



Midpeninsula Regional
Open Space District

R-22-25
Meeting 22-26
February 23, 2022

AGENDA ITEM 5

AGENDA ITEM

Grant Award to the University of California for Forest Health and Resiliency Services

GENERAL MANAGER'S RECOMMENDATION

Authorize the General Manager to award a \$173,000 grant that spans over 5 years to the University of California, Berkeley to coordinate annual Sudden Oak Death Blitz events and provide forest health and resiliency peer-review services.

SUMMARY

Sudden Oak Death (SOD) is a forest disease that is quickly killing many oak species throughout Northern California. Researchers have discovered how the pathogen (*Phytophthora ramorum*) that caused SOD arrived in the states and studied several treatment options to protect native oak trees. Dr. Matteo Garbelotto, the co-discoverer of *P. ramorum* and the Forest Pathology Specialist for the entire University of California system, is actively working with local communities to educate property owners, arborists, and the general public on preventive measures that slow the disease and methods for protecting oak trees. The General Manager recommends awarding a grant to the University of California, of Berkeley, CA to coordinate the annual Sudden Oak Death Blitz and provide forest health and resiliency peer-review services in the amount of \$173,000 over 5 years. There are sufficient funds in the FY22 Budget to cover the cost of the recommendation through the end of the fiscal year. Funds for future fiscal year budgets would be proposed as a part of the annual Budget and Action Plan process.

DISCUSSION

Tanoak and several oak species in California, including those found on Midpeninsula Regional Open Space District (District) lands, are threatened by a serious exotic disease, SOD. Researchers have found SOD in the wildlands of 14 coastal California counties, from Monterey to Humboldt. The District lies entirely within the federal quarantine area for SOD (Attachment 1). While patchy in distribution, with each passing year, the swath of infection continues to become more contiguous. Symptomatic California bay tree leaves are often the first sign that SOD has arrived at a location, and generally precedes surrounding oak infections. Management options (i.e., sanitation, chemical preventative treatments, bay removal) are effective only if implemented before oaks and tanoaks are infected. Early detection of the disease is critical to slow down the SOD epidemic.

SOD-blitzes inform and educate the community about SOD, get local community members involved in detecting the disease, and produce detailed local maps of disease distribution. From 2005 through 2018, SOD-blitz events have tested 1,905 samples in and around District lands.

SOD Status	On District Land	Within 0.25 Miles	Grand Total
Negative	403	622	1025
Positive	455	425	880
Total	858	1047	1905

The District uses these local maps to: 1) identify those areas where the infestation may be mild enough to justify proactive management and 2) as one criterion for determining the location and prioritization of fuel reduction work under the Wildland Fire Resiliency Program. The District has also used the data in successful grant applications to secure outside funding that supports multiple goals, including control of SOD, such as for the Los Gatos Creek Watershed Collaborative Forest Health Grant Project (<https://www.lgwatershedhealth.com/>) and through the State Coastal Commission's Early Action Grant Program.

Principal Investigator

Dr. Matteo Garbelotto is an Adjunct Professor in Environmental Sciences at the University of California, Berkeley, and the Forest Pathology Specialist for the entire University of California system. He began his teaching and research career at Berkeley in 1996. Today, he is the head of the Forest Pathology and Mycology Lab, which he established in 2001 and where he supervises over 20 researchers and lab technicians. Dr. Garbelotto leads research in areas of interest to the District, including:

- **EXOTIC FOREST DISEASES:** Uncovering the mechanisms behind invasions by exotic forest pathogens, and use of molecular tools to understand their biology, ecology, and epidemiology.
- **FUNGAL ECOLOGY:** Use of beneficial and pathogenic fungi as model systems to understand issues of isolation by distance, island biogeography and community structure in relations to habitat size and age.
- **BIODIVERSITY and ALL TAXA INVENTORIES:** Describing biodiversity and conservation of natural resources. Use of population genetics and phylogeographic studies to highlight how genetic diversity is structured (and ought to be maintained) within species.
- **MOLECULAR DIAGNOSTICS, GENOMICS:** Testing the efficacy, sensitivity and reliability of new diagnostic tools for the detection and study of forest diseases.
- **MANAGEMENT OF FOREST DISEASES:** Efficacy and longevity of direct chemical controls on forest diseases, with an emphasis on phosphonates because of their absence of environmental side effects. Also, understanding how horticultural (e.g., pruning, composting) and silvicultural (e.g., thinning) approaches may affect the epidemiology and impact of forest diseases and detecting possible natural resistance or tolerance to Sudden Oak Deaths in oaks, tanoaks and California bay laurel.
- **NATIVE FOREST DISEASES and INTERACTIONS WITH INSECTS:** The relationships between the airspora and infection by root rot organisms, on the effects of stump creation on root rots and on the role played by insects in vectoring vascular diseases such as blackstain root disease.

Scope of Work

Under the proposed grant, the Forest Pathology and Mycology Laboratory would prepare, coordinate, and train participants in community SOD Blitz events. The Forest Pathology and Mycology Laboratory holds approximately 30 events each year, of which three are held within the District's boundary (past events were hosted in Woodside, Saratoga Summit, and Montalvo

Arts Center). As part of these events, collected plant material¹ would be tested for the presence of the pathogen and results shared with the District via a written report and with the general public through their website at https://nature.berkeley.edu/matteolab/?page_id=6406. The SOD Blitz events are funded by the US Forest Service, State and Private Forestry, PG&E Foundation, and the National Science Foundation. Leveraging this funding, the District has been previously funding SOD Blitz events since 2017.

At the February 9, 2022, Board meeting, staff discussed a recent local study that identified the presence of two fungal species associated with significant Bay Area-wide acacia mortality, including on San Francisco Public Utilities Commission (SFPUC) watershed lands. During a May 2021 inventory of the Irish Ridge area of Purisima Creek Redwoods Open Space Preserve, mortality and decline of trees was observed. The cause of this mortality remains undetermined; however, there is the potential for these fungal pathogens to occur at this site. Thus, and in addition to coordinating the SOD blitzes, Dr. Garbelotto is uniquely qualified to assist the District in reviewing management plans (especially restoration plans such as at Irish Ridge) and recommending forest health and resiliency Best Management Practices.

FISCAL IMPACT

The award of grant to the University of California, Berkeley, includes \$165,500 to coordinate five annual Sudden Oak Death Blitz events and \$7,500 to provide forest health and resiliency peer-review services for a total amount of \$173,000 over 5 years. There are sufficient funds in the FY22 Budget to cover the cost of the recommendation through the end of the fiscal year. Funds for future fiscal year budgets will be proposed as a part of the annual Budget and Action Plan process.

The recommended action is not funded by Measure AA.

BOARD AND COMMITTEE REVIEW

Sudden Oak Death 10-Year Update

In February of 2016, staff presented to the Board of Directors the actions taken over the past ten years regarding SOD in the preserves and new information regarding related diseases. The Board authorize the General Manager to pursue additional SOD and related research and management responses (R-16-06, Minutes).

Wildland Fire Program

In May of 2021, the Board of Directors adopted a resolution certifying the Final Program Environmental Impact Report, adopted Findings of Fact, a Statement of Overriding Considerations, a Mitigation Monitoring and Reporting Program, and adopted the Wildland Fire Resiliency Program (R-21-58, Minutes).

Award of Contract with Vollmar Natural Land Consulting for the Preparation of Habitat Restoration Plans for the Irish Ridge Area of Purisima Creek Redwoods Open Space Preserve

On February 9, 2022, the Board authorized the General Manager to enter into a contract with Vollmar Natural Lands Consulting to provide ecological surveys, analysis, planning, and

¹ Due to the federal quarantine and associated regulations (7 CFR 301.92 - 301.92-12), the Forest Pathology and Mycology Laboratory must destroy all collected plant material after testing.

permitting assistance for land restoration work at Purisima Creek Redwoods Open Space Preserve ([R-22-17](#), [draft minutes](#)).

PUBLIC NOTICE

Public notice was provided as required by the Brown Act.

CEQA COMPLIANCE

The District concludes that SOD surveys and reporting is categorically exempt from the California Environmental Quality Act (CEQA) under Article 19, Sections 15306:

Section 15306 exempts basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource. These may be strictly for information gathering purposes, or as part of a study leading to an action which a public agency has not yet approved, adopted, or funded.

NEXT STEPS

Following Board approval, the General Manager would direct staff to enter into a funding agreement with the University of California to coordinate the annual SOD Blitz and provide for forest health and resiliency peer-review services in support of the District's mission to protect and restore the natural environment.

Attachment

1. Federal Quarantine Status Map

Responsible Department Head:

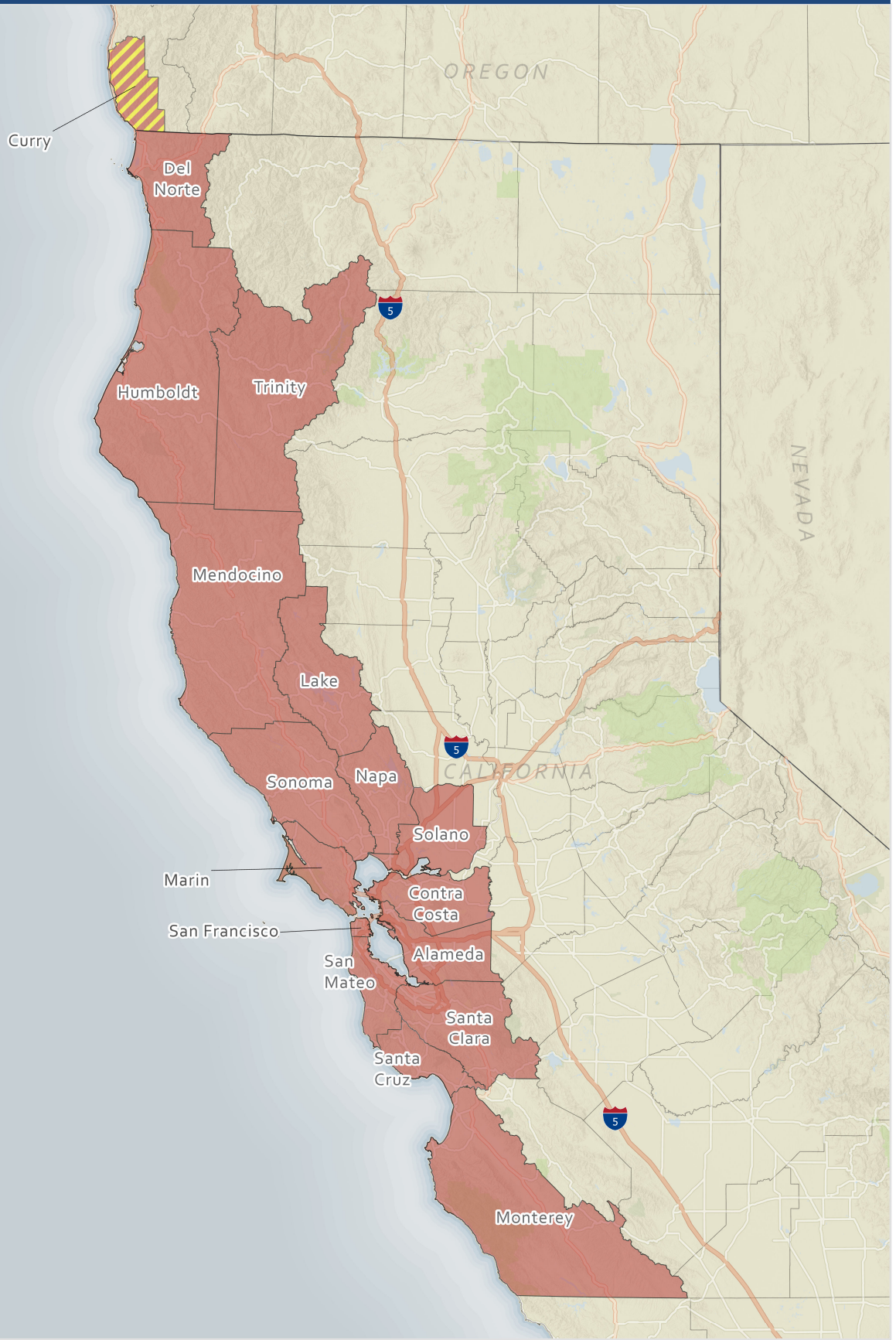
Kirk Lenington, Natural Resources Department

Prepared by:


Coty Sifuentes-Winter, Senior Resource Management Specialist, Natural Resources


Graphics prepared by:

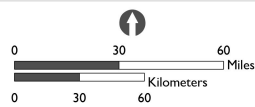
Animal and Plant Health Inspection Service, United States Department of Agriculture



- Quarantined Counties**
- Oregon:
Curry (Partial)
- California:
Alameda
Contra Costa
Del Norte
Humboldt
Lake
Marin
Mendocino
Monterey
Napa
San Francisco
San Mateo
Santa Clara
Santa Cruz
Solano
Sonoma
Trinity

 P. ramorum Quarantine

 P. ramorum Partial County Quarantine



Data Source: USDA, PPQ
Date Created: 5/25/2021
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