

# Monitoring *Phytophthora ramorum* Distribution in Streams Within Coastal California Watersheds<sup>1</sup>

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## Abstract

Thirty-six locations were established in winter-spring 2004 to monitor for the presence of *Phytophthora ramorum* in perennial watercourses throughout coastal northern California. The areas of focus include Alameda, Contra Costa, Del Norte, Humboldt, and Mendocino counties. These counties have limited *P. ramorum* detection, but are high-risk areas for *P. ramorum* infestation. Two sites in Sonoma County were included as a baseline for successful recovery of *P. ramorum*. *Rhododendron* leaves were placed in mesh bags and secured in watercourses for 7- to 21-day intervals year-round to bait for *Phytophthora* species. Recovered symptomatic leaves were plated on *Phytophthora*-selective media. *P. ramorum* was recovered at all sites with *a priori* knowledge of *P. ramorum* forest infestation. We recovered *P. ramorum* at three sites downstream of known forest infestations. One site is along the South Fork Eel River, approximately eight km downstream of a known infestation near Redway. Additionally, *P. ramorum* was recovered at two sites without a prior known forest infestation in Briones East Bay Regional Park. Stream monitoring provides a useful method of early detection for infestations of *P. ramorum*. Future work will include the additional monitoring at the southern extent of the known range of *P. ramorum*, including Monterey and San Luis Obispo counties. In addition, we will address research questions related to quantification, spread, and survival of this pathogen in watercourses.

*Key words:* *Phytophthora ramorum*, water monitoring, *Phytophthora* baiting,

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