United States Department of Agriculture

Forest Service

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Route To:

Subject: Biological Evaluation of NPS- Redwood National and State Park Proposal for FPM Suppression/Prevention Funds for Stream Monitoring (FHP Rept. No. N07-07)

To: Leonel Arguello, Supervisory Botanist- Vegetation Management, Redwood National and State Parks

Leonel Arguello, Supervisory Botanist at Redwood National and State Parks, is currently in the process of submitting a Forest Pest Management Suppression/Prevention project proposal to help cover some of the costs associated with early detection monitoring, education and outreach for *Phytophthora ramorum*, the causal agent of Sudden Oak Death, at the Park. For several years, staff at the Park have worked closely with the USDA Forest Service, the University of California Cooperative Extension and the California Department of Forestry and Fire Protection to carry out an active program to address the threat of Sudden Oak Death in northern California. The goal of the current project proposal is to develop and implement a sampling strategy designed to detect the presence of *P. ramorum* in northern Humboldt and Del Norte counties. Specifically, the following will be accomplished:

1) Continue early detection monitoring surveys in all park areas adjacent public facilities, concentrating on those facilities that intersect with SOD host species, especially tanoak, California bay laurel, and/or Rhododendron.

2) Conduct sampling at stream monitoring stations from Humboldt Bay to the Oregon border. Focus sampling in McKinleyville under the direction of UC Cooperative Extension staff.

3) Continue assisting UC Cooperative Extension staff with monitoring and management of SOD infestation in southern Humboldt.

4) Continue assisting UC Davis Plant Pathology Lab with data collection in long-term monitoring plots in RNSP and adjacent areas.

5) Provide ground surveys for the USFS aerial detection survey program as necessary.

6) Maintain all data in a parkwide GIS database.

7) Continue education and outreach for park staff and visitors.

$15,000 in Forest Health Protection Suppression/Prevention funds are being requested to assist in this effort. This will be augmented with funds from several other cooperators.

I have visited Redwood National and State Parks on many occasions, and have assisted Park personnel in a variety of forest health projects. At the present time, *P. ramorum* has not been found in the Park. However, the southern end of the Park is only about 60 miles north of the Redway/Garberville area, which is home to the northernmost known *P.ramorum* infestation in California. Similarly, the northern boundary of the Park is only about 17 miles south of the infestation area in Curry County in southwestern Oregon. With abundant *P. ramorum* hosts (including tanoak, black oak, California bay laurel, rhododendron, Douglas-fir, coast redwood, huckleberry and many others), and location along the coast with much of the area at an elevation less than 2,000 feet, there is ample reason for concern regarding introduction of the pathogen to the Park. This concern is confirmed by the risk studies conducted by Dr Ross Meentemeyer, who has used a combination of host frequency and environmental factors to map Sudden Oak Death spread risk over most of California. According to his risk maps, much of the of the area in Redwood National and State Park is at moderate to very high Sudden Oak Death spread risk, with large amounts at high to very high risk.

Continued monitoring for early detection of the Sudden Oak Death pathogen is essential to ensure a rapid response in the event of a new introduction. Continued education and outreach efforts will likewise help to reduce the likelihood of a new introduction and reduce the spread of the disease in the event of an introduction. Early detection of *P. ramorum* or Sudden Oak Death mortality, by aerial survey, ground or stream monitoring, makes it possible to respond with a greater variety of more effective management techniques, including eradication and several other “slow-the-spread” methods. If done while the pathogen is in the early stage of establishment, application of these techniques increases the chance for success while reducing overall treatment costs.

I support the cooperative effort of the National Park Service to monitor Redwood National and State Parks for *P. ramorum* and support the current Forest Pest Management Suppression/Prevention proposal. At $15,000, the requested contribution to the cost of supporting their detection, monitoring, education and outreach programs is inexpensive, particularly when compared to the cost of mounting a management effort after the pathogen is well established. Their program follows well-established methodologies and is well integrated with similar efforts by other land management agencies in California and Oregon. In addition, the project fits well with the stated aims of the Region 5 Forest Health Protection unit’s recently completed Sudden Oak Death Program Strategy, which places high priority on projects that support early pathogen detection in high risk areas that are located outside of the current range of infestation.

Please feel free to call if you have any questions or would like to discuss my recommendation on this FPM Suppression/Prevention project proposal.

PETE ANGWIN

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cc: Julie Lydick, Phil Cannon, Ralph Their, Susan Frankel