



FIRE SAFE SAN MATEO COUNTY

March 11, 2020.

Online conference call. No in-person meeting.

I. Attendance:

Online Zoom conference call in lieu of in-person meeting due to COVID-19 meeting restriction guidelines by San Mateo Public Health.

39 members attended the meeting.

II. Introductions:

Denise Enea and Sheena Sidhu welcomed all members who called into the meeting.

Participation instructions were shared:

- Mute audio unless speaking
- Video participation not required, you may turn off your camera
- To ask questions, please unmute and speak after the presentations, or use the chat function to ask questions during the presentations

III. Presentations:

A. John Schweisinger, Turf Image. Fire Mapping Project from Monterey County

1. Overview

John shared information about his company. They can work with interested organizations, agencies, and companies to help set up systems that will provide live GIS data for geospatial imaging. These would be customized maps for specific projects.

Data is shared on a server and is cloud-based. This gets rid of the extra step of emailing zipped shape files to collaborators any time there is an update (i.e. you would have to email all your partners new information anytime there is a map update and they would have to update their corresponding maps on their own). Instead, because the data is cloud-based, the data for the maps will be available immediately to all authorized users at once.

John shared a demo of work they have done in the Big Sur area in Monterey County. He shows how they can be customized with additional layers of information, that would then be available to all authorized users. For example, gate code information can be added to maps for properties, that would then be available to fire departments if they need to access remote properties in the area in an emergency. More examples of Turf Image's projects can be found here: <https://www.turfimage.com/projects.html>

2. Structure and Cost

The basic structure of their program is in two parts. (1) First they set up the initial system, then (2) second, they train the users so they can eventually take over map's management into the future. An example of costs:

1st year: \$20,000 - \$30,000 for initial framework and set up

2nd year: costs would decrease because initial set up is complete, but Turf Image is available to continue to train and help manage the map

3rd year: the costs would be even smaller because, by then, the users should be trained, and Turf Image would be available for support

Turf Image proposed they could work with Fire Safe San Mateo County and make a customized map that would be useful for multiple agencies, and organizations within the council.

3. Additional information

Turf Image's website: <https://www.turfimage.com/index.html>

John's contact info:

John J. Schweisinger, President & Senior Project Manager | Turf Image | TiGEO

P. [831-521-5088](tel:831-521-5088) | F. [831-309-9994](tel:831-309-9994) | John@TurfImage.com

John also shared this: <https://www.montereyherald.com/csu-monterey-bay-big-sur-fire-receive-cal-fire-grants>

B. Dr. Matteo Garbelotto, UC Berkeley. Latest Information on Sudden Oak Death.

Dr. Garbelotto is a Cooperative Extension Specialist from UC Berkeley who focuses on forest diseases. His team has done some key work studying Sudden Oak Death in California, and he is our local top expert for this disease.

1. History of Sudden Oak Death.

Sudden Oak Death (SOD) is the disease caused by a fungus-like pathogen, *Phytophthora ramorum*. *P. ramorum* persists in cool and wet climates such as along the California and Oregon coast. It kills some oaks (*Quercus species*), and also tanoaks (*Notholithocarpus densiflorus*), and can be vectored through many other plants, including Bay Laurel, and some horticultural plant species like camellias, and rhododendrons. While not all plants die, they can become a source of the disease for other plants. For plants that become infected, SOD cause dieback of several different tree species; this dead and dying plant material then can become fire fuel. The disease typically impacts the aerial crown of trees. Trees impacted by SOD are more flammable because of their decreased moisture content relative to health trees.

While news of SOD has started to decrease since came to the public's attention several years ago, Dr. Garbelotto emphasizes that it is still a major problem with only 30% of all susceptible forests infected at this time. 50 million trees have been killed by SOD, and 1 million tanoaks were killed in 2019 alone. This level of tree death has huge social and ecological impacts.

2. The SOD – Fire Interaction

Both Fire and SOD impact each other in both directions. Sudden Oak Death causes tree mortality and changes fire behavior. Likewise Fire changes forest/(tree)host composition and abundance, which changes the dynamics of the disease's spread.

The main characteristic of this SOD and FIRE interaction is that low moisture content is dangerous, but it can be hard to see coming because a tree dying of *P. ramorum* can still have green leaves. A *P. ramorum* infected tree can become a ladder fuel that impacts overall fire behavior. Dr. Garbelotto also points out that Redwoods, which are typically considered fire resistant, are also impacted by these forest fuel changes.

Another complexity is temporal variability. When the disease first infects the forest, flammability is still relatively low. It is the highest during peak SOD infection, and the forest has hot spots from dead/dying, low-moisture trees. But then, within an 2-5 year period, SOD has killed and eliminated the standing tanoaks, and reduced the density of the forest stand, and then flammability again decreases.

3. Fire's impact on SOD

Fire's impact on reducing SOD in a forest is generally short lived. If a fire comes through a forest with SOD, the disease is reduced, but there was a study that tracked SOD in burned forests and within 5 years 81% of plots that previously had SOD were testing positive again. Part of this is reinfestation probability is high in resprouting vegetation that occurs after a fire. However, prescribed burning does reduce resprouting, and has other positive impacts to reduce the reinfestation of SOD with forests. Overall, there are both costs and benefits to fires and/or prescribed burning.

Thinning and the overall reduction in biomass also has positive benefits for fires and in decreasing SOD infection in forests. For example, thinning Bay Laurels is good because it is a highly flammable tree species, and the reduction of Bay Laurels has the secondary benefit of reducing a vector of SOD. Thus, thinning provides a better outcome for forest health.

4. SOD in WUI

Dr. Garbelotto also touched on his work focused on SOD in the WUI (Wildland Urban Interface), which examines tree/limb failure on powerlines. Here, there is good evidence that SOD infected trees fail even before they are clearly dead. Tree abatement measures for hazardous trees can be difficult to assess and requires individual judgment. However, Dr. Garbelotto has worked on a new method for assessing tree hazards that eliminates the need for individual judgement.

5. Treatments and management

Most SOD infection is happening above ground, although related *Phytophthora* species spread by water. For management, the following do NOT work: insecticides, “alternative treatments” like soil amendments or fertilizer. There is some benefit of injectable chemical treatments, but the best is good sanitary practices, as well as to prune trees in the fall, no spring. Also remove bay laurel and high density tanoak, if you can. This can also provide benefit in creating defensible space around your home/buildings.

6. Resources and Participation

- University of California Center for Fire Research and Outreach:
<https://ucanr.edu/sites/cfro/About/>
- Dr. Matteo Garbelotto’s lab webpage:
<https://nature.berkeley.edu/garbelottowp/>
- Dr. Garbelotto also asks for volunteers for the 2020 Sudden Oak Death Blitzes, happening soon. Please see the link for more info:
<https://ucanr.edu/files/321487.pdf>
- SOD Blitz Project Page:
https://nature.berkeley.edu/matteolab/?page_id=148

IV. Announcements

CAL FIRE Fire Prevention grants were awarded

- Woodside Fire Protection District, Fire Safe SMC Hazardous Fuels Program (\$398,500)
- 2 grants for Wildfire Risk Maps for Fire Prevention in Santa Clara and Santa Cruz counties, through the San Mateo Resource Conservation District (\$565,155 total)

V. New Business

Postponed until next meeting

VI. Round Table

Postponed until next meeting

VII. Adjournment: 11:30 AM

The next Fire Safe San Mateo County Meeting will be on April 8, 2020