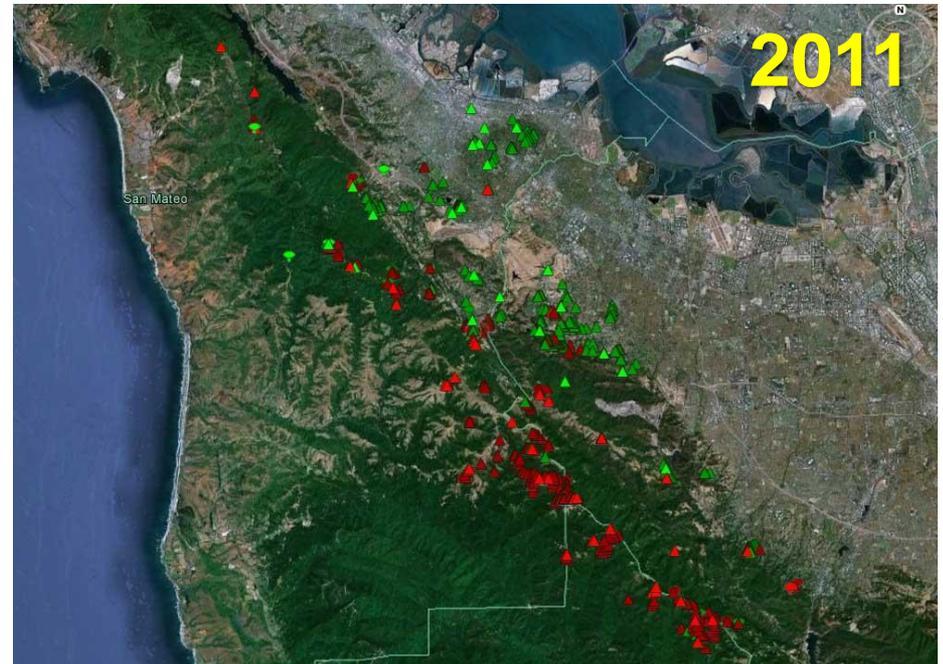
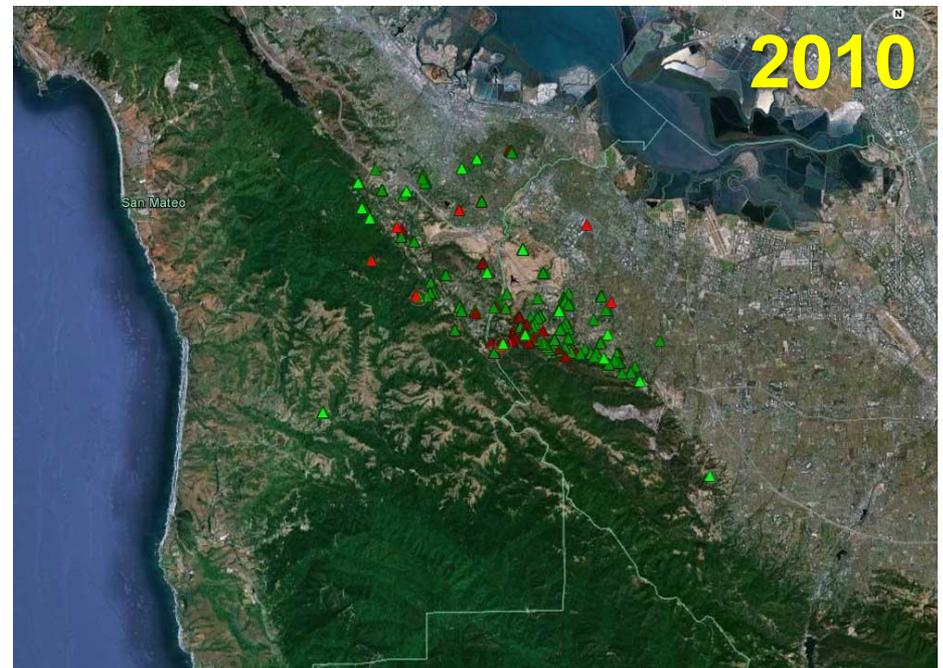
25

26

Los Altos Hills

4

19



Source: Garbelotto lab



June 12, 2012

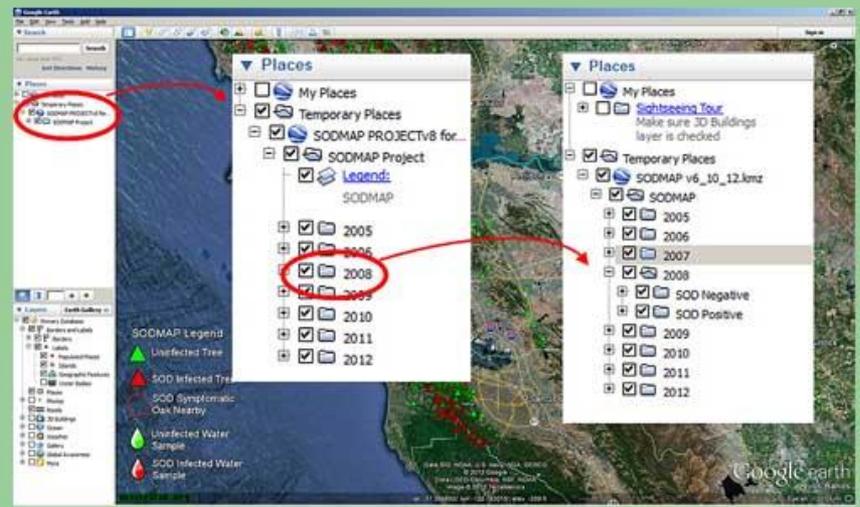
research

- home
- research
- publications
- diagnosis
- treatment
- links
- contact us
- ucb courses

Featured This Month

SODMAP Project How to Read the SODMAP

The data collected by the SODMAP Project is available as a Google Earth overlay. Don't have Google Earth? [Download it for Free](#)



SODMAP will open in the "Temporary Places" panel on the left hand side of the Google Earth screen. If the "Places" panel is not visible it can be viewed by pulling down the "View" menu and selecting "Sidebar". Individual years, as well as SOD positive and SOD negative results may be expanded, collapsed, and checked on/off in the "Places" panel.

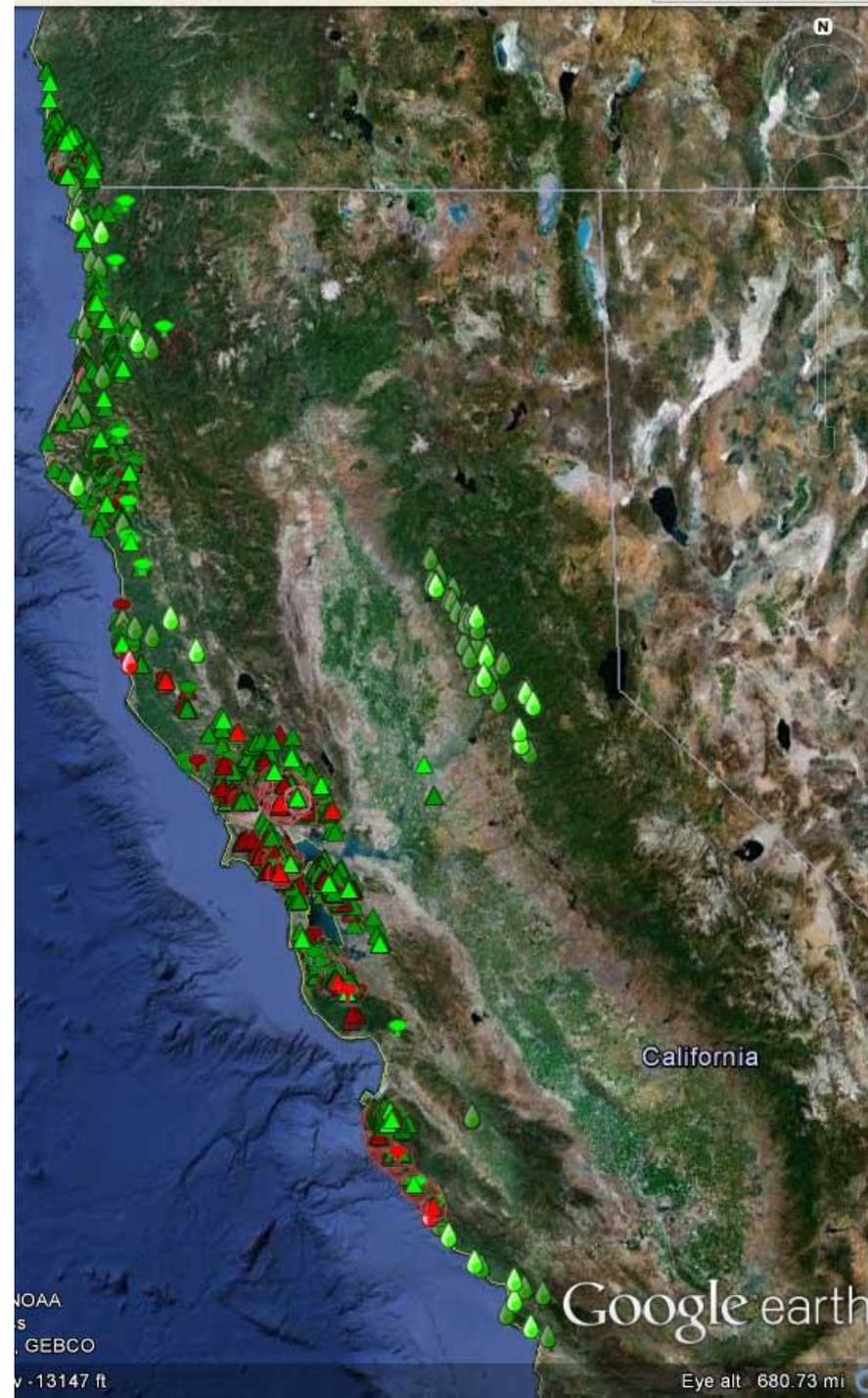
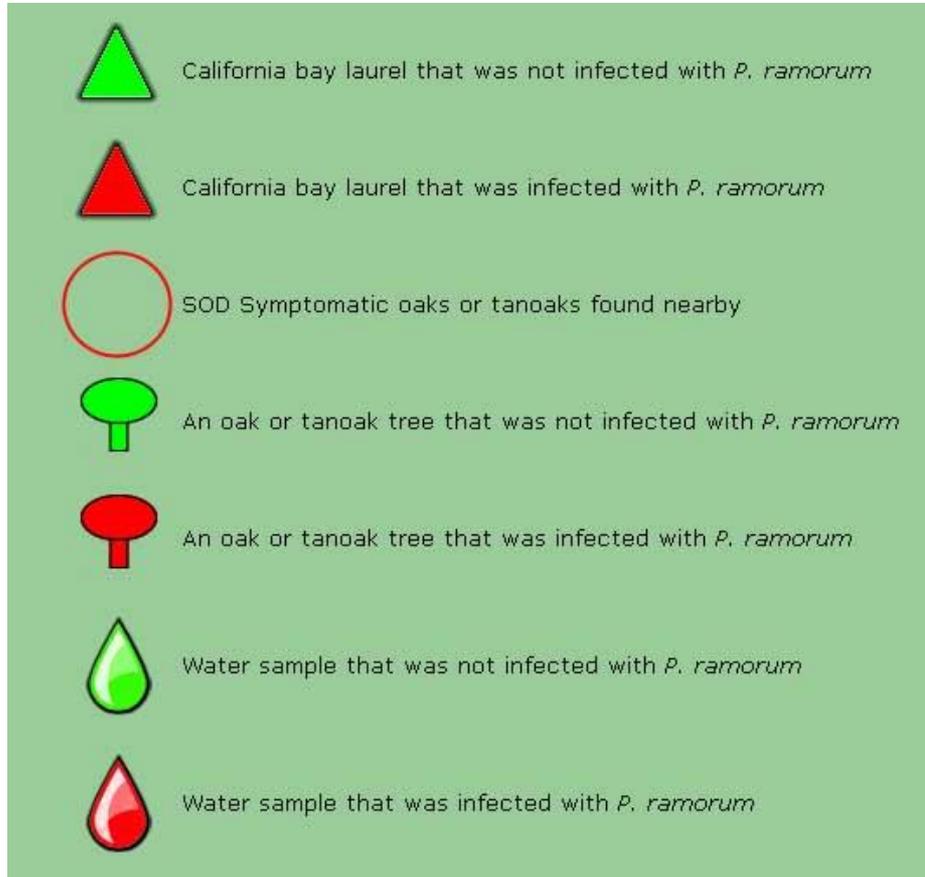


SODMAP

Includes:

- Sod Blitz sites
- Stream monitoring sites
- Long-term research plots
- Research sites
- Management areas
- CDFA confirmations

SOD Map





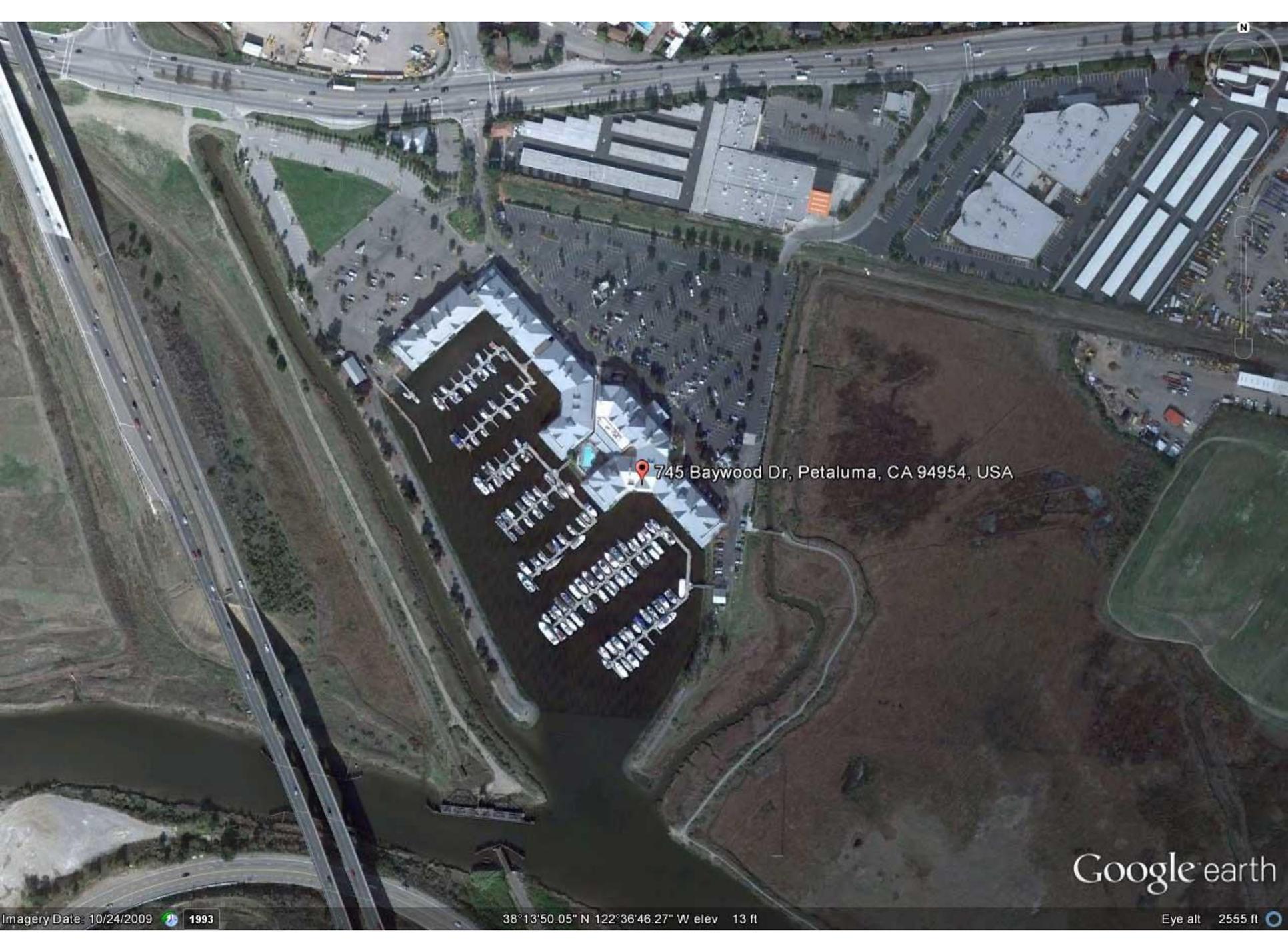
The details of individual collection records may be viewed by mousing over and clicking on them.



Zoom in to view points that are close together. Overlaid points will "star" expand when moused over.

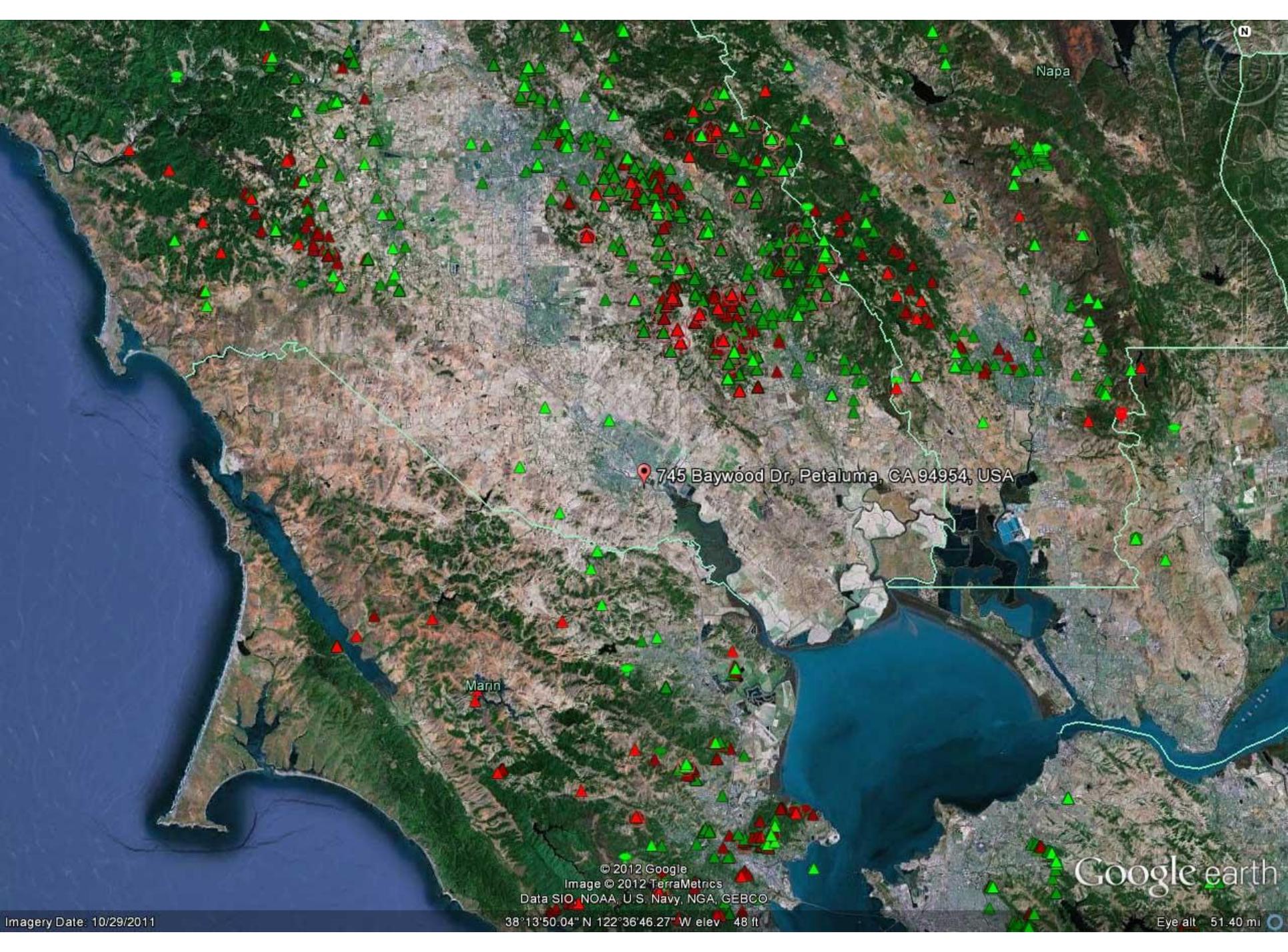


Geographic areas within 1 km (0.6 mi) of a confirmed positive tree sample are at a high risk of becoming infected. The 1 km recommendation does not apply to water samples.



745 Baywood Dr, Petaluma, CA 94954, USA

Google earth



Napa

745 Baywood Dr, Petaluma, CA 94954, USA

Mann

© 2012 Google
Image © 2012 TerraMetrics
Data SIO, NOAA, U.S. Navy, NGA, GEBCO

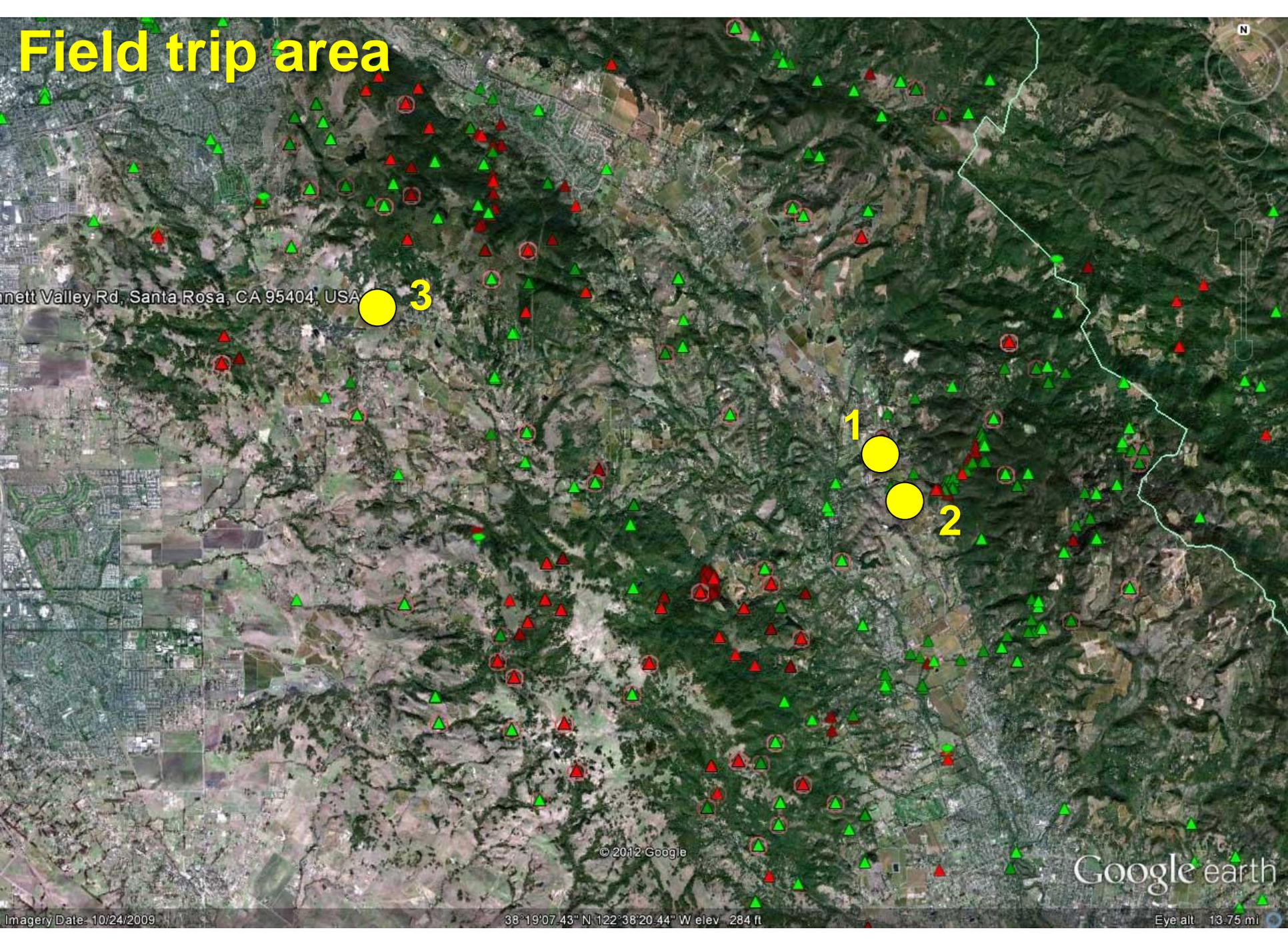
Google earth

Imagery Date: 10/29/2011

38°13'50.04" N 122°36'46.27" W elev 48 ft

Eye alt 51.40 mi

Field trip area



...nnett Valley Rd, Santa Rosa, CA 95404, USA

3

1

2

© 2012 Google

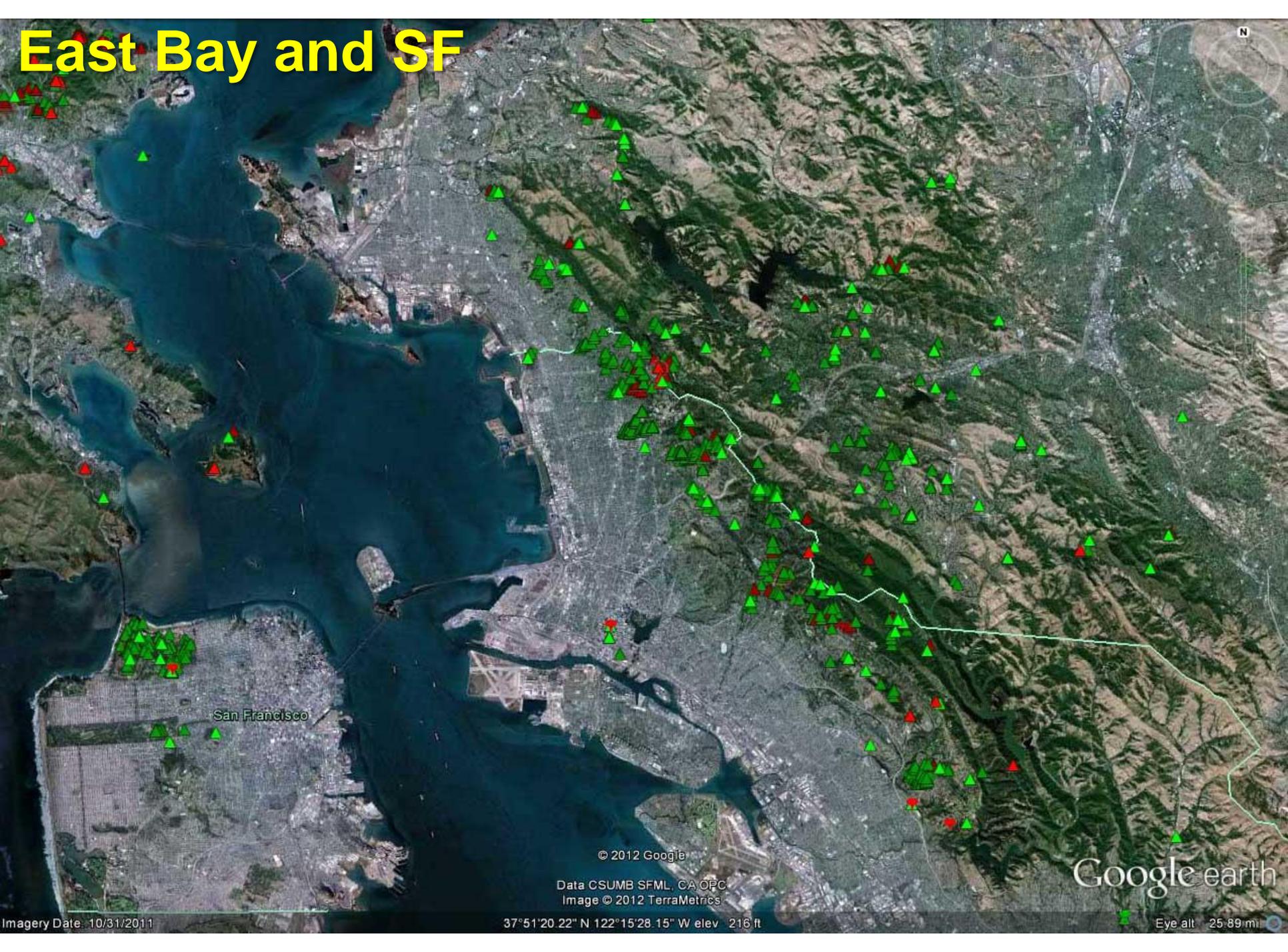
Google earth

Imagery Date: 10/24/2009

38°19'07.43" N 122°36'20.44" W elev 284 ft

Eye alt 13.75 mi

East Bay and SF



San Francisco

© 2012 Google

Data CSUMB SFML, CA OPC
Image © 2012 TerraMetrics

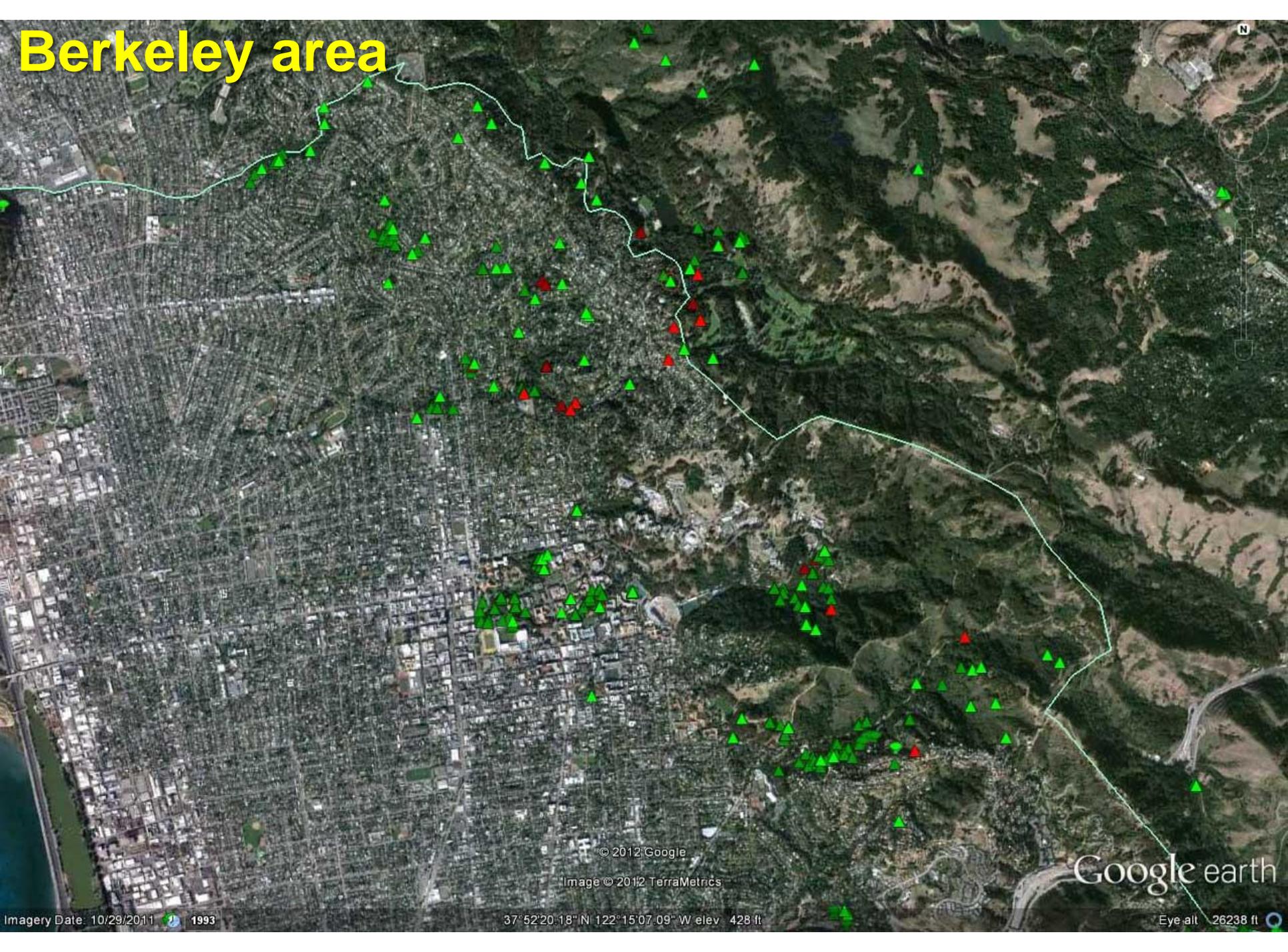
Google earth

Imagery Date: 10/31/2011

37°51'20.22" N 122°15'28.15" W elev 216 ft

Eye alt 25-89 mi

Berkeley area



© 2012 Google

Image © 2012 TerraMetrics

Google earth

Imagery Date: 10/29/2011 1993

37°52'20.18" N 122°15'07.09" W elev 428 ft

Eye alt 26238 ft

Protecting Trees from Sudden Oak Death before Infection

CHRIS LEE, Staff Research Associate, University of California Cooperative Extension, Humboldt-Del Norte Counties; **YANA VALACHOVIC**, Forest Advisor, University of California Cooperative Extension, Humboldt-Del Norte Counties; **MATTEO GARBELOTTO**, Extension Forest Pathology Specialist, Department of Environmental Science, Policy and Management, University of California, Berkeley

Phytophthora ramorum, an introduced invasive plant pathogen that causes sudden oak death, has killed over a million tanoak, coast live oak, Shreve oak, and California black oak trees along the California coastal region from Monterey through Humboldt Counties. Most trees infected with *P. ramorum* will eventually die, including prized landscape trees. Be aware that *P. ramorum* can infect California bay laurel trees in advance of oak and tanoak infection and that the symptoms of bay laurel infection are not obvious. This publication provides advice to landowners, land managers, arborists, foresters, and the general public about protecting trees from sudden oak death in areas where trees are not currently infected by *P. ramorum*, but where it is suspected that the pathogen will infect trees in the future because infested areas are nearby. Such areas might include



Large Management Efforts

Redwood Valley (UCCE, Cal Fire, USDA FS):

- Eradication

S. Humboldt, Mendocino, and N. Sonoma (UCCE, CAL Fire, Phytosphere, Fire Safe Sonoma):

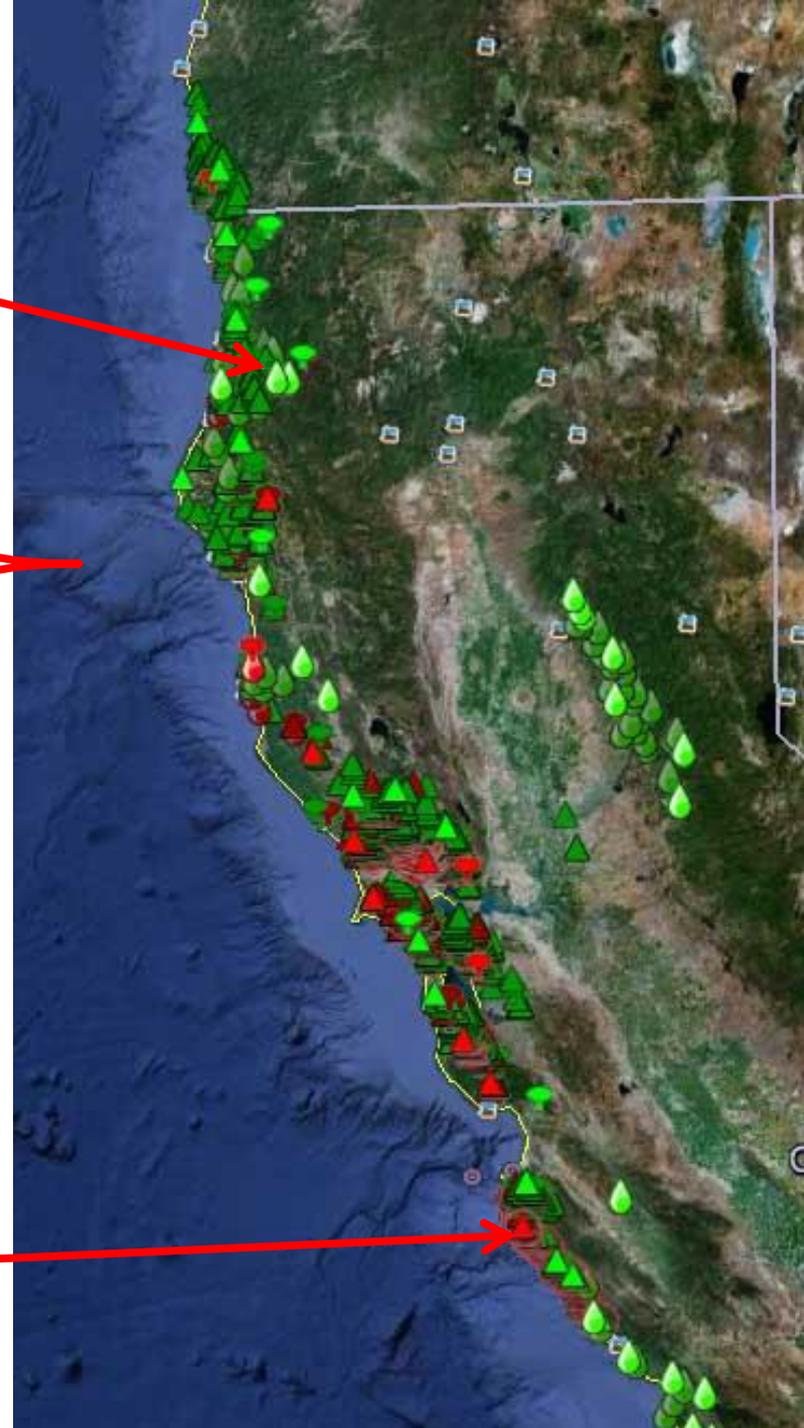
- Hot spot approach/Slow the spread
- Tanoak survival
- Fuel/impact management

Greater Bay Area (UC Berkeley, Phytosphere):

- Impact management
- Slow the spread
- Agri-fos trials
- Tanoak/oak survival

Big Sur (USDA FS, UC Davis, UC Berkeley):

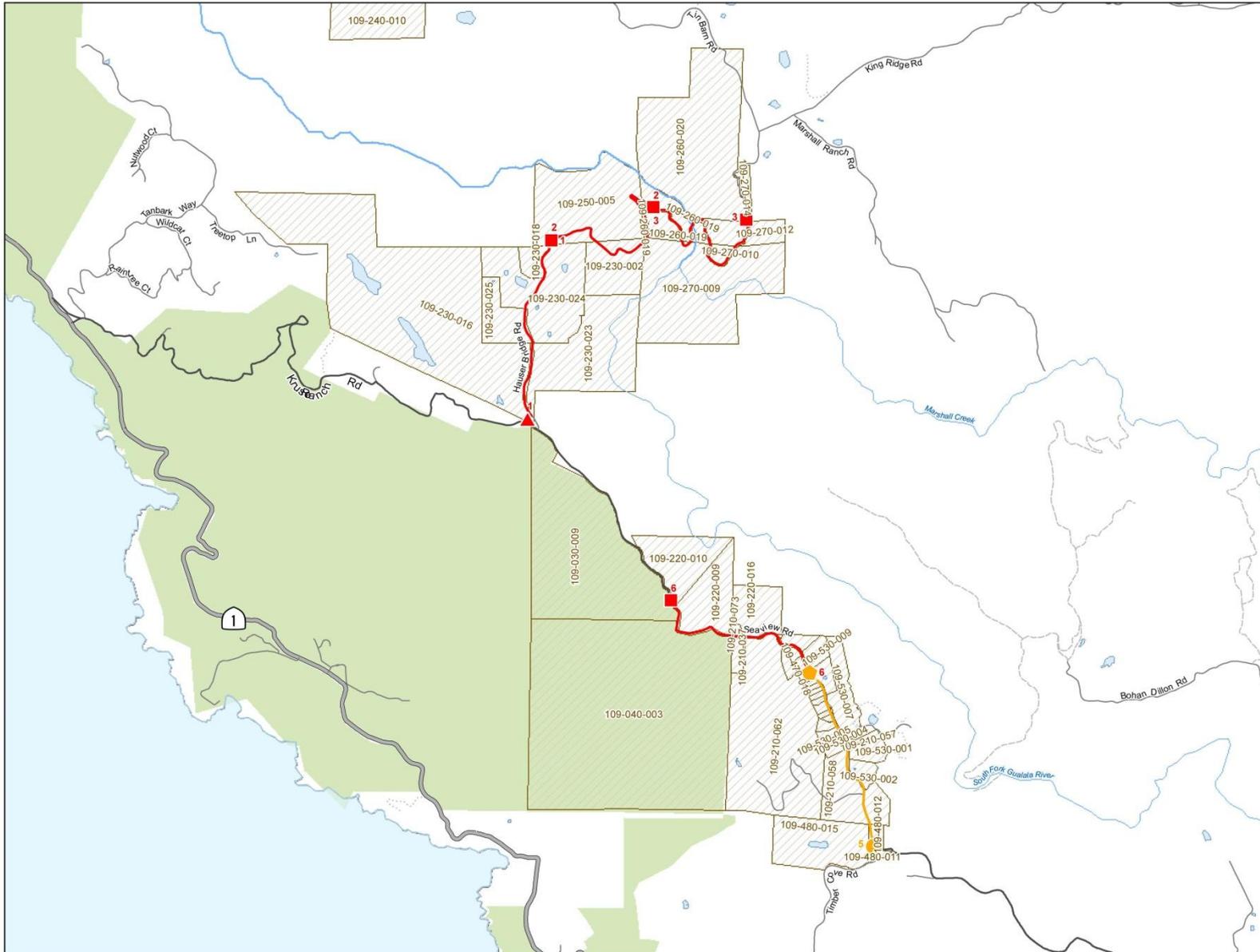
- Fire planning
- Agri-fos trials
- Tanoak survival



Ft. Ross Road, Sonoma County



Source: Caerleon Safford, Fire Safe Sonoma

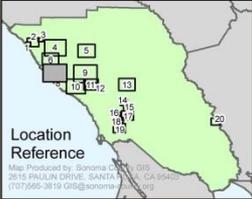


Fire Safe Sonoma Medium & High Priority SOD Tree Removal Areas

- Risk & Location**
- ▲ Start High
 - End High
 - Start Medium
 - ◆ End Medium
- Road Rank**
- High
 - Medium
- Waterbody
 - Subject Parcel
 - Park

DRAFT

Map 7 Map Date: Date Here Please
Revision Date:



0 500,000
Feet

Author: Fire Safe Sonoma
Projection and Coordinate System: Tics: California State Plane Coordinates System, Zone II, NAD 1983, US Survey Feet, Lambert Conformal Conic. Some data have been reprojected from other coordinate systems and may not reflect actual ground positions.
Document Source: Iacogisg(Data/GIS Projects)\Emergency Services\FireSafeSonoma\OakTrees.mxd
Data Source: Sonoma County Public Safety Consortium, Sonoma County GIS, Fire Safe Sonoma.
 This map is provided as a visual display of County information. Reasonable effort has been made to ensure the accuracy of the map and data provided; nevertheless, some information may not be accurate. The positional accuracy of the data is approximate and not intended to represent map accuracy from a published record of survey. **THE MAPS AND ASSOCIATED DATA ARE PROVIDED WITHOUT WARRANTY OF ANY KIND** other expressed or implied including but not limited to the implied warranties of merchantability and fitness for a particular purpose. Do not make a business decision based on these data without first validating the information with the appropriate County agency or other government entity.



Big Sur
K. Frangioso

FireScape Monterey

Keeping Wildfire in its Natural Place

Photo from NASA's Autonomous Modular Scanner, onboard the Ikhana remotely-operated aircraft, over the Basin Fire Complex in Monterey County, CA on July 8, 2008.

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[WORKGROUPS](#) [DIALOGUE](#) [REFERENCES](#) [EVENTS](#) [MY PAGE](#)

ANNOUNCEMENTS

You're invited to Workshop 6!

Please [RSVP here](#).



Workshop #6: Setting Benchmarks and Measuring Success

April 24-25, 2012. Tassajara and Carmel Valley Community Room.

The workshop will focus on measuring the success of planned actions. Carpooling for Day 1 at Tassajara will leave from three "join up" locations, so please [RSVP](#) for instructions.

EVENTS

[Workshop 6: Setting Benchmarks and Measuring Success](#)

April 24, 2012 to April 25, 2012 – For Tassajara, carpooling will include three "join up" locations. Please [RSVP](#) for instructions.

WELCOME TO FIRESCAPE MONTEREY!

As the Co-leads of FireScape Monterey, we welcome you to this open, collaborative community, working to protect life and property affected wildfire and healthy resilient ecosystems of the Northern Santa Lucia Mountains and the Monterey Coast. We three are very different, but we have volunteered together to lead this effort with the conviction that we need to bring many kinds of knowledge and experience together to arrive at creative, workable solutions to fire-related issues in this extraordinary landscape. Please join us, the [Core Team](#) and the many participants who are already bringing their energy to this exciting effort.



Co-leads of FireScape Monterey (left to right):

Jeff Kwasny - Los Padres National Forest

Gordon Johnson - California Wilderness Project

Butch Kronlund - Coast Property Owner's Association.

VISION STATEMENT AND VALUES

The activities of FireScape Monterey revolve around the group's vision statement and

Welcome to
FireScape Monterey

[Sign Up](#)
or [Sign In](#)

You can also sign up with:



MEMBERS



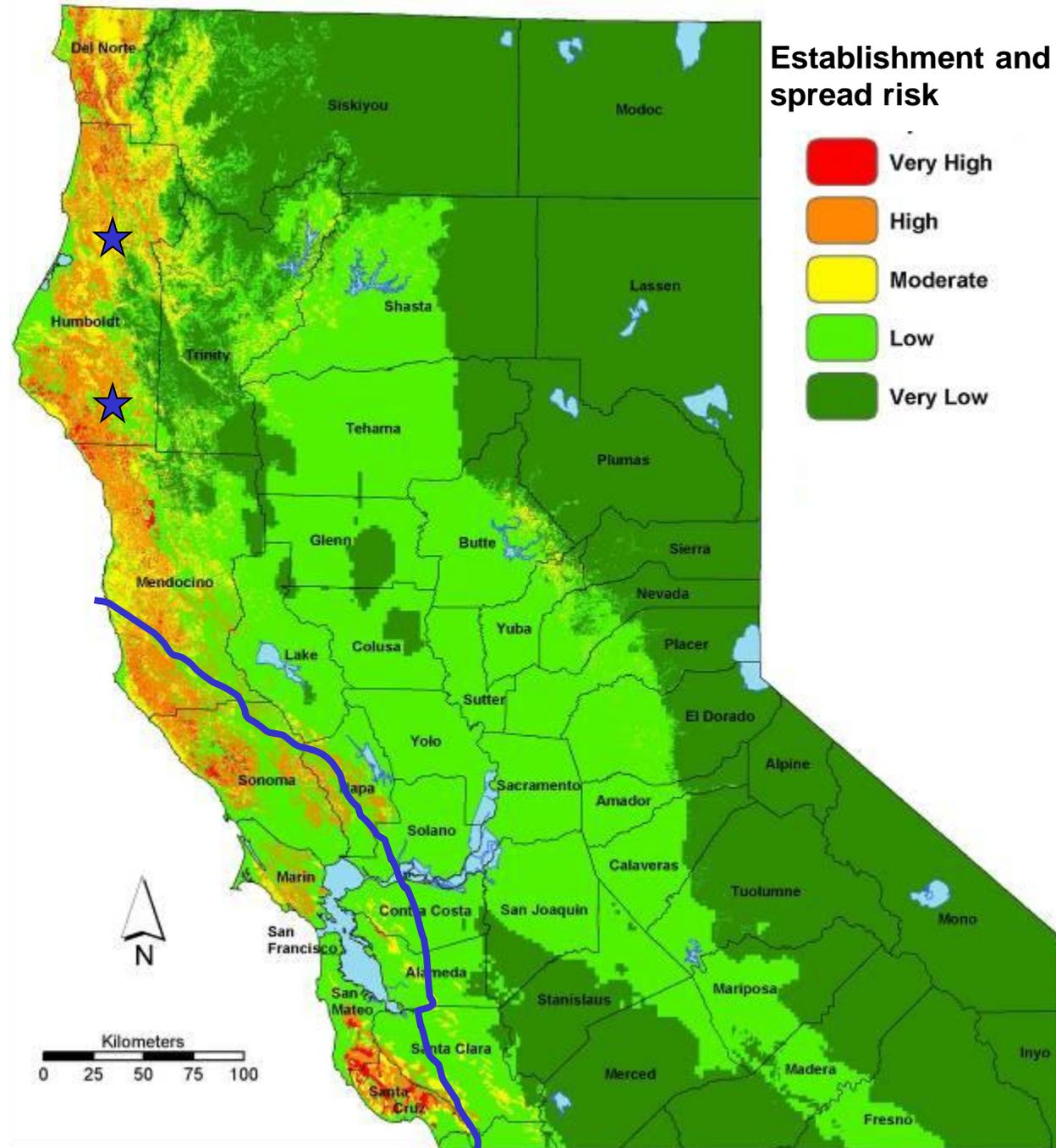
[View All](#)

PARTICIPATING ORGANIZATIONS

FireScape Monterey is a collaboration of 27 organizations, plus residents of several local communities.

- Big Sur community members
- [Big Sur Land Trust](#)
- [Bishop Grading and Forestry](#)

Risk Models



Meentemeyer et al., 2004

A photograph of a forested hillside. The trees are a mix of green, yellow, and grey, suggesting a mix of species and possibly some dead or dormant trees. The forest is dense and covers the entire slope. The sky is overcast and grey. In the bottom left corner, there is yellow text that reads "Connick Creek, Humboldt County".

**Connick Creek,
Humboldt County**

Acknowledgements

- Yana Valachovic and Maia Beh, UCCE
- Matteo Garbelotto, UC Berkeley
- Brent Oblinger, USDA Forest Service
- Caerleon Safford, Fire Safe Sonoma
- Rizzo Lab: Heather Mehl, Kerri Frangioso, Kamyar Aram, Ashley Hawkins, Clay DeLong
- Kerri Frangioso