

## **The Political Ecology of Forest Health in the Redwood Region**

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Imported forest pests have changed North American forests and caused staggering monetary losses in the centuries since the country was founded. Non-native pathogens have reduced American chestnuts and American elms to small vestiges of their former dominance, and another threatens the existence of several 5-needle pines in the American West. One non-native insect is on track to eliminate many species of ash; another insect defoliates vast hardwood acreages every year and fouls local water supplies, roadways, and yards with thousands of larvae during large outbreaks. Municipalities spend \$2 billion per year on tree removals because of non-native insects and diseases, while landowners spend over \$1 billion and absorb an additional \$1.5 billion in property value loss each year.

Since most problem-causing non-native pests are innocuous in their home ranges, where they have coevolved with their host trees, experts cannot predict which pathogens or insects will have lethal effect on other continents. Many non-native pests are unknown to science until they cause problems in their new homes. One common response to the threat of non-native insects and diseases in our forests is to appeal to science to develop technical means for management or eradication, yet common sense tells us that it would be more cost-effective and ecologically efficient to prevent pest introductions in the first place. This indicates that the problem of non-native pests in our forests is not primarily one for science to solve, but a problem within the discipline of political ecology.

This discipline explores the ways in which many environmental issues that are usually presented as scientific or technical problems are actually policy issues that have been redirected into scientific discussion in order to avoid acknowledging the need for hard political choices. The political ecology of forest pest management is very relevant to 21<sup>st</sup>-century forestry in the Redwood Region: we have no way of knowing whether the next pest will be the one to target redwood or another native California tree species; border and port inspection budgets continue to decrease; and the proliferation of free trade agreements enables an ever-increasing number of non-native organisms to enter the country each year. These questions are especially important to consider and to educate policymakers about in California, where the iconic coast and Sierra redwoods have limited distributions that may make them vulnerable to future pest invasions, particularly if climate change provides increased tree stress and a more favorable climate for pest activity.