Sudden oak death rampant in Sonoma County after two wet winters, raising longterm fire risks

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Rejuvenated by two straight wet winters, the insidious pathogen that has killed more than 3 million trees in Central and Northern California in the past two decades reached a record level of infection this year, including major gains in Sonoma County.

The spread of sudden oak death could further transform North Coast forests already ravaged by drought and altered by climate change, increasing their vulnerability to catastrophic fire.

The lethal pathogen is spread largely by wind-blown water droplets and resides in bay laurel trees without harm but can infect and ultimately kill four species of oaks, the fire-resistant native hardwoods that cover coastal ranges and inland valleys and hillsides. Their displacement, in favor of bay trees and conifers, could raise fire risks across the region.

“If you’ve had sudden oak death for 20 years, my guess is the forests will be worse off,” said Matteo Garbelotto, director of the forest pathology and mycology laboratory at UC Berkeley, which oversees the annual sudden oak death survey.

Results of the latest survey showed a 10-fold increase over 2015 — from 3.8 percent to 37 percent this year — in the sudden oak death infection rate in an area that includes Healdsburg, Santa Rosa, Sonoma and Petaluma. That level of infection, which stunned researchers, was matched or exceeded in only three other parts of the 17-county survey area.

The infection rate doubled north of Healdsburg and increased slightly less west of Highway 101, where the infection is already rampant in the hills west of Sebastopol.

“The magnitude is beyond our expectation,” said Garbelotto.

Overall, the survey his lab conducts every spring found a 13 percent infection rate in bay laurel leaves collected by volunteers from San Luis Obispo County to Siskiyou County, including the nine Bay Area counties, triple the 3.7 percent rate in 2015 and the highest ever recorded in nine years of data, Garbelotto said.

He downplayed any role that oak death may have had in October’s deadly and destructive North Bay wildfires. The last major outbreak in the area was in 2011 and most oaks infected then would have died and fallen down, minimizing them as a fuel source, he said.

Tree loss because of drought was more likely a factor than sudden oak death in the rampaging fires, Garbelotto said. But in the long run, if the disease topples significant numbers of oaks it could create gaps in the forest that would draw in oxygen and intensify a wildfire, he said.

If the fire-resistant oaks ultimately replaced bays and other trees, including conifers such as Douglas firs, the forest would become more flammable, he said.

Bay trees are considered reservoirs for Phytophthora ramorum, the pathogen responsible for killing four species of oak trees and tanoaks. The pathogen, a fungus-like microbe, discolors bay leaves but does not kill the trees. It takes about two years to kill an oak.

Wet weather is “a sudden oak death driver,” Garbelotto said, and in areas like Sonoma where the disease is already well established, the consequences of two wet winters were dramatic.

Tenfold increases in the infection rate were also recorded in Santa Cruz County and part of the East Bay, along with a 15-fold increase on the San Francisco Peninsula, numbers Garbelotto said “resonate with me as unpredictably high.”

In nine other areas covered by the survey, known as the SOD Blitz, the infection rate was at least double the level in 2015, and in three areas — including San Francisco — it grew threefold or more.

In Sonoma County, sudden oak death re-emerged near Cloverdale and was found at “epidemic levels” east of Healdsburg, near Santa Rosa and at Glen Ellen, according to a report by the California Oak Mortality Task Force. The pathogen became established for the first time in rural areas east and west of Petaluma.

One notable finding was pathogen’s presence in residential areas of Santa Rosa, which Garbelotto said was cause for concern among property owners with prized oaks. Experts say an infected bay laurel within 30 yards of an oak poses a threat of transmitting the infection.

In this year’s survey, about 315 volunteers checked nearly 15,000 bay trees and submitted about 2,000 symptomatic leaves to Garbelotto’s lab for testing.

A Google Earth map showing the location of every infected tree found this year and in all previous surveys, along with revised recommendations for combating the disease, is at www.sodblitz.org.

Kerry Wininger, the sudden oak death outreach coordinator at the UC Cooperative Extension in Santa Rosa, advised residents to look close to home since oak death is a “neighborhood issue.”

Sonoma State University’s campus was among the places in the Bay Area where the pathogen was found for the first time this year, she said.

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