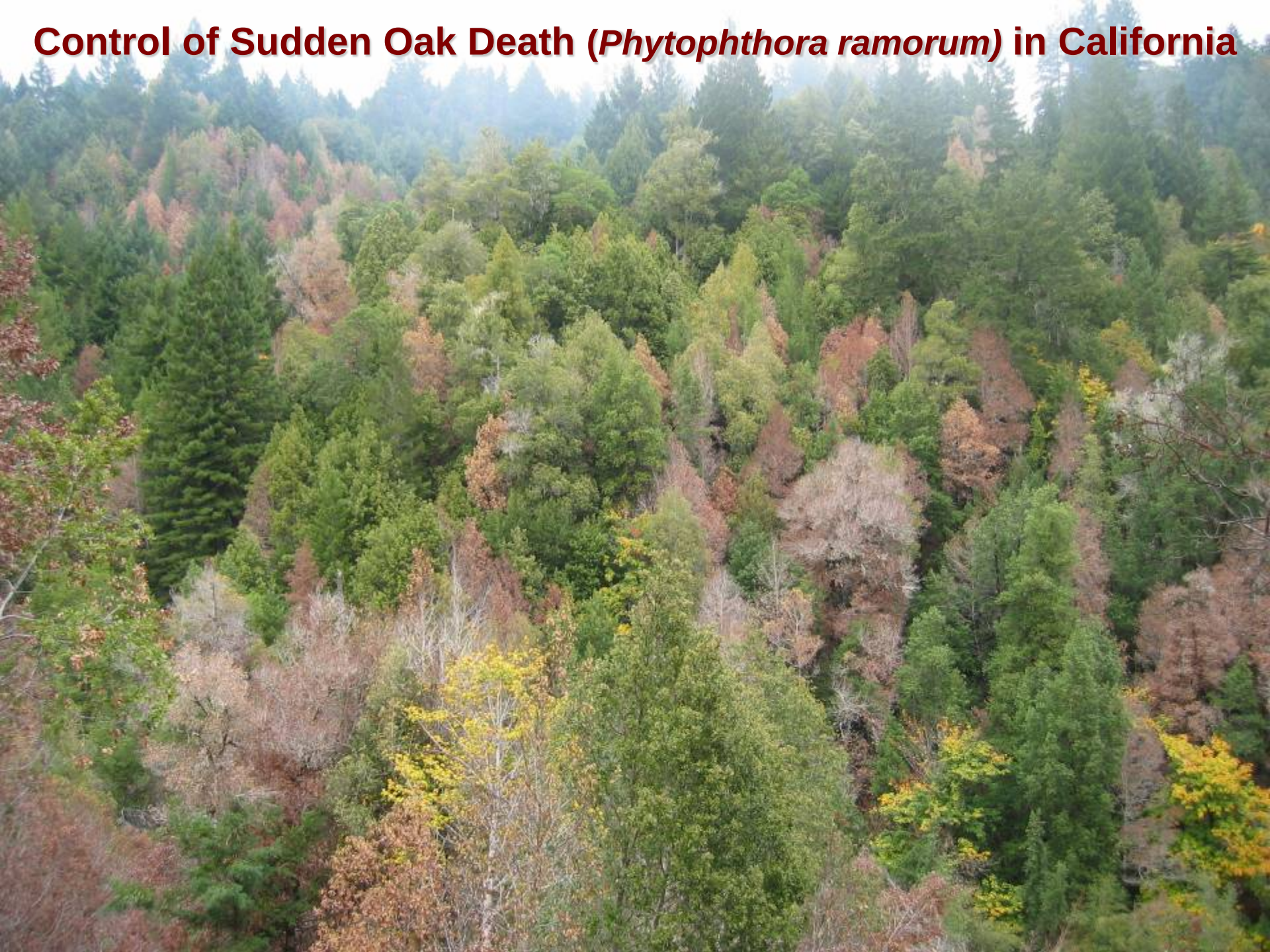
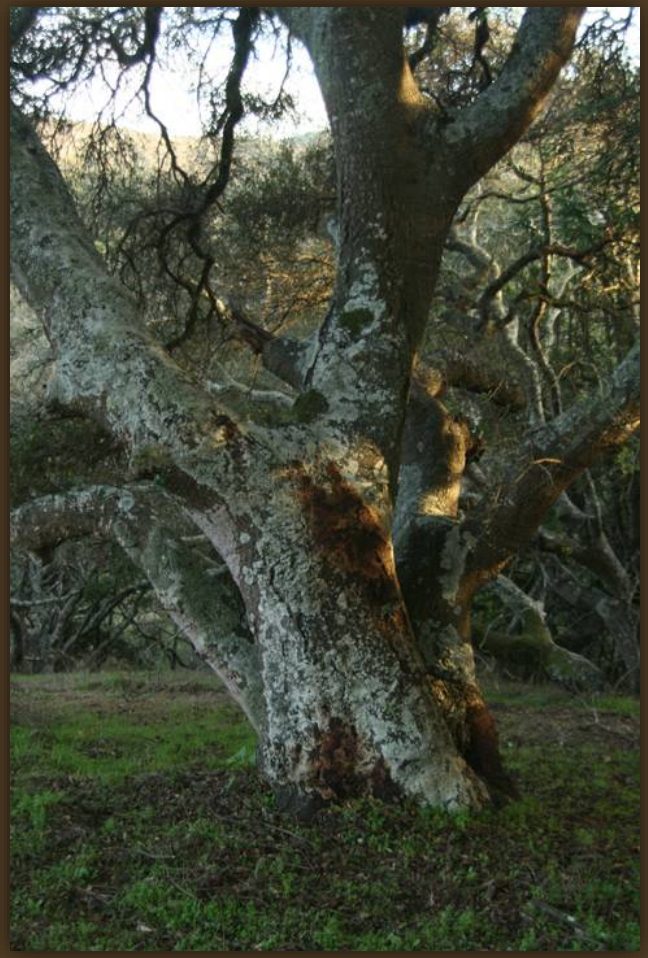
Control of Sudden Oak Death (*Phytophthora ramorum)* in California



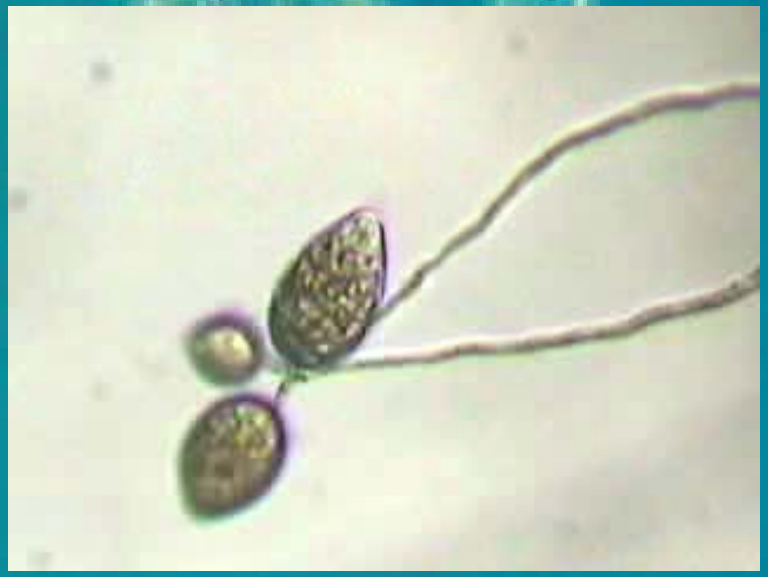
Why do we care about Sudden Oak Death?

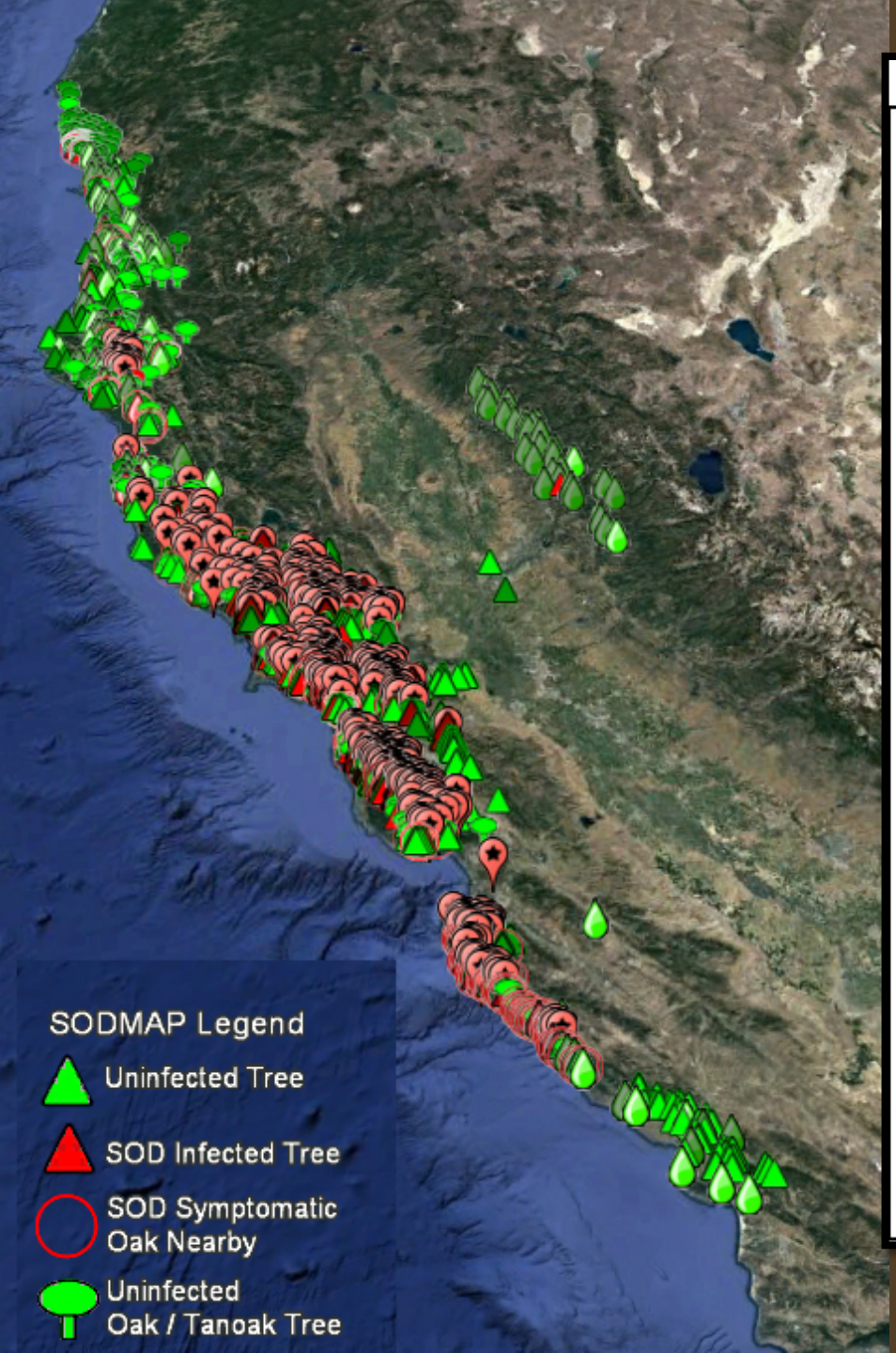
- Over 3 million trees already lost from CA & OR forests
- Ecological effects: forests look and act differently, wildlife impacts
- Social effects: hazard trees, fire dangers, economic costs, emotional impacts
- Ongoing threat: less than 20% of susceptible forest affected so far

Outline

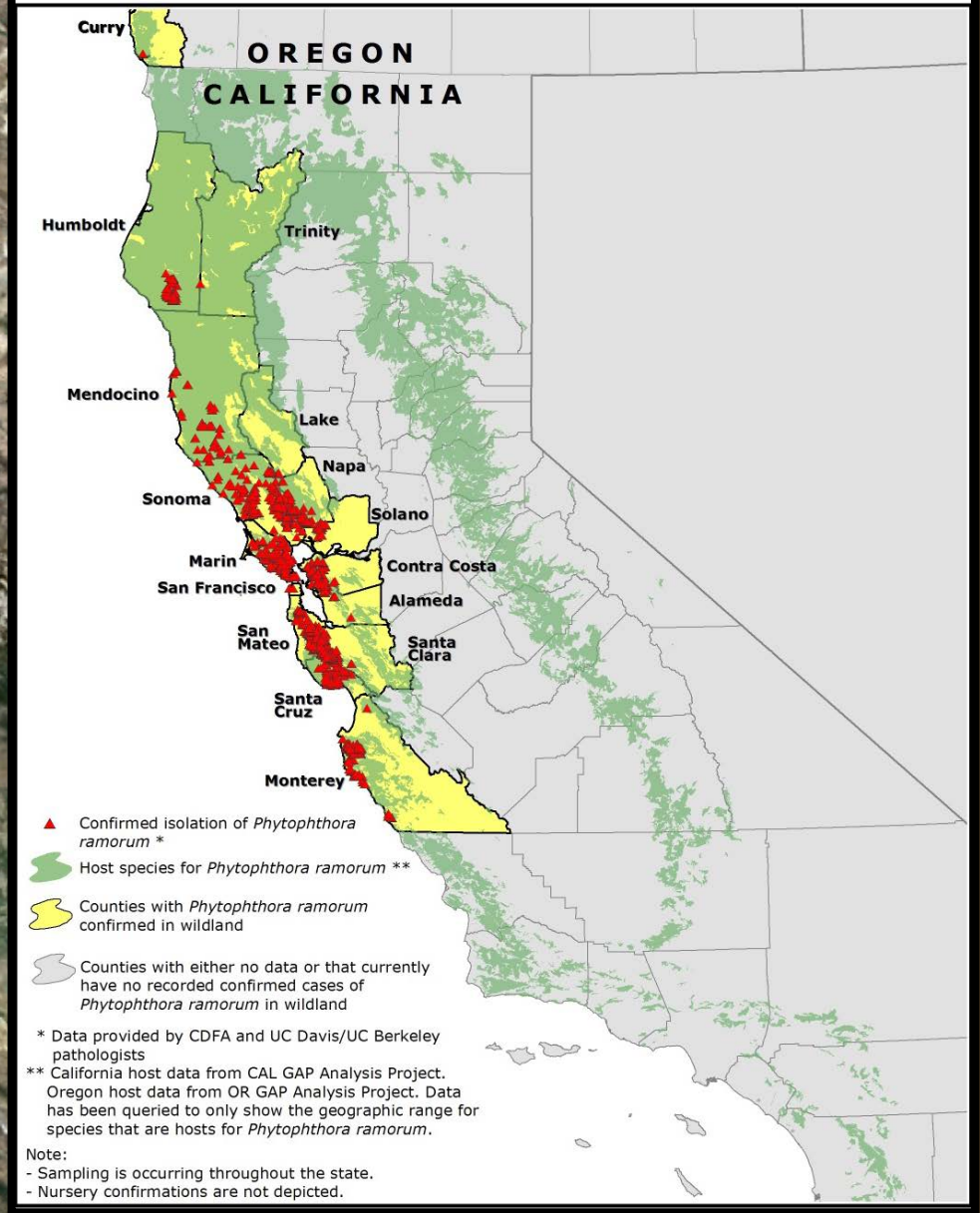


- Biology
  - Pathogen
  - Hosts
  - Spread
- Management
  - Diagnosis
  - Treatment options





Distribution of Sudden Oak Death as of July 8, 2014

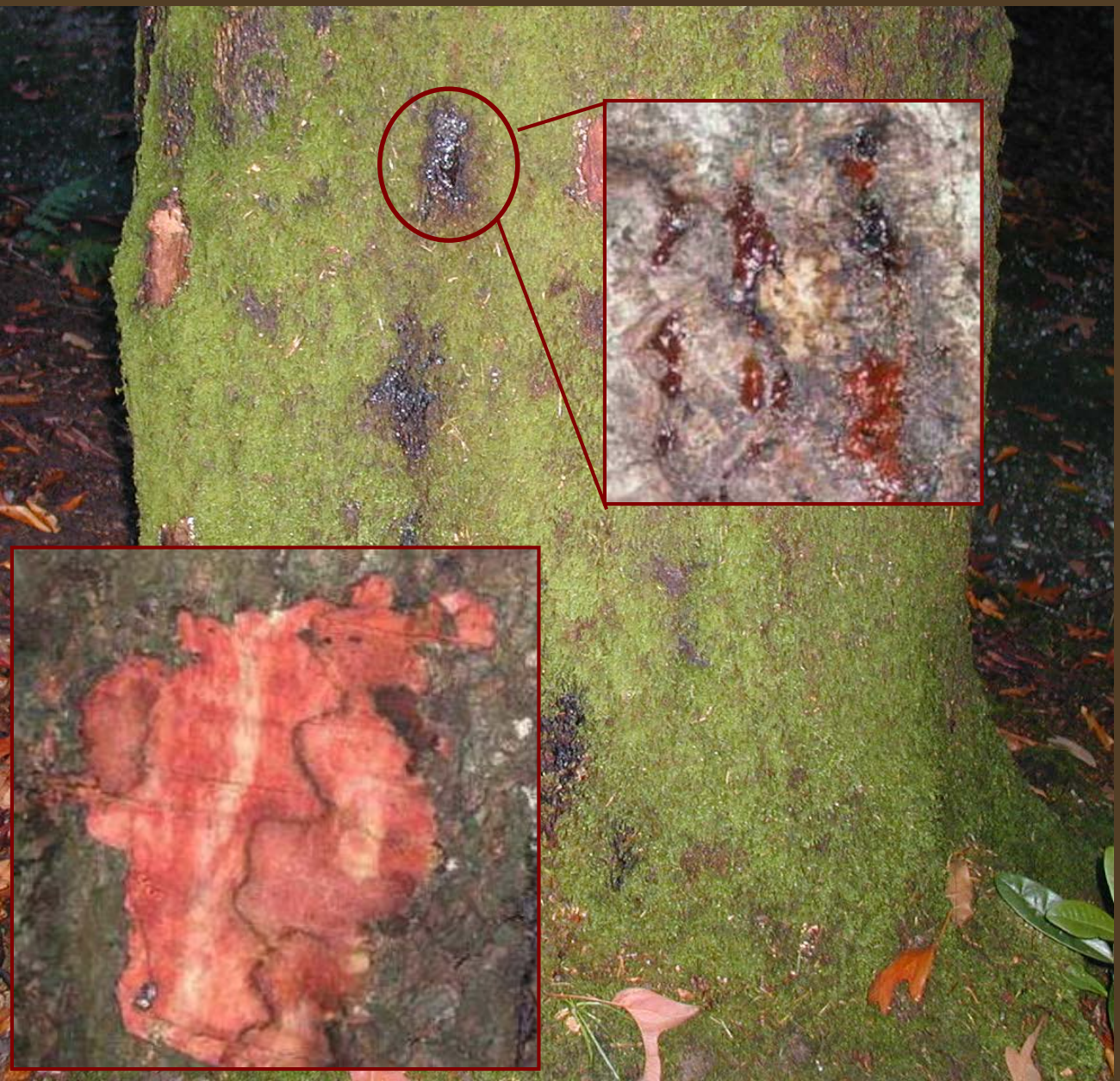


* Data provided by CDFA and UC Davis/UC Berkeley pathologists

** California host data from CAL GAP Analysis Project. Oregon host data from OR GAP Analysis Project. Data has been queried to only show the geographic range for species that are hosts for *Phytophthora ramorum*.

Note:
- Sampling is occurring throughout the state.
- Nursery confirmations are not depicted.

Symptoms on *Quercus* species



Canyon live oak
(*Quercus chrysolepis*)

Symptoms on Tanoak
(*Notholithocarpus densiflorus*)

Symptoms on foliar hosts

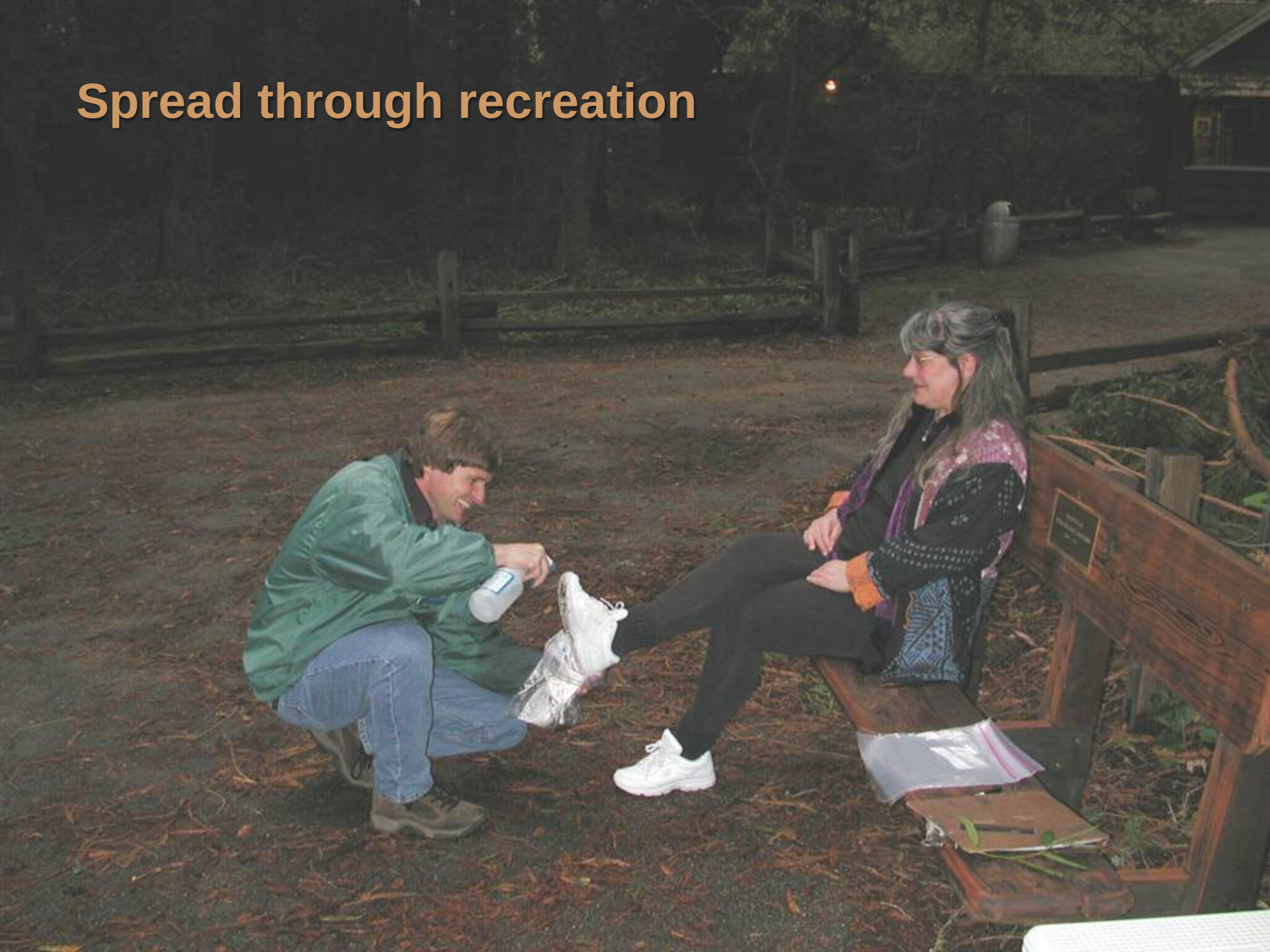
- Infections limited to leaves and twigs; *not fatal*

Spread from foliar hosts

- Ideal conditions:
  - 61-72° F
  - Wet for 12+ hours
- Outbreaks occur when ideal conditions occur for 2+ consecutive years


Spread through weather events

Spread through recreation




Spread through nurseries

P. ramorum look-alikes

Other *Phytophthoras*

P. nemorosa
P. psuedosyringae

Other diseases & injuries

Bacterial wetwood
Armillaria and bark beetles
Insect borers
Canker fungi
Root diseases

Abiotic problems

Leaf sampling

- For each foliar host
  - Collect 5-10 symptomatic leaves for each tree
  - Place in ziplock bag
    - Write date, location & contact information on bag
  - Submit promptly
    - Monday through Wednesday
- For bark samples
  - Contact trained sampler

Treatment options: dis/unproven

- **Insecticides**: do not address underlying *P. ramorum* infections.

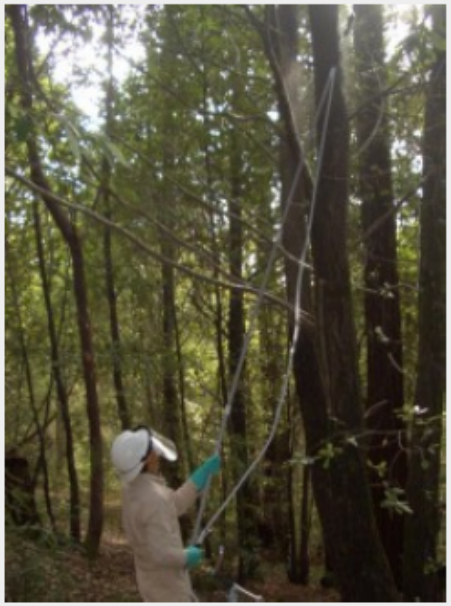
- **“Alternative” treatments**: soil amendments, fertilization, compost teas, etc. do not appear to be effective against the pathogen.

- **Excisions**: no effect

Chemical treatment

- Phosphonate
  - Injection
  - Surface application
- Application
  - Specimen trees
  - Every year in the fall (2x the first year)
  - Prophylactic, not curative!

Arborists and Applicators



We provide a list of tree care professionals who have been through a COMTF training session on symptom recognition/sampling and the use of the Agri-fos/Pentra-bark treatment **in the past three years**, and have given their names and contact information for this referral list. These persons have been trained to recognize *Phytophthora ramorum* in the field, and have been informed of the process for collecting and sending samples for analysis with the California Department of Food & Agriculture. **Note:** This list should be viewed as a resource only, and is not an endorsement by the Task Force of any specific company or service.

You can access the Trained Professionals List as a PDF or download the original trained professionals spreadsheet to more easily sort for professionals in your area. Please note that while a person may be listed in a particular county, most professionals work much further afield than that. If you are unable to find someone in your immediate area, try contacts in the neighboring counties as well.

For Professionals

If you are a professional who needs to update contact information, please use our online form to submit your information. Once we have your complete and current contact information, we will update the online list.

If you are a professional who would like to be added to our list, you can find our schedule of workshops and trainings on the Calendar of Events. If our current list of training options does not meet your needs, please fill out a Workshop Request so we can better plan our workshop schedule.

Search

Diagnosis and Management

- Arborists and Applicators
- Best Management Practices
- Diagnostic Guide
- Hosts and Associated Plants
- Look-alikes and Misdiagnosis
- Managing Sudden Oak Death
- Native Plant & Tribal Resources
- Nursery Information
- P. ramorum in the Urban Interface
- P. ramorum in Wildlands
- Regulations
- Response Planning
- Restoration
- Sanitation and Reducing Spread
- Symptoms
- Treatments

Symptom Gallery

Cultural treatments
(i.e., foliar host removal & pruning)

- Not for use in a pure tanoak stand
- May be used alone or with phosphonate
- Use caution: may result in no mature trees

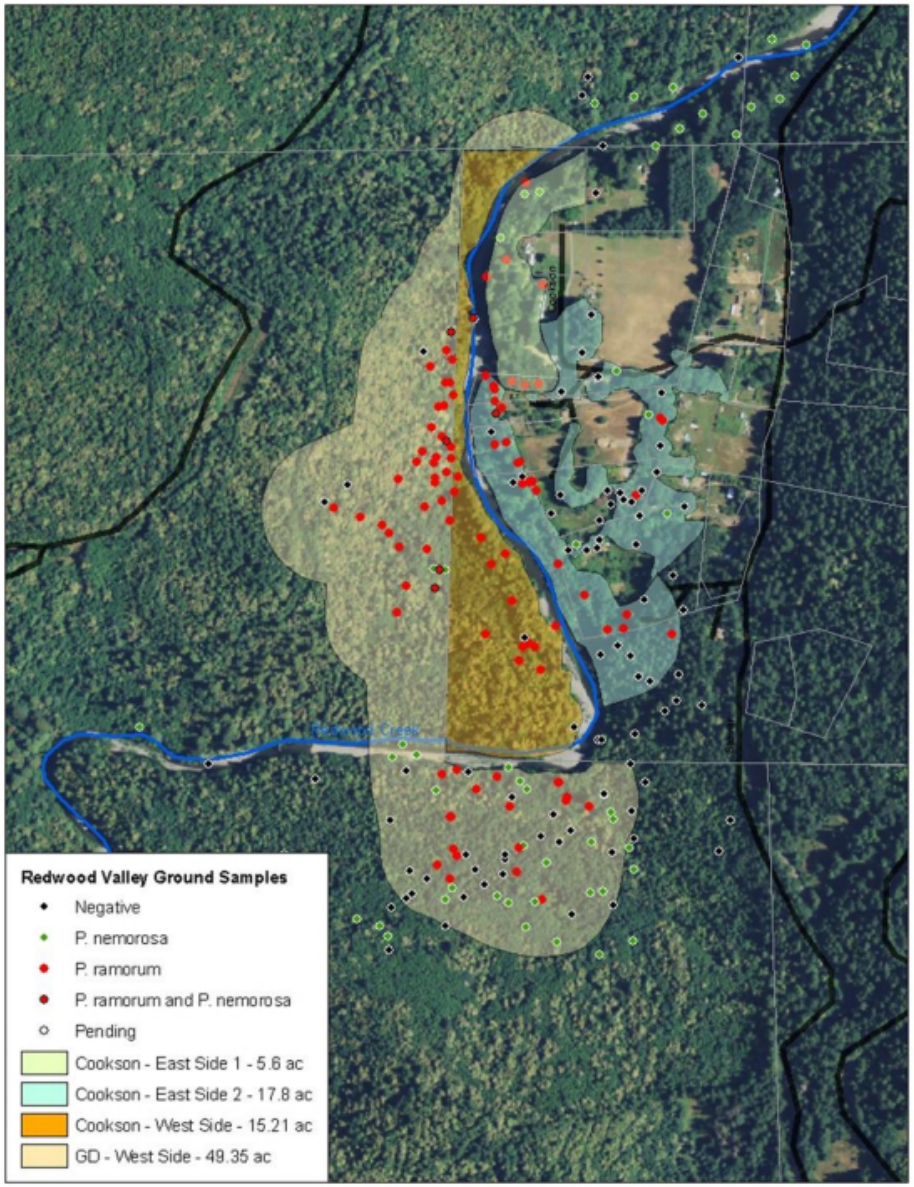
Prescriptions

- 2.5 – 5 m of clearance
- Storm wind direction
- Focus on lower branches
- Monitor for sprouts & remove

Disposal

- Leave dead trees standing if no hazard
- Best left on site
  - Wrap cut wood in clear plastic if infested with insects
- Commercial landfills & composting yards
- Don’t move material out of county

The VAN DUZEN NO-HOST ZONE (¼ mile wide, 2 miles long)


Redwood Valley Ground Samples
Negative
P. nemorosa
P. ramorum
P. ramorum and P. nemorosa
Pending
Cookson - East Side 1 - 5.6 ac
Cookson - East Side 2 - 17.8 ac
Cookson - West Side - 15.21 ac
GD - West Side - 49.35 ac

Same Tree

Jay Smith Road

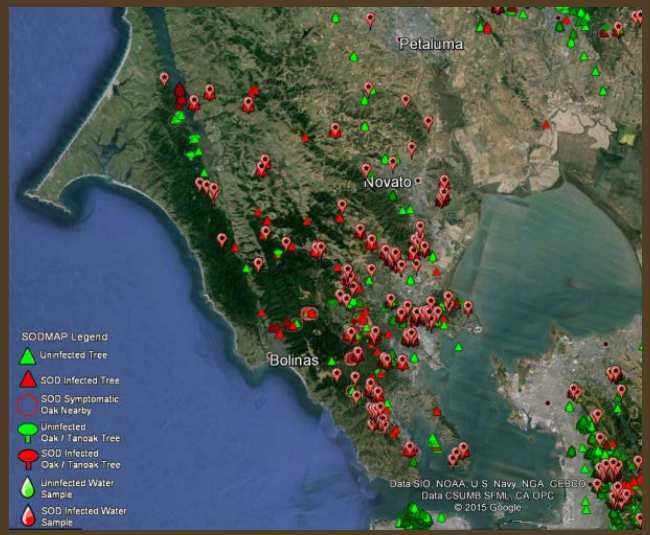
- Cutting, no fire
- Bay can sprout!

Prevention is key!

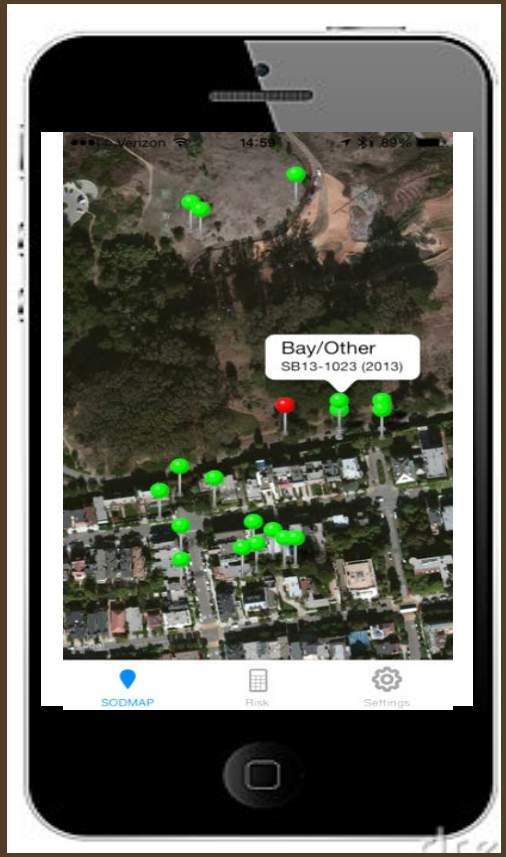
Early identification

“SOD Blitz” citizen science

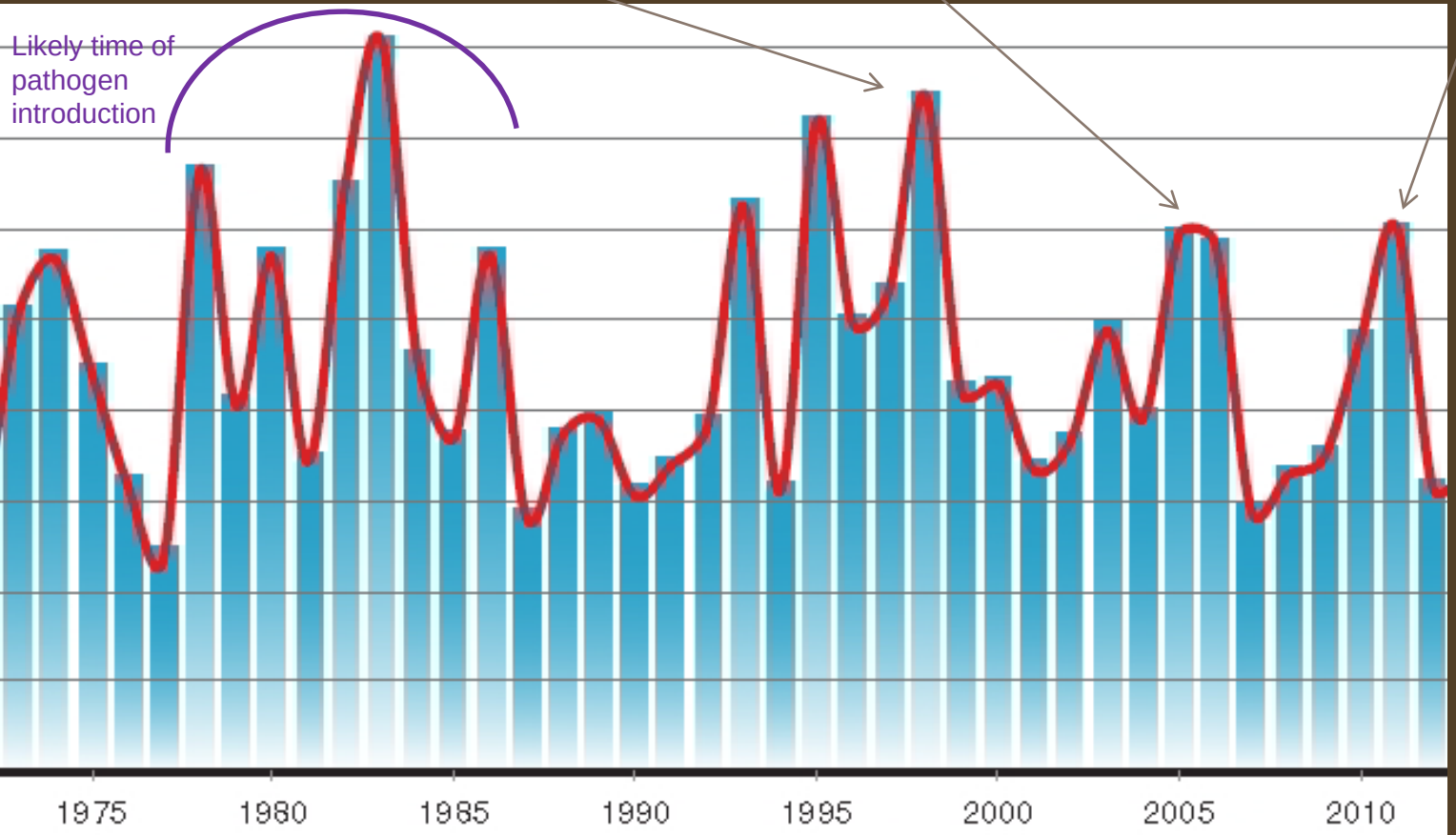
UC Berkeley and the California Native Plant Society host annual informational meetings and free SOD testing. Get involved with the SOD Blitz survey and help track the spread of this disease in your community!



Download the SODmap Mobile app, available free for iPhone and Android



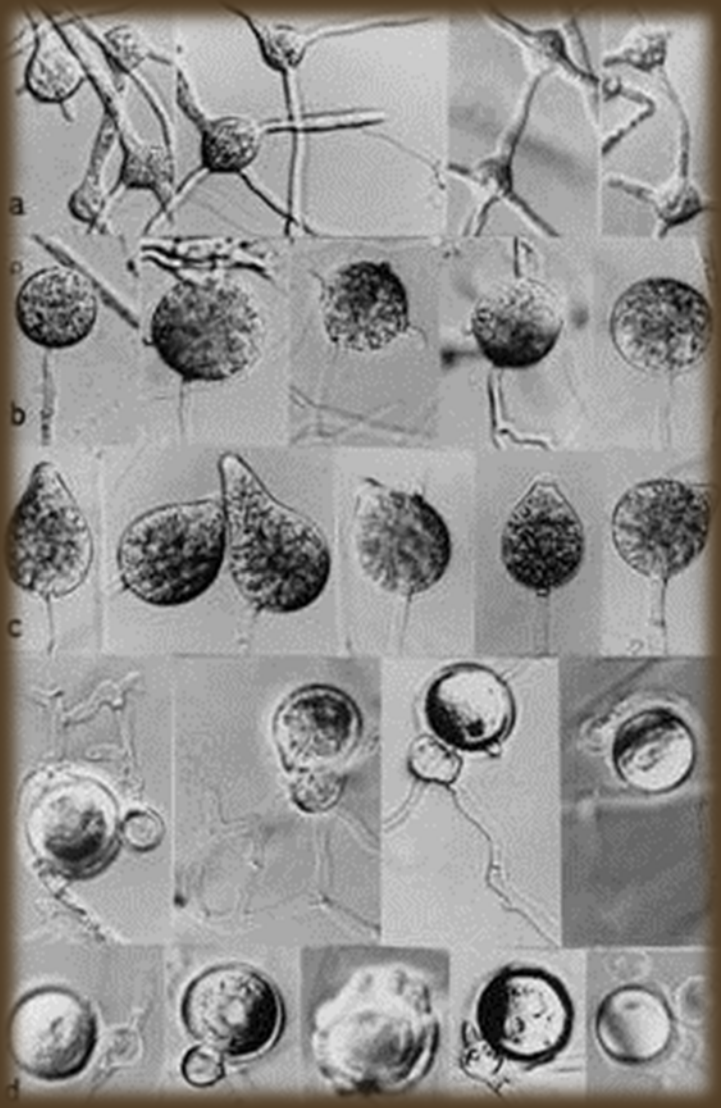
sodblitz.org



Warmer, wetter winters combined with cyclical El Niño springs

Phytophthora ramorum regulations

New *Phytophthora* species



www.suddenoakdeath.org

http://www.suddenoakdeath.org/ - Windows Internet Explorer

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What is Sudden Oak Death?

Sudden Oak Death is a tree disease caused by the plant pathogen *Phytophthora ramorum*. The disease kills some oak species and has had devastating effects on forests in California and Oregon. Read more about Sudden Oak Death.

Areas of Interest

News

Protecting Trees from Sudden Oak

Search

Quick Links

- Current newsletter
- Best Management Practices
- Regulations
- Research
- Join the mailing list
- Media inquiries

Symptom Gallery


Questions?