

Accomplishment Report 2004
Aerial Surveys with Targeted Ground Surveys;
Cooperative Monitoring Program for Early Detection of
Sudden Oak Death (*Phytophthora ramorum*)

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Summary - Aerial surveys followed by targeted ground checks were conducted in 15 California counties for early detection of *P. ramorum*, cause of Sudden Oak Death and other diseases. Findings include the first detection of *Phytophthora ramorum* in Lake County, CA and seven new areas (12 positives) in Humboldt County. All finds in Humboldt County trigger suppression projects. *P. nemorosa* was also recovered from 4 locations.

Objectives:

- Conduct aerial surveys for the early detection of *Phytophthora ramorum* and map hardwood mortality in areas at risk of *P. ramorum*.
- Ground check mortality polygons to sample hosts for presence of *P. ramorum* (labs also test for other *Phytophthoras* including *P. nemorosa* and *P. pseudosyringae*).
- Re-visit sites from 2003 aerial survey that were highly symptomatic but had negative lab results.

Progress as of 11/5/2004:

- Fixed-wing flights initiated June 14th were completed July 7th 2004 (9 flight days)
- Helicopter follow-up over select mortality areas detected from fixed-wing flights (4 days: July 7, 20, 21 & Aug. 4)
- Counties flown (all contain host types ranging from Moderately Low to Very High risk on CA Sudden Oak Death risk map by Meentemeyer):
 - Northern California: Del Norte, Humboldt, Mendocino, Lake, Trinity and slivers of Siskiyou, Napa and Sonoma
 - Southern California: Monterey, San Benito, San Luis Obispo, Santa Barbara and slivers of Santa Clara, Santa Cruz and Ventura
- Area Surveyed: approximately 7.7 million acres
- Miles Flown (excluding helicopter flights): Approximately 7,000 miles
- Number of polygons mapped indicating hardwood mortality in tree species of interest: 415

2004 Results (to date):

COUNTY	POLYGONS DETECTED (2004 flights only)	GROUND CHECKS (‘03 & ‘04 sites)	SITES SAMPLED	SAMPLES POSITIVE <i>P.ramorum</i>	SAMPLES POSITIVE <i>P.nemorosa</i>
Del Norte	23	8	2		
Glenn		1	1		
Humboldt	194	55	29	12	4
Lake	6	4	4	1	
Mendocino	123	23	16		
Monterey	2	1			
San Benito	3	1			
San Luis Obispo	45	25	2		
Santa Barbara	7	3			
Trinity	4	3			
Ventura	7				
Curry (OR)	1				
TOTAL	415	124	54	13	4

Note: includes results for new areas mapped in 2004 and for areas ground checked during 2004 (these include some areas mapped in 2003 that were newly visited or revisited this year); 8 of 23 polygons detected in Del Norte were provided from surveys by Oregon Department of Forestry (ODF); 5 of 45 polygons detected in San Luis Obispo provided by other USFS surveys

Funding for this project was provided by USDA Forest Service, Forest Health Protection and Cal Poly San Luis Obispo.

A paper will be presented at the Sudden Oak Death Science Symposium II in January 2005, Monterey, Ca.

Field and lab work is ongoing; results will be periodically updated and posted on Oakmapper <http://kellylab.berkeley.edu/SODmonitoring/OakMapper.htm>